G. PETERSEN

THE LONG BEACH-LOS ANGELES RAIL TRANSIT PROJECT

Los Angeles County Transportation Commission
Staff Report

Alternatives Evaluation

- DOWNTOWN LOS ANGELES
- MID CORRIDOR

Prepared with the Assistance of
Parsons Brinckerhoff/Kaiser Engineers

LACTC

Los Angeles County Transportation Commission
403 West 8th Street
Suite 500
Los Angeles
California 90014
(213) 626-0370

RICK RICHMOND
EXECUTIVE DIRECTOR

LACTC

Los Angeles County Transportation Commission
403 West Eighth Street
Suite 500
Los Angeles
California 90014
(213) 626-0370

November 13, 1984

Community Organizations
Elected Officials
Government Agencies
Interested Persons and Businesses

This Alternatives Evaluation Report represents the recommendations of the staff of the Los Angeles County Transportation Commission for the alignment and profile alternatives to be adopted by the Commission for the downtown Los Angeles and mid-corridor segments of the Long Beach-Los Angeles rail transit project.

In May, 1984, the Commission issued a Draft Environmental Impact Report (DEIR) addressing a range of alignment alternatives for the project in downtown Los Angeles, the mid-corridor, and Long Beach. Six public hearings were held on the DEIR in June, 1984 and numerous written comments on the DEIR were received. In the case of the project's Long Beach segment, this review resulted in an August 15, 1984 decision by LACTC to prepare a Supplemental EIR (SEIR) addressing several additional alignment alternatives, to be issued early in December, 1984. The Commission will undertake evaluation of all Long Beach alternatives for a selection recommendation after consideration of comments on the SEIR. At this time, then, this staff evaluation of the downtown Los Angeles and mid-corridor alternatives permits officials of government and community representatives to be informed of the scope of the project being recommended to the Commission along most of the project corridor.

We welcome comments on this report, but request that all comments be received no later than December 21, 1984 to permit consideration of such comments in the Commission's action on the recommendations contained herein. The Commission intends to issue a Final EIR for the project in March, 1985, and formally adopt specific alignments for construction at that time.

Sincerely,

Rick Richmond

RICK RICHMOND
Executive Director

RR:bn

The Long Beach-Los Angeles Rail Transit Project

ALTERNATIVES EVALUATION REPORT

EXECUTIVE SUMMARY

BACKGROUND

The proposed Long Beach-Los Angeles Rail Transit Project now under development by the Los Angeles County Transportation Commission (LACTC) is part of an ongoing transportation planning process for Los Angeles County. The transportation corridor it will serve and several others in the county have been identified as candidates for transit improvements.

The Long Beach-Los Angeles Rail Transit Project has been designated by the LACTC as the first project to be financed from local funds. The project will connect with the federally-assisted Southern California Rapid Transit District (SCRTD) Metro Rail Project, and together they will be the first projects to be implemented in the thirteen transportation corridors specified by Proposition A. SCRTD will be the operator of both systems when construction is completed.

The Long Beach-Angeles Rail Transit Project will operate as a conventional light rail system from downtown Los Angeles to downtown Long Beach and will serve in excess of 50,000 passengers per day upon reaching normal operating levels. The proposed line will pass through the cities of Compton and Carson and through the unincorporated areas of Florence-Graham, Willowbrook, and Dominguez Hills in Los Angeles County. The total route will be approximately 21 miles in length, with about 16 miles of it following an existing Southern Pacific Transportation Company (SPTC) right-of-way (Wilmington and East Long Beach Branches). Much of the project route will be essentially the same as the last line operated by the Pacific Electric Railway's "Red Cars," which ceased operation in 1961. Design and service characteristics, however, will be upgraded and modernized to meet today's transit standards and to satisfy both present and anticipated needs.

For purposes of evaluating alternative routes ("alignments"), the Long Beach-Los Angeles corridor was divided into three segments: downtown Los Angeles, the Mid Corridor, and Long Beach. A number of alternative alignments were considered within each of the three segments. A summary description of the proposed project, including alternative alignments and stations, vehicles, yards and shops, and fare collection, can be found in Chapter 2.0 of this report. Additional detail can be found in the Draft Environmental Impact Report (DEIR).

The project has received extensive study over the past 18 months with the intent of defining the proposed system in sufficient detail to meet key requirements of the planning and development process. These are:

(1) Determination of basic feasibility of the project from the perspectives of service, cost, and environmental impact;

(2) Documentation of all possible significant impacts of the project and mitigation measures in Draft and Final Environmental Impact Reports; and;

(3) Selection of a final "preferred" alignment for the system prior to initiation of detailed engineering and construction.

Pursuant to the California Environmental Quality Act (CEQA), a Draft Environmental Impact Report (DEIR) was released on May 30, 1984 for public review and comment. As a result of written and oral comments received from the Long Beach area, three new alignment alternatives in Long Beach were identified for study. A Supplemental EIR addressing those alternatives will be issued in early December, 1984; it is anticipated that comments will be received through January 9, 1985.

The present schedule calls for certification of the Final Environmental Impact Report for the full project (Long Beach to Los Angeles) in mid-March, 1985. The Commission expects to formally authorize the project and file a Notice of Determination with the County Clerk and the State Resources Agency shortly thereafter.

PURPOSE OF THIS REPORT

With the documentation of alignment alternatives complete in the downtown Los Angeles and Mid Corridor segments of the corridor, project development has reached the point where it is now possible to select a preferred alternative in each of those two corridor segments. To assist in the meeting of the twin objectives of (1) maximizing public participation in the alternatives selection process and (2) maintaining the overall project schedule, this Alternatives Evaluation Report (AER) has been prepared and issued by the staff of the Los Angeles County Transportation Commission as a preliminary recommendation for final alternative selection in downtown Los Angeles and the Mid Corridor.

The Commission will consider comments on this report, as well as the content of the Final EIR (which responds to comments on the Draft EIR), prior to formally adopting the preferred alternative. The Commission will evaluate the various Long Beach alternatives during February, 1985 after review of public hearing and written comments on the Supplemental EIR. At the time of issuance of the Final EIR (scheduled for mid-March, 1985), the Commission expects to indicate the preferred project alignment it intends to adopt in all three segments of the project corridor. Jurisdictions throughout the project corridor will then have an opportunity to concur with or comment on this intention prior to the formal adoption of the project alignment, scheduled for late March, 1985.

FINDINGS AND RECOMMENDATIONS

The project alternatives recommended by the Commission staff are the outgrowth of the joint consideration of principal findings from (1) the technical evaluation of alternatives (Chapter 4.0) and (2) the summary of public and agency comment on the Draft EIR for the project (Chapter 5.0). Selection of an alignment in downtown Los Angeles has focused on maximizing service efficiency while minimizing adverse environmental impact. Consideration in the Mid Corridor segment has been toward identifying a way to address existing adverse environmental conditions in the corridor--that is, rail freight impacts which are incidental to the rail transit system itself—while maintaining the integrity of the project.

The recommended alternatives have been identified from among the competing options as those best meeting the goals and objectives established for the Long Beach-Los Angeles Project by the Commission. The recommendations for each of the two corridor segments and the findings supporting them are now summarized. Additional discussion can be found in Chapter 6.0 of the main volume.

Downtown Los Angeles

The three alternatives considered in downtown Los Angeles are: LA-1 (Broadway/ Spring Couplet, At Grade), LA-2 (Flower Street Subway), and LA-3 (Figueroa/9th Aerial). The Commission staff recommends that the LA-2 alternative be adopted as the project alignment at the time of project authorization. The basis for this recommendation lies in the findings summarized in Table S.1. The following conclusions can be drawn from that information:

(1) There are significant differences among the three alternatives in the degree to which they would create adverse and unmitigable environmental impacts. The LA-2 alignment is superior to the others with respect to virtually every measure of environmental impact.

(2) By contrast, differences among the alternatives in the quality and efficiency of transit service, total transit ridership in the project corridor, and service energy savings are not significant.

(3) The LA-2 alignment results in a slightly lower capital cost for the project.

(4) The LA-2 alignment is the only downtown alternative to receive consistent support from government agencies and the general public, while suffering only limited criticism.

There is agreement among study participants that a fully at-grade transit alignment (Alternative LA-1) will not be adequate as the permanent downtown segment of an expanded, countywide light rail transit system. That view is strongly endorsed by the Los Angeles City Council, which is on record as opposing LA-1. The projected level of auto and truck traffic strongly calls for the system to operate off of city streets such as Broadway and Spring Street. The LA-3 (aerial) alternative was designed to capture

TABLE S.1
SUMMARY EVALUATION OF ALTERNATIVES

DOWNTOWN LOS ANGELES

CONSIDERATION	MOST DESIRABLE	LEAST DESIRABLE	COMMENTS
RIDERSHIP			
Rail System	LA-3	LA-1/LA-2 equal	50% difference. Related to running time.
Total Corridor (Rail and Bus)	No significant differences.	—	—
COST			
System Capital Cost	LA-2	LA-3	Figures from Draft EIR.
Operating Cost Recovery	LA-3	LA-1	Related to ridership.
SERVICE			
Running Time	LA-3	LA-1/LA-2 equal	Related to ridership.
Accessibility/Mobility	LA-1	LA-2/LA-3 equal	Minor differences.
Reliability/Safety	No significant differences.	—	—
PLANS/POLICIES			
Conformity with RTP	LA-2	LA-1	Somewhat better links with Metro Rail and Harbor Transitway.
Conformity with Development Plans	LA-2	LA-3	See impacts discussion.
IMPACT			
Visual	LA-2	LA-3	Unmitigable adverse impact on historic and residential property.
Historic	LA-2	LA-3	
Noise	LA-2	LA-3	
Traffic	LA-2	LA-1	LA-1 impact partially mitigable.
Other	No significant differences.	—	—
ENERGY	LA-1/LA-2	LA-3	Minor differences.
AGENCY/PUBLIC RESPONSE			
City of Los Angeles	No position.	LA-1	On record opposing LA-1.
Public Agencies	LA-2/La-3 equal	LA-1	Consistent opposition to LA-1.
Private Groups	LA-2	LA-3	Support for LA-2; Strong opposition to LA-3; Mixed reaction to LA-1.

ridership and eliminate traffic impacts on surface streets, goals which were both met. The result of building an aerial structure, however, would be to create a significant adverse environmental impact on redeveloping residential areas and historic districts in the downtown. Moreover, the recommended subway alternative (LA-2) effectively minimizes conflict with vehicular traffic through a combination of compatible at-grade treatment (on Washington Boulevard) and a subway section as it enters the financial district.

The recommendation of the subway altenative in this case is not intended as a statement of policy affirming the superiority of subway alignments over aerial guideway alignments. Rather, it represents the judgement that the LA-2 alignment best achieves the objectives of providing cost-effective transit service to downtown Los Angeles with a minimum of delay and environmental impact. Aerial alignments will continue to receive consideration in all other transit guideway projects throughout the region.

Mid Corridor

Three altenatives were considered in the Mid Corridor, all variations of the same basic rail transit alignment. Alternative MC-1 provides for generally at-grade service using existing Southern Pacific Transportation Company right-of-way. No significant changes would be made to rail freight service. Alternative MC-2 provides for an open cut through central Compton to place both the freight and transit tracks below ground level. This alternative is otherwise similar to MC-1. Alternative MC-3 calls for a diversion of rail freight service off of the Wilmington Branch through downtown Compton and onto the now unused West Santa Ana Branch and active San Pedro Branch through the cities of Los Angeles and Compton. The MC-3 alternative is otherwise similar to MC-1, but includes an aerial structure near historic Watts Station to carry the rail transit trains over the relocated freight trains.

The evaluation of the Mid Corridor alternatives is summarized in Table S.2 and is discussed in detail in Chapter 6.0 of the main volume. Based on that analysis, the Commission staff recommends that the MC-1 alternative (Compton At Grade) be adopted as the project definition in the Mid Corridor. The MC-1 alternative is considered superior in two ways: (1) it provides transit service to the Mid Corridor at a level at least equal to the other alternatives, at considerably less cost; and (2) from

TABLE S.2
SUMMARY EVALUATION OF ALTERNATIVES

MID CORRIDOR

CONSIDERATION	MOST DESIRABLE	LEAST DESIRABLE	COMMENTS
RIDERSHIP	No differences.	—	—
COST			
System Capital Cost	MC-1	MC-2	Cost Difference - MC-2: +$135 million Cost Difference - MC-3: +$ 12 million*
Operating Cost Recovery	No differences.	—	—
SERVICE			
Safety - Transit Riders	MC-3	MC-1	Differences are minimal.
Safety - Vehicular Traffic	MC-1/MC-2 equal	MC-3	Differences are minimal.
Other	No significant differences.	—	—
PLANS/POLICIES			
RTP	No differences.	—	—
Compton	MC-3 (modified)	MC-1	Supports only modified MC-3 (rail freight in depressed section).
CRA/Watts Junction	MC-1/MC-2 equal	MC-3	—
Rail Consolidation	MC-3	MC-2	MC-2 renders rail consolidation unlikely.
IMPACT			
Traffic	MC-2	MC-1/MC-3 equal	Superiority of MC-2 for traffic, noise, and visual is minimal. MC-3 merely shifts MC-1 traffic and noise impacts from one location to another, and adds vibration as an impact.
Noise	MC-2	MC-1/MC-3 equal	
Visual	MC-2	MC-3	
Historic	MC-1/MC-2 equal	MC-3	
Vibration	MC-1/MC-2 equal	MC-3 (mitigable)	
Other	No significant differences.	—	—
ENERGY	MC-1	MC-2	—
AGENCY/PUBLIC RESPONSE			
City of Compton	MC-3 (modified)	MC-1	Supports only modified MC-3 (rail freight in depressed section).
City of Los Angeles	No position.	MC-3	On record opposing MC-3.
County of Los Angeles	No position.	No position.	—
SPTC	MC-1/MC-2 equal	MC-3	Requires service and insurance guarantees for MC-3.
Public Agencies	Mixed positions.	No positions.	Limited response.
Public Groups	No positions.	No positions.	Limited response.

* Does not include additional right-of-way or other enhancements (see text).

the perspective of the Southern Pacific Transportation Company and a majority of public agencies, it offers the best opportunity for early implementation.

The principal drawbacks to the MC-2 alternative (Compton Grade Separation) are its very high cost and potential impact on emerging plans to consolidate rail freight service in the corridor. The additional cost of constructing the open cut in Compton would exceed $135 million, which represents over 30 percent of the cost of the basic project. This project element has been considered to address existing adverse environmental conditions in Compton—conditions which result from rail freight traffic and which are not the result of the rail transit project. In addition, this investment in the Wilmington Branch of the SPTC railroad would effectively preclude implementation of the region's port-rail freight service consolidation plan, which ultimately seeks to route through freight service off of the Wilmington Branch and onto the San Pedro Branch (Alameda Street rail corridor). Given the limited availability of Proposition A funding and its defined purpose of providing a countywide rail transit system, inclusion of the Compton grade-separation in the project definition is not recommended.

The MC-3 alternative (SPTC Railroad Relocation) has been proposed as an alternative solution to the rail freight traffic problem in downtown Compton. However, while removing traffic, noise, and visual intrusion impacts from the center of Compton, it adds these impacts to three other sensitive areas: (1) Watts Junction, which is the site of redevelopment efforts centered on historic Watts Station; (2) the now unused West Santa Ana Branch, which is bordered by residential areas and runs adjacent to the historic Watts Towers, and (3) the San Pedro Branch, which runs parallel to Alameda Street in eastern Compton.

Both the City of Compton and the City of Los Angeles have objected to the MC-3 alternative as it is now defined. The Compton City Council has issued a resolution finding MC-3 acceptable only if the section of rail freight line along Alameda Street is placed in an open cut ("depressed trainway"). The City Council of Los Angeles has gone on record opposing the alternative due to its noise, visual and historic impacts. The Southern Pacific Transportation Company has expressed serious reservations about MC-3 as well, citing the need for guarantees that their service levels on the San Pedro Branch will not be challenged by the cities, and the need for indemnification for use of the West Santa Ana Branch.

Proposed design enhancements to mitigate these adverse consequences of MC-3 are only partly successful, and add significantly to the project cost. The Commission staff does not propose to modify the MC-3 alternative to the extent of fully grade-separating the Alameda Street freight route, believing this to be far beyond the scope of the light rail project.

The Commission staff acknowledges that the recommended adoption of Alternative MC-1 carries with it an interest by the Commission in seeing that the Wilmington Branch rail freight traffic is ultimately consolidated with traffic using the Alameda Street rail corridor (San Pedro Branch). This interest derives not only from the Commission's overall role in addressing transportation mobility in Los Angeles County (here, helping to reduce or eliminate rail freight/auto traffic congestion) but also from the benefits to the operation and safety of the light rail transit system by removing freight trains from proximity to transit tracks and stations. Accordingly, the Commission staff recommends that the Commission continue its active participation in the region's port rail consolidation effort, moving toward interagency adoption of facilities and funding plans. Timely resolution of funding and other institutional issues should result in effective mitigation of potential rail freight/auto conflicts.

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1.0 INTRODUCTION

1.1 BACKGROUND

The proposed Long Beach-Los Angeles Rail Transit Project now under development by the Los Angeles County Transportation Commission (LACTC), is part of an ongoing transportation planning process for Los Angeles County. The transportation corridor it will serve and several others in the county have been identified as candidates for transit improvements.

On November 4, 1980 voters in Los Angeles County approved Proposition A. This measure authorized a county-wide, 1/2 percent sales tax to raise money principally for reducing bus transit fares and constructing and operating a rail transit system serving a number of designated corridors, including south-central Los Angeles and Long Beach. Court challenges to the vote approval of Proposition A were resolved in favor of the measure in May 1982, and collection of the 1/2 percent sales tax began on July 1, 1982.

The Long Beach-Los Angeles Rail Transit Project was designated by the LACTC on March 24, 1982 as the first project to be financed from local funds. The project will connect with the federally-assisted Southern California Rapid Transit District (SCRTD) Metro Rail Project, and together they will be the first projects to be implemented in the thirteen transportation corridors specified by Proposition A. SCRTD will be the operator of both systems when construction is completed.

The project will operate as a conventional light rail system from downtown Los Angeles to downtown Long Beach and will serve in excess of 50,000 passengers per day upon reaching normal operating levels. The proposed line will pass through the cities of Compton and Carson and through the unincorporated areas of Florence-Graham, Willowbrook, and Dominguez Hills in Los Angeles County. The total route will be approximately 21 miles in length, with about 16 miles of it following an existing Southern Pacific Transportation Company (SPTC) right-of-way (Wilmington and East Long Beach Branches). Much of the project route will be essentially the same as the last line operated by the Pacific Electric Railway's "Red Cars," which ceased operation in 1961. Design and service characteristics, however, will be upgraded and

modernized to meet today's transit standards and to satisfy both present and anticipated needs.

For purposes of evaluating alternative routes ("alignments"), the Long Beach-Los Angeles corridor was divided into three segments: downtown Los Angeles, the Mid Corridor, and Long Beach. A number of alternative alignments were considered within each of the three segments. A summary description of the proposed project, including alternative alignments and stations, vehicles, yards and shops, and fare collection, can be found in Chapter 2.0 of this report. Additional detail can be found in the Draft Environmental Impact Report (DEIR).

1.2 CURRENT PROJECT ACTIVITY

The Long Beach-Los Angeles project has received extensive study over the past 18 months with the intent of defining the proposed system in sufficient detail to meet key requirements of the planning and development process. These are:

(1) Determination of basic feasibility of the project from the perspectives of service, cost, and environmental impact;

(2) Documentation of all possible significant impacts of the project and mitigation measures in Draft and Final Environmental Impact Reports; and;

(3) Selection of a final "preferred" alignment for the system prior to initiation of detailed engineering and construction.

The planning and feasibility analysis resulted in identification and study of a total of ten alternative rail transit alignments in three corridor subareas, or segments (three in downtown Los Angeles, three in the Mid Corridor, and four in downtown Long Beach). In addition to identifying these alignments, extensive effort was devoted to study in the following areas:

- transit technology
- stations

- maintenance yards and shops
- ridership
- operations
- cost
- environmental impact

Pursuant to the California Environmental Quality Act (CEQA), a Draft Environmental Impact Report (DEIR) was released on May 30, 1984 for public review and comment. A series of six public hearings on the project were held in the corridor. In addition, written comments from public agencies and the general public were solicited through July 16, 1984.

As a result of written and oral comments received from the Long Beach area, three new alignment alternatives in Long Beach were identified for study: a modified river route alternative, a two-way route on Long Beach Boulevard, and an alternative which terminates at Willow Street in Long Beach. A Supplemental EIR addressing those alternatives will be issued in early December, 1984; it is anticipated that comments will be received through January 9, 1985.

The present schedule calls for certification of the Final Environmental Impact Report for the full project (Long Beach to Los Angeles) in mid-March, 1985. The Commission expects to formally authorize the project and file a Notice of Determination with the County Clerk and the State Resources Agency shortly thereafter.

1.3 PURPOSE OF THIS REPORT

With the documentation of alignment alternatives complete in the downtown Los Angeles and Mid Corridor segments of the corridor, project development has reached the point where it is now possible to select a preferred alternative in each of those two corridor segments. To assist in the meeting of the twin objectives of (1) maximizing public participation in the alternatives selection process and (2) maintaining the overall project schedule, this Alternatives Evaluation Report (AER) has been prepared and issued by the staff of the Los Angeles County Transportation Commission as a preliminary recommendation for final alternative selection in downtown Los Angeles and the Mid Corridor.

The recommendations for alternative selection presented in this report are based on two bodies of information:

(1) a technical evaluation of the alternatives, utilizing information gathered over the 18 months of project development to measure the achievement of specific goals and objectives established for the project; and

(2) public and agency comment on the project elicited through the environmental review process.

The Commission will consider comments on this report, as well as the content of the Final EIR (which responds to comments on the Draft EIR), prior to formally adopting the preferred alternative. The Commission will evaluate the various Long Beach alternatives during February, 1985 after review of public hearing and written comments on the Supplemental EIR. At the time of issuance of the Final EIR (scheduled for mid-March, 1985), the Commission expects to indicate the preferred project alignment it intends to adopt in all three segments of the project corridor. Jurisdictions throughout the project corridor will then have an opportunity to concur with or comment on this intention prior to the formal adoption of the project alignment, scheduled for late March, 1985.

1.4 OUTLINE OF THE REPORT

The Alternatives Evaluation Report has been organized and written to document both:

(1) the Commission staff recommendations for project alignment in the downtown Los Angeles and Mid Corridor segments, including the detailed basis for those recommendations; and

(2) the technical evaluation and analysis of public comment used in reaching their recommendations.

The report, therefore, is really two documents, the first of which (technical evaluation and public comment) is presented to support the findings of the second (recommended project alternatives). The remaining chapters in the report follow closely the sequence of steps outlined in preceding sections. A summary description of the

proposed project (including Long Beach) is presented in Chapter 2.0. This description concentrates on the alignment alternatives which are the focus of the selection decision.

Chapter 3.0 is an overview of the technical evaluation process. It includes discussions of the elements of the process, project goals and objectives, and selection of evaluation measures.

Chapter 4.0 contains the findings and conclusions of the technical evaluations, organized by corridor segment.

Agency and public comment is summarized and analyzed in Chapter 5.0. The views expressed are structured and discussed to conform with significant considerations raised in the technical evaluation in Chapter 4.0.

Finally, the recommended alternatives are presented in Chapter 6.0 with detailed discussions of the basis for their selection. Key trade-offs are again discussed, and the rationale for weighting certain criteria in favor of others is explained.

2.0 SUMMARY PROJECT DESCRIPTION

2.1 OVERVIEW

The Long Beach-Los Angeles Rail Transit Project is being planned as a conventional light rail system from downtown Los Angeles to downtown Long Beach to serve in excess of 50,000 passengers per day (depending upon alignment chosen). In addition to the cities of Los Angeles and Long Beach, the rail line will pass through the cities of Compton and Carson and through the unincorporated areas of Florence-Firestone, Willowbrook, and Dominguez Hills in Los Angeles County. The total route will be approximately 21 miles in length, with about 16 miles of it following an existing Southern Pacific Transportation Company (SPTC) railroad right-of-way (Wilmington and East Long Beach Branches). Preliminary capital cost estimates range from $400 to $427 million for most system alternatives (complete project alignments); operating costs are approximately $13 million per year.*

The following brief descriptions are provided to assist in interpreting the discussions in Chapters 4.0, 5.0, and 6.0. A full description of the project can be found in the Draft Environment Impact Report.

2.2 RAIL ALIGNMENT ALTERNATIVES

A lengthy screening and review process for possible system alignments was conducted in early 1983, primarily through numerous meetings held by the LACTC with various agency staffs of Los Angeles County and of the cities of Long Beach, Los Angeles, and Compton. A total of ten of the most feasible and attractive alignment routings in the three segments were recommended and approved for further study: three in downtown Los Angeles, three in the Compton area of the Mid Corridor segment, and four in Long Beach.

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*All costs presented in this report are taken from the Draft EIR. Capital costs do not include right-of-way, relocation, impact mitigation, and escalation. Revised figures will be presented in the Final EIR.

This material includes descriptions of the original four Long Beach alignment alternatives presented in the Draft EIR. While the issue of a final project alignment in Long Beach is not addressed in this report, information on the four alignments is included to assist in understanding and interpreting measures of system-wide performance and cost.

2.1.1 Downtown Los Angeles

The three Los Angeles alignments shown in Figure 2.1 are as follows:

- **Alternative LA-1 (Broadway/Spring Couplet, At-Grade):** Tracks on aerial structure proceed westward from the east side of Union Station parallel to the Hollywood Freeway (Route 101). The double tracks separate and become at-grade at Spring Street after crossing Alameda Street. One-way tracks run at grade on Main and Spring Streets, and on Broadway. The tracks rejoin at Washington Boulevard and proceed to the SPTC right-of-way at Long Beach Avenue.

- **Alternative LA-2 (Flower Street Subway):** The alternative proceeds from 7th and Flower Streets southward under Flower Street. The tracks emerge from a portal between 11th and 12th Streets and continue at-grade in a reserved median in Flower Street. At Washington Boulevard the tracks proceed to the SPTC right-of-way at Long Beach Avenue.

- **Alternative LA-3 (Olympic/9th Aerial):** Tracks on an aerial guideway proceed south along the median of Figueroa Street from a terminal station south of 3rd Street. At 9th Street, the tracks turn east and continue along to Olympic Boulevard. At Long Beach Avenue and Olympic Boulevard, the tracks join the SPTC right-of-way and become at-grade. The tracks pass under the Santa Monica Freeway and join the Mid Corridor section of the alignment at the intersection of Long Beach Avenue and Washington Boulevard.

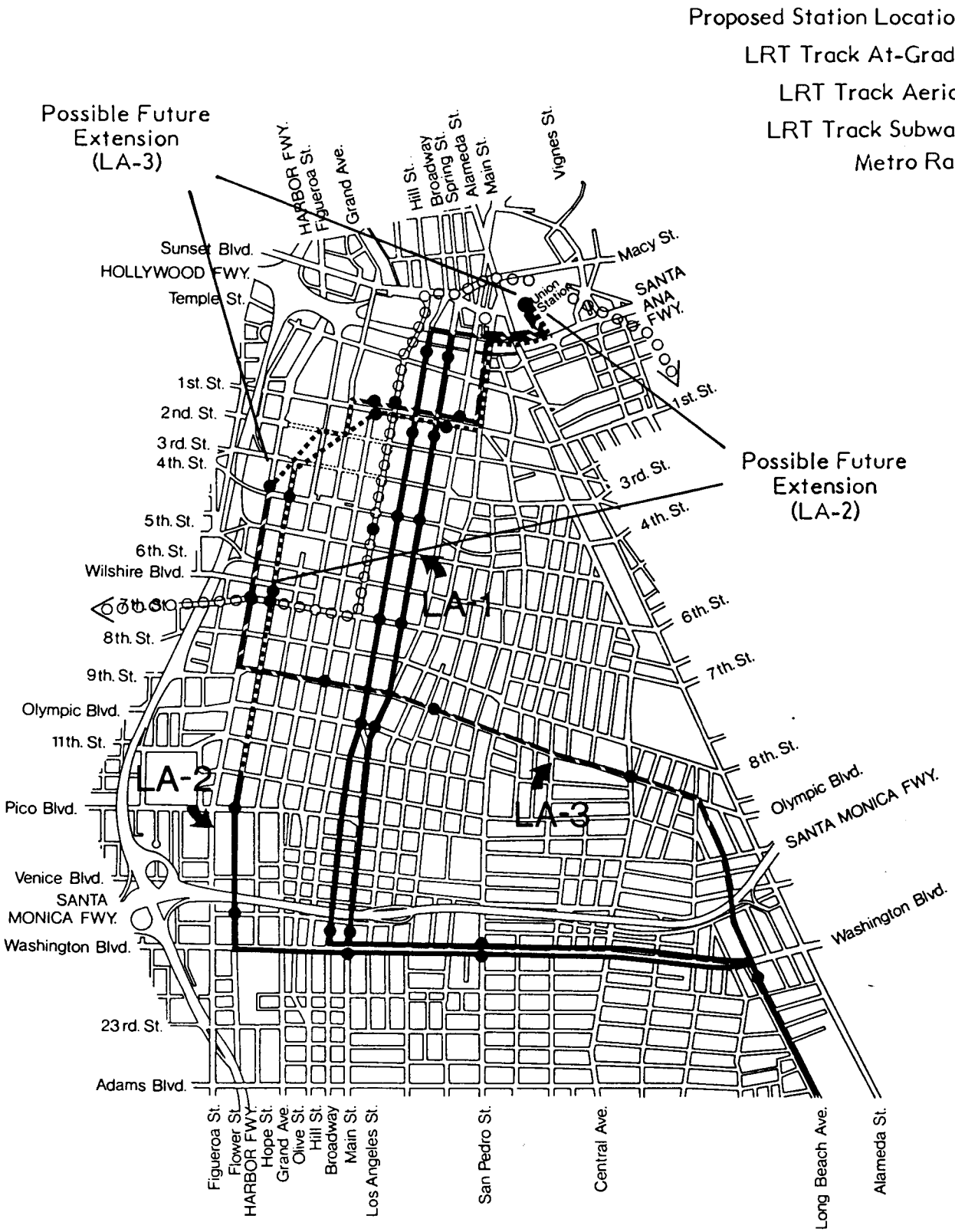

Figure 2.1

Long Beach - Los Angeles RAIL TRANSIT PROJECT
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Downtown Los Angeles Alignment Alternatives
PARSONS BRINCKERHOFF / KAISER ENGINEERS

2.2.2 Mid Corridor

The differences among the Mid Corridor alternatives are limited to the Compton area between Watts and Dominguez Junctions. North and south of these points, only one alignment is under consideration. The full Mid Corridor alignment is shown in Figure 2.2. The three Mid Corridor alternatives for the Compton area are shown in Figure 2.3. Descriptions of the three Mid Corridor alternatives are as follows:

- **Alternative MC-1 (Compton At-Grade):** This alternative provides for an at-grade, double-track rail transit configuration adjacent to and sharing the right-of-way with the SPTC rail freight operations.

- **Alternative MC-2 (Compton Grade Separation):** Rail transit and rail freight tracks are grade-separated (depressed) throughout the central Compton area.

- **Alternative MC-3 (SPTC Railroad Relocation):** SPTC rail freight operations are rerouted from the Wilmington Branch at Watts Junction to the San Pedro Branch (along Alameda Street) via the West Santa Ana Branch. The railroad's Wilmington Branch operations follow the San Pedro Branch to Dominguez Junction. Thus, from Watts Junction to Dominguez Junction, the rail transit system operates at-grade in an exclusive right-of-way.

2.2.3 Long Beach

The Long Beach alternatives are shown in Figure 2.4 and are described below:

- **Alternative LB-1 (Atlantic Avenue Two-Way):** This alternative provides two tracks at-grade on Atlantic Avenue to 1st Street, where the tracks turn west and terminate at Long Beach Boulevard.

- **Alternative LB-2 (Atlantic/Long Beach Couplet):** Beginning at the SPTC railroad right-of-way near Willow Street, a one-way at-grade couplet is created by a track southbound on Long Beach Boulevard, eastbound on 1st Street, and northbound on Atlantic Avenue, returning to the SPTC right-of-way.

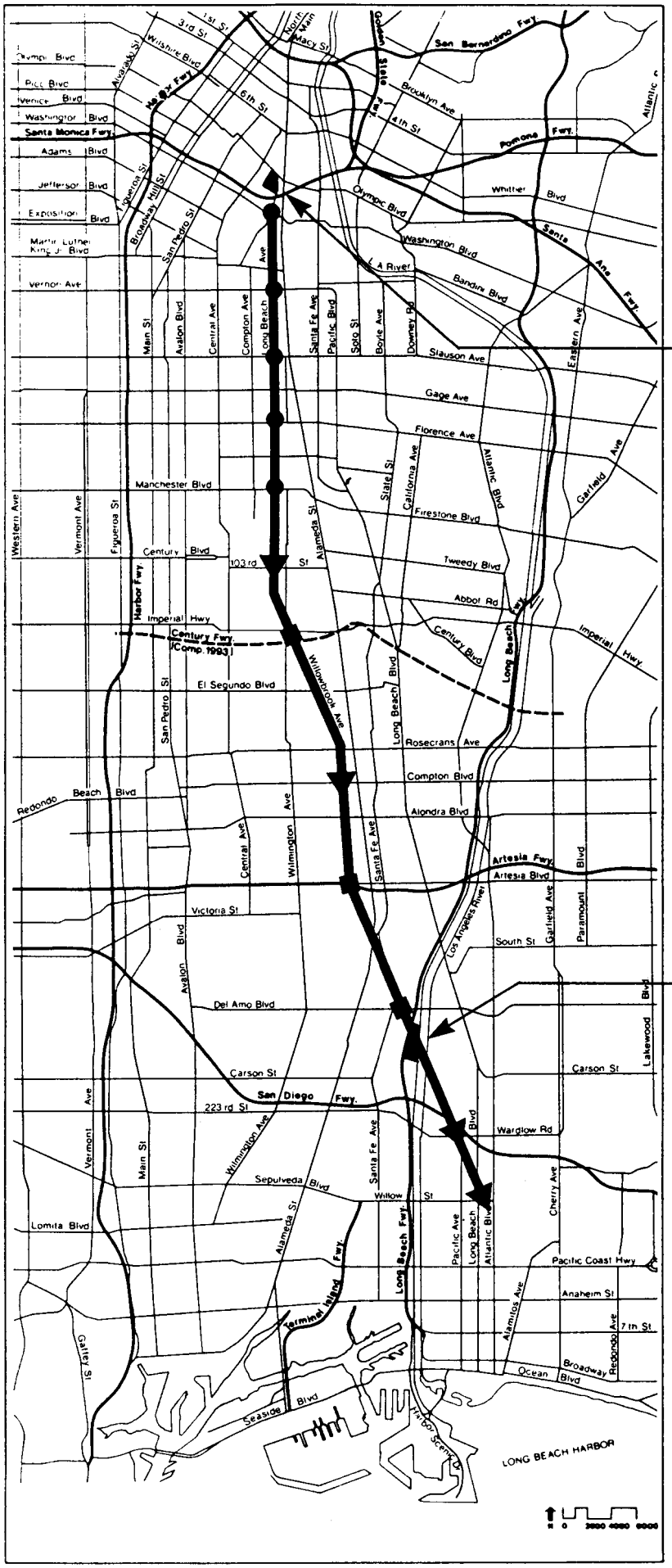

Figure 2.2

Mid-Corridor Alignment

Long Beach-Los Angeles RAIL TRANSIT PROJECT

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

PARSONS BRINCKERHOFF / KAISER ENGINEERS

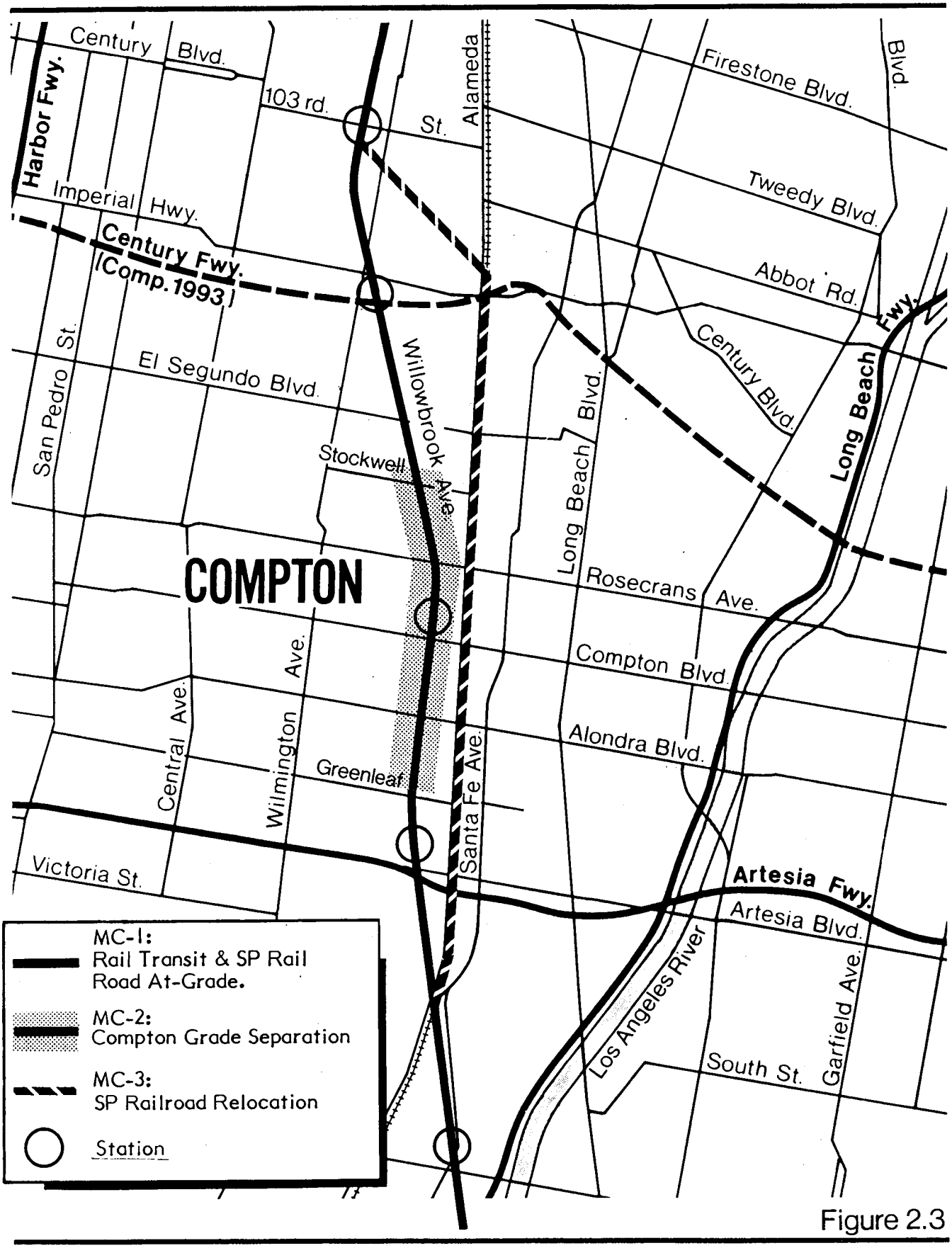

Figure 2.3

Long Beach - Los Angeles RAIL TRANSIT PROJECT
LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Mid-Corridor Alignment Alternatives
PARSONS BRINCKERHOFF / KAISER ENGINEERS

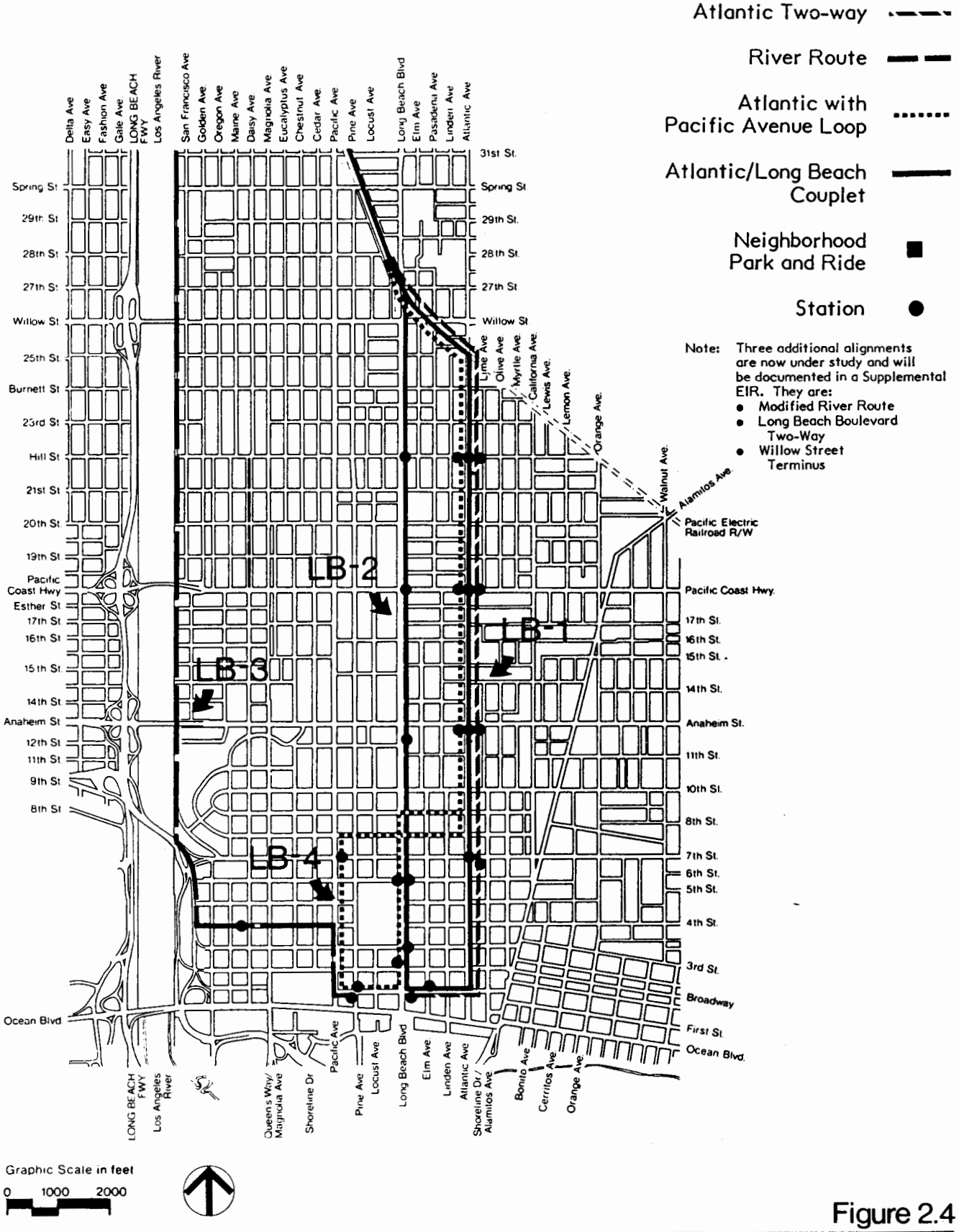

Figure 2.4

Long Beach - Los Angeles RAIL TRANSIT PROJECT

LOS ANGELES COUNTY TRANSPORTATION COMMISSION

Long Beach Alignment Alternatives

PARSONS BRINCKERHOFF / KAISER ENGINEERS

- **Alternative LB-3 (Los Angeles River Route):** The alignment proceeds on retained embankment outside the levee on the east side of the Los Angeles River from the existing SPTC Los Angeles River bridge to 4th Street, then eastbound on 4th, south on Pacific Avenue to 1st Street, and then east to a terminal station near Pacific Avenue.

- **Alternative LB-4 (Atlantic with Pacific Avenue Loop):** This alternative provides two tracks on Atlantic Avenue from the SPTC right-of-way near Willow Street to 9th Street. There the southbound track swings west to Long Beach Boulevard, south to 1st Street, west to Pacific Avenue, north to 8th Street, east back to Atlantic Avenue, and finally north to the SPTC right-of-way.

2.3 SYSTEM CHARACTERISTICS

2.3.1 Vehicles

Conventional light rail technology has been chosen for the Long Beach-Los Angeles Rail Transit Project. Six-axle articulated vehicles have been recommended, with expected minimum passenger capacity for each vehicle of 64 seated passengers and 110 standees, or a total of 174. Propulsion will be by electric motors and power will be collected by an overhead wire by means of pantograph installed on the vehicle roof. Maximum speed will be 55 mph in the Mid Corridor, and 25 mph on street-running segments.

2.3.2 Stations

The station locations selected for each of the alignments under consideration are shown in Figure 2.1 for downtown Los Angeles; Figure 2.2 for the Mid Corridor; and Figure 2.4 for Long Beach. Park-and-ride lots will be provided at Imperial Highway, Artesia Boulevard and Del Amo Boulevard. Smaller "neighborhood" parking facilities will be included at four other Mid Corridor locations (see Figure 2.2). General features incorporated into station concept plans are as follows:

- High-level station platforms.
- Platform lengths of 270 feet (three car lengths).
- Full accessibility for elderly and handicapped patrons.
- Station equipment designed to function without station agent.
- Vertical transportation by escalators, elevators, stairs, ramps and walks as appropriate.
- Landscape buffers provided between parking areas and abutting residential properties.

2.3.3 Yards and Shops

Two sites, one for a primary maintenance shop and storage yard and one for a satellite yard, have been identified (see Figure 2.2). The proposed site for the main yard and shop is located east of the Long Beach Freeway, west of the Los Angeles River, south of Compton Creek and north of Carson Street. The site is currently for sale and could accommodate full vehicle and maintenance-of-way facilities, as well as storage for 60 vehicles. The proposed satellite yard is located directly adjacent to Long Beach Avenue between 12th and 14th Streets in downtown Los Angeles. The property could accommodate a relatively efficient layout for vehicle movement and have a storage capacity for 14 vehicles.

2.3.4 Operations Plans

Trains will run approximately every 12 to 15 minutes during normal service hours, with more frequent service during the AM and PM commuting periods. It is anticipated that reduced service (15 to 20 minute intervals) will be offered at night, and on holidays and weekends. At full operation the system will provide service 20 hours a day (5:30 a.m. until 1:30 a.m.), 365 days a year.

Patronage estimates indicate that two-car train lengths can adequately carry the peak period demand for all system alternatives except those which include the Olympic/9th

Aerial (LA-3) alternative. Due to higher peak period patronage estimates, route combinations using LA-3 require three-car operations.

2.3.5 Fare Collection

A "barrier free" system has been identified as the most viable approach to fare collection for the Long Beach-Los Angeles system. This system would provide for self-service pre-purchase of fares at transit stations using vending machines. Proof-of-fare payment would be shown to "inspectors" aboard trains. A zoned fare system would be used which would consist of at least three zones. Procedures for transfer between the Long Beach-Los Angeles rail project and the Metro Rail system are under study.

3.0 OVERVIEW OF THE TECHNICAL EVALUATION PROCESS

3.1 MAJOR ELEMENTS AND CONSIDERATIONS

As outlined in Chapter 1.0, the technical evaluation of alternatives is one of two bodies of information leading the identification and selection of a preferred alternative for implementation. The technical evaluation becomes a tool in the overall decision process, and is designed to accomplish one of two objectives:

(1) identify that alternative which best achieves accepted goals and objectives for the project, or

(2) failing to identify one alternative as clearly superior on technical grounds, present all information in a manner which facilitates the understanding of benefit and cost trade-offs among the alternatives.

The technical process provides for the evaluation of individual alternatives, as well as a comparative assessment of all alternatives collectively. The evaluation process can be considered to have two basic elements:

(1) selection and estimation of evaluation criteria (measures); and

(2) use of one or more frameworks to present information in a manner which addresses all concerns of the decision process.

Evaluation measures are defined in order to assess the degree to which each of the alternatives achieves the collected set of goals and objectives for the proposed transportation project. Goals and objectives are statements of what a transportation improvement is expected to accomplish, while evaluation measures indicate the degree to which the various project alternatives achieve the goals and objectives.

Many measures can be quantified in clearly-understood units (e.g., daily riders, dollars) while others rely on subjective evaluation (e.g., impact on visual quality). In selecting evaluation measures, an attempt was made to rely on quantifiable items where

possible and, where not, to use measures which can be clearly defined to all parties involved.

3.2 SELECTION OF EVALUATION MEASURES

The selection of a limited set of evaluation measures was governed by three main considerations:

(1) they should reflect and fully measure the extent to which the alternatives achieve accepted project goals and objectives;

(2) they must conform with the format and information requirements of the evaluation framework(s) chosen; and

(3) the total number of measures selected must be kept reasonable, while still preserving thorough coverage of all goals and objectives.

3.2.1 Identification of Goals and Objectives

Project Goals. Two primary goals for the Long Beach-Los Angeles project were identified early in the current study phase. Derived from the intent of Proposition A Ordinance and confirmed by various policy statements of the Los Angeles County Transportation Commission, these two goals are:

(1) The system will provide the citizens of Los Angeles County with the benefits of improved public transportation in a cost-effective manner which is environmentally sensitive and socially responsible.

(2) The system will be constructed as expeditiously as possible.

Regional Goals. Through various documents, the Los Angeles County Transportation Commission and the Southern California Association of Governments (SCAG) have enunciated various goals and objectives of transportation improvements. Ten criteria for project development are included in the LACTC rail transit plan for Los Angeles

County (Stage 3). The criteria (neutral statements of goals and objectives) are organized by level of specificity:

REGIONAL (Corridor Selection)

(1) Support development of activity centers.
(2) Relieve capacity deficiencies.
(3) Promote balanced subregions.

CORRIDOR ALIGNMENTS

(4) Meet existing needs first.
(5) Maximize ridership.
(6) Use existing facilities and right-of-way.

PROJECT

(7) Cost-effectiveness.
(8) Environmental soundness.
(9) Financial feasibility.
(10) Public acceptability.

Other regional goals of new transportation projects cited by LACTC and SCAG include:

- Improve intra-regional travel.
- Improve accessibility for the elderly and handicapped.
- Revitalize older neighborhoods.
- Assist in implementing other economic and land use plans.

Project Objectives. From these generalized goals of public transportation investment, 13 objectives were adopted by the Commission early in the development of the project to guide conceptual design efforts:

(1) Allow low-cost construction.

(2) Provide speed competitive with the automobile.

(3) Serve area in need of transit improvement.

(4) Cause only acceptable environmental impacts; where possible, enhance the natural and man-made environment with respect to such issues as: energy, air quality, noise levels, service to transit disadvantaged, urban form and structure, economic impacts, accessibility of community services, and facilities for the handicapped.

(5) Attract patronage sufficient for cost-effective operation.

(6) Emphasize use of existing right-of-way shared with existing users (railroad, automobiles) wherever feasible.

(7) Secure the minimum capital and operating cost, consistent with attainment of other objectives.

(8) Provide an attractive level of service which equals or exceeds that provided by buses (frequency, speed, comfort, convenience, safety, security and dependability).

(9) Use proven, reliable, mature technology featuring off-the-shelf hardware with minimum developmental requirements.

(10) Provide adequate capacity to meet present anticipated future needs, including that resulting from land use changes which may be associated with transit system impacts.

(11) Be suitable for staged construction; i.e., capable of being expanded and upgraded in the future with respect to coverage area, capacity and service level.

(12) Offer minimal implementation difficulties for an initial segment.

(13) Be compatible with other existing and anticipated transportation system elements.

3.2.2 Criteria for Selection of Evaluation Measures

The selection of evaluation measures was a two-step process. First, theoretical discussions of evaluation methodology and actual applications of evaluation methodologies to rail transit projects were reviewed to assemble the full range of possible measures for each goal/objective category. Through this review, it was possible to identify alternative measures for the same objective category, and to assess the applicability of each to the Long Beach-Los Angeles project. In the second step, this lengthy list of candidate measures was reduced to a more manageable number for actual use in the evaluation. Prime considerations in the selection were:

- Effectiveness in measuring goal-attainment;
- Sensitivity to issues specific to the Long Beach-Los Angeles project; and
- Elimination of redundancy.

Emphasis was placed on selecting those measures which best reveal significant differences among alternatives, while at the same time covering all criteria (goals and objectives) and addressing all known issues. The list of measures was drawn partly from a group prepared earlier in the project study and fully reflected all goals and objectives just discussed. For efficiency of organization and presentation, some consolidation of goal/objective groups was made. Final groupings, reflecting issues of concern in the corridor, are as follows:

- Ridership
- Transit Service
- Cost and Revenue
- Energy
- Environmental Impact
- Conformity with Plans and Policies

3.2.3 Evaluation Measures Selected

The final list of 28 measures used in the technical evaluation (see Chapter 4.0) is shown below:

RIDERSHIP

(1) Average Daily Rail Transit Ridership
(2) Average Daily Corridor Transit Ridership

TRANSIT SERVICE

(3) Average One-way Running Time
(4) Accessibility to Activity Centers
(5) Mobility for Transit Dependents
(6) Reliability, Safety and Security
(7) Capacity for Additional Service
(8) Integration with Regional Transportation Plan
(9) Guideway Transit Transfer Volumes
    - Metro Rail
    - Century Freeway Transitway
(10) Impact on Bus Operations

COST AND REVENUE

(11) Total Capital Cost by Segment
(12) Total Capital Cost System by Alternative
(13) Annual Rail Transit Operation and Maintenance Cost
(14) Annual Rail Transit Operating Revenue and Cost Recovery

ENERGY

(15) Construction Energy by Segment
(16) Construction Energy by System Alternative
(17) Construction Energy Payback

ENVIRONMENTAL IMPACT

(18) Construction Impacts

(19) Economic Development and Revitalization

(20) Traffic

(21) Rail Freight Operations

(22) Noise and Vibration

(23) Visual Quality

(24) Historic and Cultural Resources

(25) Other Socio-economic Concerns

- Population and housing
- Community services
- Business activity

(26) Air Quality

(27) Other Natural Environmental Concerns

- Topography
- Water quality
- Vegetation and wildlife

PLANS AND POLICIES

(28) Conformity with Plans and Policies

- AQMP
- RTP
- Redevelopment

4.0 TECHNICAL EVALUATION OF ALTERNATIVES

4.1 INTRODUCTION

This chapter presents the findings and conclusions of the technical evaluation of alignment alternatives for the downtown Los Angeles and Mid Corridor segments. As described in Chapter 1.0, the technical evaluation of alternatives constitutes the first of two bodies of information necessary to select a final "preferred" project alternative for implementation. The Commission staff recommendation addressing the two corridor segments covered in this report draws heavily on the material in this chapter.

The technical evaluation is structured using the 28 evaluation measures, or criteria, described in Chapter 3.0. The six major categories of evaluation measures are:

- Ridership
- Transit Service
- Cost and Revenue
- Energy
- Environmental Impact
- Conformity with Plans and Policies

Alternative alignments within each of the two corridor segments (Los Angeles and Mid Corridor) are addressed in separate sections, below. In each section, abbreviated summary findings are first presented graphically in a matrix format. Discussions are then provided for each evaluation measure, grouped according to six categories listed above. For each measure, all results are explained and the relative performance of each of the alternatives is critically compared.

The data used in the technical evaluation have been developed over the course of the present study (18 months) and documented in various technical reports and memoranda. The majority of the information comes from the Draft Environmental Impact Report and the reader is directed there for more extensive discussions of issues raised in this chapter. Other relevant technical documents are listed in Appendix A.

The discussion of significant trade-offs among alternatives (benefits and costs across evaluation criteria) is left for Chapter 6.0, where the findings of the analysis of public opinion are included. The information presented in Chapter 6.0 has been selected to provide the most succinct and relevant factual basis in support of the recommended alignment alternatives. The greater level of detail in this chapter may be used as a reference during consideration of the Chapter 6.0 findings.

4.2 DOWNTOWN LOS ANGELES

Key findings of the technical evaluation of alternatives are briefly summarized for downtown Los Angeles in Table 4.1 (six sheets). More detailed discussions of the information in this table begin immediately below. For convenience, the evaluation measures covered under each category of measures are listed at the beginning of each subsection.

4.2.1 Ridership

(1) Average Daily Rail Transit Ridership
(2) Average Daily Corridor Transit Ridership (Rail and Bus)

Ridership figures shown in Table 4.1 are year 2000 estimates developed by the Southern California Association of Governments (SCAG). The figures are based on assumed system alternatives comprised of the indicated Los Angeles alignment plus the MC-1 (Compton at Grade) and LB-4 (Atlantic Avenue with Pacific Avenue Loop) alignments in the other two corridor segments. The purpose of defining complete system alternatives in this way is to attempt to measure of the relative effectiveness of only the Los Angeles alignments in attracting riders—the other portions of the system are held constant to permit this comparison.

The only significant variation in rail system ridership is for the LA-3 alignment (Figueroa/9th Aerial). Slightly more than 76,000 daily riders are forecast for the rail system using that alignment, versus 54,400 and 54,700 for LA-1 (Broadway/Spring Couplet) and LA-2 (Flower Street Subway), respectively. This significant variation is related to two factors: (1) considerably faster running time for the aerial section in the crowded downtown area (see Measure 3, below); and (2) better service to high-density employment areas, including the Apparel District and produce market on the

TABLE 4.1
EVALUATION OF ALTERNATIVES - DOWNTOWN LOS ANGELES
(Page 1 of 6)

Measure \ Alternative	LA-1	LA-2	LA-3
(1) Average Daily Rail Transit Ridership (Boardings)	54,446 riders	54,702 riders	76,303 riders
(2) Average Daily Corridor Transit Ridership (1)	148,767 riders	148,449 riders	149,194 riders
(3) Average One-Way Running Time (2)	68 minutes (57 minutes to 4th Street)	57 minutes (7th Street)	49 minutes (4th Street)
(4) Accessibility to Activity Centers	Service: Best - 6 centers; As Well - 5 centers; Not Served - 4 centers	Service: Best - 3 centers; As Well - 5 centers; Not Served - 7 centers	Service: Best - 4 centers; As Well - 8 centers; Not Served - 3 centers
(5) Mobility for Transit Dependents	All LA alternatives fully accessible to the handicapped. Most accessible of LA alternatives to minorities, elderly, and low income.	Most accessible of LA alternatives to youth, least accessible to elderly.	Least accessible of LA alternatives to minorities, youth, and low income.

Notes: (1) Excluding through trips. Includes rail and bus.
(2) Assumes alternatives MC-1 (Compton At-Grade) and LB-4 (Atlantic/Pacific Loop).

TABLE 4.1
EVALUATION OF ALTERNATIVES - DOWNTOWN LOS ANGELES
(Page 2 of 6)

Measure \ Alternative	LA-1	LA-2	LA-3
(6) Reliability, Safety, and Security	Proven technology. Greatest auto and pedestrian conflict. Evacuation most straightforward. Security most enforceable of LA alternatives.	Proven technology. Less auto and pedestrian conflict. Best safety of LA alternatives. Security less responsive in short tunnel.	Proven technology. Best reliability of LA alternatives. Safety and security minimally less than other LA alternatives.
(7) Capacity for Additional Service	Most flexible for addition of new CBD trackage. Limited capacity for additional peak-hour service.	Extensions or new routes most costly. Moderate capacity for additional peak-hour service.	Extensions or new routes more difficult than LA-1. Greatest capacity for additional peak-hour service.
(8) Integration with Regional Transportation Plan	Links with Metro Rail, I-5 Transitway (rail only) and I-10 Busway. No link with I-110 Transitway. No competition with other service.	Best link with Metro Rail. Good link with Harbor Transitway. No link with I-5 (rail only) and I-10 Busway. Minor competition with other service to South Bay and Orange County.	Good link with Metro Rail. No link with I-5 (rail only) and I-10 Busway. Minor competition with other service to South Bay and Orange County.
(9) Guideway Transit Transfer Volumes - Metro Rail - Century Transitway	 138 7,751	 2,504 7,573	 3,376 7,805
(10) Impact on Bus Operations	Minor service changes for two routes.	No changes proposed.	No changes proposed.

TABLE 4.1
EVALUATION OF ALTERNATIVES - DOWNTOWN LOS ANGELES
(Page 3 of 6)

Measure \ Alternative	LA-1	LA-2	LA-3
(11) Total Capital Cost by Segment (1,3)	$70,800,000 At Grade - 3.85 miles Aerial - 0.58 miles	$78,300,000 At Grade - 2.44 miles Subway - 0.83 miles	$76,400,000 At Grade - 0.34 miles Aerial - 2.83 miles
(12) Total Capital Cost by System Alternative (1,2,3)	$407,200,000	$399,400,000	$427,300,000
(13) Annual Rail Transit Operation and Maintenance Cost (4)	$13,200,000	$12,500,000	$13,500,000
(14) Annual Rail Transit Operating Revenue - Operating Cost Recovery	$8,300,000 63%	$8,400,000 67%	$11,700,000 86%
(15) Construction Energy by Segment	594 billion BTU 4.75 million gal. gasoline	599 billion BTU 4.79 million gal. gasoline	1,065 billion BTU 8.53 million gal. gasoline

Notes:
(1) Costs do not include right-of-way, relocation, impact mitigation, and escalation.
(2) Assumes alternatives MC-1 (Compton At-Grade) and LB-4 (Atlantic/Pacific Loop). Includes vehicles and maintenance facilities.
(3) Difference in alternative rankings between Measures 11 and 12 is due to differing vehicles needs (and costs) resulting from travel time and patronage differences.
(4) In 1984 dollars.

TABLE 4.1
EVALUATION OF ALTERNATIVES - DOWNTOWN LOS ANGELES
(Page 4 of 6)

Measure \ Alternative	LA-1	LA-2	LA-3
(16) Construction Energy by System Alternative (1)	1,878 billion BTU 15.02 million gal. gasoline	1,883 billion BTU 15.06 million gal. gasoline	2,346 billion BTU 18.77 million gal. gasoline
(17) Construction Energy Payback (1)	5.5 years	7.3 years	8.6 years
(18) Construction Impacts	Significant impacts on traffic, noise, business activity. Partial encroachment on historic sidewalk. Increased employment during construction.	Similar to LA-1. No impact on historic district. Possible contact with oil/gas bearing soils.	Similar to LA-1. No impact on historic district.
(19) Economic Development and Revitalization	All LA alternatives produce modest benefits. Improved access to and visibility of Broadway-Spring area.	Assist redevelopment effort in South Park area.	Minor assistance to South Park redevelopment effort.
(20) Traffic	Greatest impact on LA alternatives due to at-grade profile and length.	Least impact of LA alternatives due to shorter length and partial tunnel profile.	Moderate impact on streets following alignment.

Notes: (1) Assumes alternatives MC-1 (Compton At-Grade) and LB-4 (Atlantic/Pacific Loop).

TABLE 4.1
EVALUATION OF ALTERNATIVES - DOWNTOWN LOS ANGELES
(Page 5 of 6)

Measure \ Alternative	LA-1	LA-2	LA-3
(21) Rail Freight Operations	No impact on rail freight operations (all alternatives).		
(22) Noise and Vibration	All alternatives - No significant noise effect relative to ambient levels. No vibration impact.		
	Moderate impact relative to other LA alternatives.	Least of LA alternatives.	Most of LA alternatives.
(23) Visual Quality	Moderate adverse impact. Aerial structure over Hollywood/Santa Ana Freeway visually intrusive for El Pueblo de Los Angeles.	Least adverse impact. Some impact (tree removal) on Flower Street, south of subway portal.	Most adverse impact. Not compatible with historic structures along Olympic and 9th Streets, and new development at Figueroa and 9th Street intersection.
(24) Historic and Cultural Resources	Displacement of terrazzo sidewalks and period streetlights on Broadway. Visual intrusion at Union Station and El Pueblo State Park.	No impact.	Visual impact on several historic buildings.
(25) Other Socioeconomic Concerns - Population and Housing - Community Services - Business Activity	Walk-distance population - 13,500 No induced residential development. Improved access - 57 facilities Tax revenue - $1.5 million	Walk-distance population - 8,830 Possible induced residential development. Improved access - 17 facilities Tax revenue - $2.8 million	Walk-distance population - 4,590 Possible induced residential development. Improved access - 21 facilities Tax revenue - $2.9 million

TABLE 4.1
EVALUATION OF ALTERNATIVES - DOWNTOWN LOS ANGELES
(Page 6 of 6)

Measure \ Alternative	LA-1	LA-2	LA-3
(26) Air Quality	All alternatives produce minor reduction in regional burden levels for all pollutants except nitrogen oxide, which is marginally increased. All comply with the AQMP.		
(27) Other Natural Environmental Concerns - Topography - Water Quality - Vegetation and Wildlife	No significant impact. Possible removal of mature trees.		
(28) Conformity with Plans and Policies	All LA alternatives conform with 1982 Air Quality Maintenance Plan.		
	Conforms with all RTP goals and policies. Conforms with redevelopment plans except along Broadway.	Conforms with RTP goals and policies and local redevelopment plans.	Best meets RTP goal of increased transit ridership. Conforms with RTP goals and policies and redevelopment plans except in South Park (9th Street).

east side and Bunker Hill and the Financial District on the west side (Measure 4). The LA-3 alignment also provides a direct connection with Metro Rail at 7th street, albeit at a significantly different grade. The LA-1 linkage with Metro Rail at Union Station does not function as efficiently.

Comparisons of total transit ridership in the Long Beach - Los Angeles corridor (rail and bus) show that none of the downtown Los Angeles alignments functions more efficiently than the others in attracting total transit riders. Differences among the rail figures are offset by compensating changes in bus ridership and in other proposed linehaul service, principally the Harbor Transitway.

As a result of these figures, ridership becomes ineffective in assisting the selection of a final project alignment in downtown Los Angeles. The apparent difference of LA-3 represents a real superiority in efficiency in the downtown area alone, but only shifts in riding patterns elsewhere in the corridor.

4.2.2 Transit Service

(3) Average One-Way Running Time
(4) Accessibility to Activity Centers
(5) Mobility for Transit Dependents
(6) Reliability, Safety and Security
(7) Capacity for Additional Service
(8) Integration with the Regional Transportation Plan
(9) Guideway Transit Transfer Volumes
    - Metro Rail
    - Century Transitway
(10) Impact on Bus Operations

The measures of transit service support and augment the ridership measures discussed above, and are reflected to some extent in the cost estimates presented below. Quantitative measures are used to reinforce the findings of the qualitative assessments. Thus, average one-way running time (#3) partially affects accessibility (#4), while guideway transfer volumes (#9) further support the assessment of integration with the Regional Transportation Plan (#8).

Running Time (3). Reflecting the lack of at-grade conflict with vehicular and pedestrian traffic, the LA-3 alignment achieves the best one-way running time of 49 minutes from the Long Beach terminus to 4th Street, Los Angeles. The so-called Flower Street Subway (LA-2) is in reality mostly an at-grade system, with less than one mile of subway at the end of the alignment. Thus, running time to 7th Street is estimated at 57 minutes. The LA-1 alignment has a shorter distance to cover to a comparable cross-street, but is entirely at grade. Its running time to 4th Street is also 57 minutes.

Accessibility (4). The Los Angeles Community Plan and various downtown redevelopment plans were used to determine centers of activity for downtown Los Angeles. The documents showed not only existing centers, but also those areas where future centers may be located. In the Draft Environmental Impact Report, fifteen of these focal points were analyzed and evaluated for service by the alternative route segments. These were: Union Station, Olvera Street (El Pueblo de Los Angeles), the Civic Center, Little Tokyo, Bunker Hill, Westside Financial District, Broadway Commercial Area, Spring Street, Garmet District, Produce Market, Eastside Industrial Center, Central Commercial District, Convention Center, Los Angeles Technical College, and South Park.

After comparative analysis, the three segments can be ranked as follows in descending order of service: LA-1, LA-3, and LA-2. The evaluation has shown that the Broadway-Spring Couplet alternative (LA-1) serves six of the major activity centers listed above best, five as well as other alternatives, and four not very well. The Olympic/9th Aerial alternative (LA-3) serves four centers best, eight as well as other alternatives and three not very well. The Flower Street Subway alternative (LA-2) serves three centers best, five as well as other alternatives and seven not very well.

No attempt is made here to adjudge the relative quality of importance of the various activity centers. It is the basic level of service which is of concern when selecting a preferred alignment. It should be noted that the centers served "well" by LA-3 include some of the highest employment concentration in the downtown, which partly accounts for the higher rail system ridership for that alternative.

Mobility for Transit Dependents (5). A transit dependent is generally defined as a person who does not own a private vehicle, or who cannot drive, and who must use public transportation. Transit dependency is most prevalent among those belonging to the following "special user" groups: elderly, youth, minorities, the handicapped, the economically disadvantaged and autoless households. The extent to which an alignment alternative enhances the mobility of transit dependents depends on how well it serves high concentrations of these groups.

Service to transit dependents was determined by calculating the numbers of people within a specified distance (1/4 mile) of project stations. The results are summarized in Table 4.1. In general, LA-1 provides the best accessibility to most type of transit dependents, primarily due to the types of neighborhoods its traverses and the fact that it has the largest number of stations. LA-2 provides marginally more accessibility to youth, but is the least accessible to the elderly. The LA-3 alignment performs the most poorly using this measure—it provides the least accessibility to minorities, youth, and low income persons.

In general, the numbers of transit-dependent persons served by any of the project alignments in downtown Los Angeles are relatively small and hence, the relative significance of the distinctions just drawn is minor. It should also be noted that the rail system, regardless of which alternative is selected, will be designed to be fully accessible to the handicapped.

Reliability, Safety, and Security (6). This evaluation measure considers the related concerns of system operation: its reliability, safety—both to riders and to vehicular and pedestrian traffic—and security of riders, onboard and at stations. Comparative evaluation of the alternatives focuses on marginal differences among them, as any system built will be designed to provide the maximum reliability, safety, and security available from current technology and management practice.

All of the alternatives will utilize proven "off-the-shelf" technology, including vehicles, controls, communication, fare collection, and design of fixed facilities. With the exception of special structural considerations for tunnel or aerial guideway construction, all of the alternatives should be equally reliable and safe from the perspective of design and technology.

The LA-1 alignment has greatest track mileage at grade; thus, it will most likely suffer more conflict with vehicular traffic, with the attendant risk of collision. The considerable starting and stopping required will probably give it the lowest operating reliability. The LA-2 and LA-3 alignments should be equally more reliable than LA-1.

Both LA-2 and LA-3 are safer systems from the perspective of vehicular conflict. However, access to a tunnel or aerial guideway is more difficult than to a vehicle sitting at grade, and consequently, they are less safe than LA-1 from the perspective of emergency, such as fire or earthquake. LA-3 is probably the least safe in an emergency situation.

The alternatives differ in their security characteristics. The at-grade portions of alignments are simultaneously more accessible to crime and to law enforcement officers. The aerial guideway is perhaps more secure, in the sense that access can be easily controlled. Such controlled access does not preclude crime, however. Overall, police response is probably easiest with LA-1, but only marginally so. The three alternatives cannot be clearly distinguished on the basis of passenger security.

Capacity for Expansion (7). The capacity for system expansion addresses two types of responses to increased demand for service—one short term and the other long-term. These are: (1) ability to add additional service (reduce headways) on existing track; and (2) ability to construct extensions to or spur lines from the existing alignment.

The LA-1 alignment, due to its extensive at-grade profile, offers the least flexibility to the transit operator to increase service. System capacity is dictated by block lengths and traffic signal timing, neither of which can be modified in any substantive way. By contrast, the LA-3 alignment is almost entirely grade-separated in the downtown, and consequently offers the greatest flexibility for service expansion or other modification. The LA-2 alignment falls in between these two.

The LA-3 alignment offers considerable flexibility in adding a new trackage in the downtown, though not without attendant environmental impact. The LA-2 alignment offers similar freedom with less permanent impact, but at greater cost. This alignment offers the best opportunity for a direct linkup with the Harbor Transitway, and for a southerly extension to the Exposition Park area. The LA-1 alignment, being entirely at grade, provides the greatest opportunity for new extensions, spurs and

connections to other systems. However, maintaining the system at grade will continue to present conflict with vehicular traffic, with attendant safety risk and sacrifice of speed and reliability.

Integration with Regional Transportation Plan (8); Guideway Transit Transfer Volumes (9). The Regional Transportation Plan (RTP) is a year 2000 projected transportation system for the SCAG five-county region. The RTP is a coordinated response to future land use trends and is designed to best meet planning goals. The RTP projects which will be most affected by implementation of the Long Beach-Los Angeles Rail Transit Project include the Metro Rail Line and transitways on the I-5, I-10, I-110 (Harbor), and I-105 (Century) freeways. Integration can be defined as best augmenting and otherwise supporting transit usage on the other systems, and maximizing overall transit usage in the region.

Interface with the Metro Rail system would occur at Union Station for the LA-1 alternative, and at 7th Street for the LA-2 and LA-3 alternatives. In all cases, the two systems would reinforce one another, providing continuous service from Long Beach in the south to downtown, the mid-Wilshire area, and (if constructed) Hollywood, and the San Fernando Valley. As suggested by the transfer volume forecasts, this support would be most effective with the LA-3 alignment, and only minimal with the LA-1 alignment. The extra time needed to reach Union Station by either line (but especially the light rail line) would discourage most transferring.

If a bus/HOV alternative is chosen for the Interstate 5 Transitway, it will not connect directly with the Long Beach-Los Angeles line. The bus/HOV terminus will be at Whittier/6th Street and will not extend to Union Station. High frequency bus service will be provided from the terminus to the central business district where it could connect with any of the three downtown Los Angeles alternatives.

If a rail transit alternative is selected, the transitway will terminate at Union Station via the San Bernardino Transitway. In this case, interface between the I-5 Transitway and the Long Beach-Los Angeles line could occur at Union Station if alternative LA-1 is selected.

The I-5 Transitway and the rail transit project would offer competing service to southeast Los Angeles County. Ridership would be reduced on the transitway from 4.7

percent (LA-1) to 7.4 percent (LA-3) depending on which downtown Los Angeles alternative is selected.

The proposed Interstate 10 Busway extension involves extending the existing busway from its present terminus at Mission Road to Alameda Street. A terminus at Alameda Street would create an opportunity for an interface with the Long Beach-Los Angeles line at Union Station. Some ridership reinforcement would occur here if LA-1 were selected. The LA-2 and LA-3 alignments would have little effect.

With the implementation of the Harbor (I-110) Transitway, a connection with the LA-2 alternative at the intersection of Flower Street and Washington Boulevard is possible. This connection is now under review by the staffs of the LACTC, Caltrans, and the City of Los Angeles DOT. The transitway and the Long Beach-Los Angeles line would offer somewhat competing service to some parts of the South Bay area; a result, ridership on the Harbor transitway would be reduced from 2.2 percent to 7.1 percent if downtown Los Angeles alternatives LA-2 or LA-3 were selected. However, transit demand in both corridors more than justifies both transit guideways. The selection of LA-1 would have negligible impact on I-110 ridership.

The Century (I-105) Freeway/Transitway would intersect the rail transit line at Imperial Highway. A dual station would be located at this point where transfer opportunities would be available. The Long Beach-Los Angeles line would not add significantly to passenger loadings on the Century Transitway. System alternatives, including LA-1 and LA-3, will cause a slight decrease in ridership on the transitway while those which include LA-2 will cause a slight increase in patronage. Transfer volumes would not differ significantly among the three Los Angeles alternatives.

In summary, the LA-1 alternative does not directly compete with other proposed service, but also does not tie in efficiently with routes such as Metro Rail and the Harbor Transitway. By contrast, both the LA-2 and LA-3 alignments would cause some competition with South Bay service on the Harbor facility, and also to Orange County if a rail transit facility were built on I-5. However, they would benefit overall transit service by providing connectivity superior to that offered by LA-1.

Impact on Bus Operations (10). If the light rail project is not implemented, an increase in bus service will be necessary to provide for the anticipated growth of employment

particularly in downtown Los Angeles. In conjunction with significant increases in vehicular traffic projected by the year 2000, the bus service will encounter reduced travel speeds, more delays, and unreliable service during the peak traffic periods.

The LA-3 alternative through downtown Los Angeles would have a significantly greater impact on local bus operations than the other alternatives. The LA-1 alignment would have the least impact. These findings reflect that the faster, more direct alternative routings which incorporate the LA-3 segment would result in greater reductions in ridership for the local bus service in the downtown Los Angeles area.

Based on a conceptual service study, implementation of the LA-1 alignment would require minor service changes on two existing SCRTD routes. Neither of the other two alignments would necessitate such changes. Overall, the impact of any of the project alignments on local bus operations is minor.

4.2.3 Cost and Revenue

(11) Total Capital Cost by Segment
(12) Total Capital Cost by System Alternative
(13) Annual Rail Transit Operation and Maintenance Cost
(14) Annual Rail Transit Operating Revenue and Cost Recovery

Capital costs for the project have been estimated based on conceptual design drawings developed during the current study period. The capital cost figures shown in Table 4.1 include the following items:

- construction labor, materials, services
- design and construction management services
- general overhead and administration surcharges
- public agency costs

The cost figures do not include the following:

- right-of-way
- relocation assistance
- environmental impact mitigation
- escalation

These items are under review at the time of this writing and will be included in the cost figures provided with the Final EIR.

The capital costs shown for individual segments (Measure 11) reflect all construction necessary for those specific portions of the project alignment. In the case of downtown Los Angeles, the rail segments begin near Washington Boulevard and Long Beach Avenue and move to the north and west. Systemwide costs, such as vehicles, maintenance facilities, and central control facilities are not reflected in the cost figures for Item 11. All add-on costs, such as design, overhead, and agency costs, are included.

Route mileages by type of profile are provided with the cost figures in Table 4.1 to assist in interpreting the relative costs. There is little variation in the figures, primarily due to the differing lengths of alignment and types of construction involved. The LA-1 alignment, while constructed entirely at grade, is considerably longer than either of the other alternatives. (The track is actually split onto two streets throughout much of the downtown, increasing the cost over what it would be for a double track on one street.) The Flower Street Subway alignment (LA-2) is indeed the most expensive, but only by an insignificant 3 percent over the next most costly alternative, LA-3. The aerial alignment, while shorter than either of the others, contains almost three miles of aerial guideway.

The capital costs for system alternatives were estimated by joining each of the Los Angeles alignments in turn with the MC-1 alternative in the Mid Corridor and the LB-4 alternative in Long Beach. These cost figures include the systemwide elements not included in the segment cost figures, including vehicles, maintenance facilities, and central control and administration facilities.

As can be clearly seen in Table 4.1, the relative ranking of the downtown Los Angeles alternatives by cost changes when full system costs are considered. This is due to one straightforward reason: both the LA-1 and LA-3 alignments require a considerably larger number of vehicles than does the LA-2 alignment. The at-grade alternative (LA-1) requires extra vehicles to maintain schedules over a significantly longer and slower route. The LA-3 alternative requires extra vehicles to accommodate the significantly higher patronage forecast for that alignment. Thus, the capital costs associated with the downtown options range from LA-2 on the low end to LA-3 on the

high end. The difference, however, is only five percent, an amount well within the estimating reliability at this stage of project development.

System annual operating and maintenance costs were estimated using actual prototypical operations plans designed to accommodate projected ridership, average running speed, and assumed service levels. Little variation in operations and maintenance cost was found. An eight percent gap separates the lowest estimated cost ($12.5 million/year for LA-2) to the highest ($13.5 million/year for LA-3).

Operating revenue was based on a prototypical fare structure which was applied equally to all alternatives.* Revenue was found to be closely proportional to total system ridership. With the significantly higher ridership forecast for LA-3, that alignment alternative exhibits a significantly higher level of operating cost coverage ("farebox recovery") than the other two alternatives.

4.2.4 Energy

(15) Construction Energy by Segment
(16) Construction Energy by System Alternative
(17) Construction Energy Payback

Construction energy requirements for the downtown Los Angeles segments and for the full system alternatives were calculated using actual estimates of materials, quantities, and fabrication derived from the conceptual plan and profile drawings. The estimates for the downtown segments alone includes all of the physical construction north of Washington Boulevard and Long Beach Avenue. The system alternatives include the energy needs for vehicle assembly and construction of maintenance and central control facilities.

Energy figures are provided in BTUs and in terms of equivalent gallons of gasoline to aid in their interpretation. When considered in isolation, the LA-1 and LA-2 alignments are virtually identical in their construction energy consumption. The LA-3

*A more detailed description of the fare structure and the revenue estimates can be found in the Draft EIR.

alignment, however, requires almost double the amount of energy, primarily due to the extensive length of aerial guideway.

When considered on a systemwide basis, alternatives using the LA-1 and LA-2 alignments continue to be extremely close in total energy consumption. The difference shown by LA-3 is reduced (in percentage terms) over what is shown on a segment basis, but is still considerable.

Energy savings on a regional basis will result from implementation of any of the alternatives. Savings due to reduced automobile miles travelled resulting from operating a system using the LA-1 alignment may come to 339 billion BTU (2.71 million gallons of gasoline) annually. This figure, which does not account for additional savings occurring as the result of increased auto operating speeds and efficiencies, indicates that the investment of construction energy for the system alternative using the LA-1 alignment can be recovered in 5.5 years. The equivalent payback figures for LA-2 and LA-3 are 7.3 years and 8.6 years, respectively.

From the perspective of energy efficiency, then, LA-1 is the superior alternative. The differences among the alternative are not sufficient however, for this measure to become a significant basis for selection of a preferred alternative.

4.2.5 Environmental Impact

(18) Construction Impacts
(19) Economic Development and Revitalization
(20) Traffic
(21) Rail Freight Operations
(22) Noise and Vibration
(23) Visual Quality
(24) Historic and Cultural Resources
(25) Other Socioeconomic Concerns
(26) Air Quality
(27) Other Natural Environmental Concerns

The discussions of environmental impacts of the downtown Los Angeles Alternatives provided below are summaries and assessments of significant issues. A full presenta-

tion addressing all probable impacts can be found in the Draft Environmental Impact Report.

Construction Impacts (18). The construction of any of the downtown Los Angeles alternatives will require grading and excavation. In addition, there will be some water run-off and siltation from construction sites. Alternative LA-2 alone would involve extensive cut-and-cover construction on Flower Street between 12th and 7th Streets. The construction of the subway would be in an area that potentially contains oil- and gas-bearing soils, which would need to be removed from the site to a Class I or II disposal site.

All at-grade portions (LA-1 and LA-2) would require excavation below existing street level to relocate utilities and construction of roadbed. Alternative LA-3 would require excavation at column locations. Any excavating (soil disturbance) would temporarily increase suspended particulates (fugitive dust) and construction equipment exhaust would add to the local pollutant burden.

All Los Angeles alternatives would have temporary increases in noise levels associated with construction activities. Noise levels would be highest around the subway construction for alternative LA-2 and the column footings for alternative LA-3.

Construction of any of the Los Angeles alternatives would cause increased traffic congestion, reduced on-street parking area, disruption to adjacent businesses and obstruction to emergency vehicle access. Alternative LA-1 would cause the most severe problems since various construction activities could occur simultaneously on Broadway and Spring Streets from Washington Boulevard to the Civic Center. There would be extensive disruption and congestion of Flower Street between 12th and 7th Streets. Alternative LA-3 would have congestion and disruption only in areas adjacent to column footings and on Olympic/9th Streets. All Los Angeles alternatives would require the acquisition of small parcels of land for power substations at one- to one-half mile intervals.

All Los Angeles alternatives would remove mature trees and vegetation. Alternative LA-1 would also affect Father Serra Park, Union Station and terrazzo sidewalks on Broadway, all of which potentially have historical significance. Construction of alternatives LA-2 and LA-3 would not directly affect historical properties.

All Los Angeles alternatives would significantly increase local construction employment for the project duration.

A comparative assessment of the probable adverse effects of construction shows no significant differences among the downtown Los Angeles alternatives, with two exceptions: (1) construction of the LA-2 subway might require the removal of oil- and gas-bearing soils; and (2) construction of the LA-1 alignment would cause potential encroachment on historic terrazzo sidewalks. On this basis, the LA-2 alignment can be considered to have the least significant impact during construction.

Economic Development and Revitalization (19). The summary measure chosen to evaluate the downtown Los Angeles alternatives on this measure is the net fiscal impact calculation. Net fiscal impact consists of projected property tax and sales tax increases because of new developments associated with project implementation. It takes into account tax decreases due to land acquisitions required to build project facilities.

Property tax and sales tax increases were calculated based on projections of new office, retail, industrial and residential developments within one-quarter mile of stations for each alternative. The mix of development projected for each alternative varies; residential development is the most important for all alternatives with significant office development likely only with LA-2 and LA-3. Annual property tax increases would range from $890,000 with LA-1 to $2.35 million for LA-3. LA-2 is close to LA-3 with $1.875 million. Projected sales tax increases range from $572,000 for LA-3 to $975,000 for LA-2. LA-1 is only moderately more than LA-3 with annual sales tax revenues pegged at $650,000.

None of the downtown Los Angeles alternatives is expected to produce more than modest changes in economic development and revitalization. LA-2 and LA-3 could encourage development incentives already programmed for the South Park area. LA-1 could increase the visibility of rehabilitation efforts along Broadway and Spring Street.

Traffic (20). From the vehicular traffic standpoint, the downtown Los Angeles alignment alternatives would be expected to produce only moderate changes in the level of service at any of the intersections analyzed for the Draft EIR. The maximum projected change in the level of service would be approximately five percent, while

the majority of the intersections would experience a change of one percent or less. In some cases, a qualitative level of service designation would change, but this would be due to a small change in a volume/capacity measurement crossing a threshold level.

Alternative LA-1 would impact vehicular traffic the most, since it is primarily an at-grade system traversing a larger segment of downtown Los Angeles, while extending the alignment to Union Station. Vehicular and pedestrian conflicts would occur at intersections and roadway segments along Washington Boulevard, Main/Spring Streets and Broadway. In comparison, the subway alternative (LA-2) would have the least overall impact on vehicular and pedestrian traffic. Conflicts would occur along Washington Boulevard and position of Flower Street between Washington Street and 11th Street. The aerial alternative (LA-3) would impact vehicular traffic along Figueroa Street and Olympic/Ninth to the extent of slightly reducing street capacity and parking spaces, as well as causing visual and sight impacts along Figueroa Street.

In summary, the traffic impacts associated with LA-1 can be considered severe in certain limited locations and moderate elsewhere. A moderate level of impact can be associated with the columns for the aerial guideway (LA-3). Only LA-2 is without significant traffic impact.

Rail Freight Operations (21). None of the downtown Los Angeles alignment alternatives utilizes freight railroad right-of-way or interacts operationally in any way with rail freight service. Accordingly, none of these alignments would result in any impact on rail freight operations.

Noise and Vibration (22). Comparison of project light rail operating noise characteristics with existing ambient noise levels and with applicable noise standards and regulations indicate that none of the project alternatives in downtown Los Angeles would create a significant adverse noise impact. In all cases, ambient noise levels would exceed noise generated by passing transit vehicles. The contribution to total noise level made by the transit vehicle would average 0.2 dBA (CNEL method) on an ambient level averaging approximately 66 dBA (CNEL), an insignificant amount.

The greatest number of sensitive receptors lie along the LA-1 alignment, with significantly fewer receptors along the other two alignments. When considering both the level of increased noise (total change in ambient level with the project) and the

number of sensitive receptors, the LA-2 alignment creates the least impact of the alternatives, followed by the LA-1 alignment. The increase in noise generated by the project under the LA-3 alignment alternative is only marginally and insignificantly greater.

None of the alignment alternatives would create conditions resulting in a significant increase in vibration levels. All anticipated vibration would fall below a threshold standard stating "No Adverse Impact - Any Condition."

Visual Quality (23). The LA-2 alignment has been judged most compatible with the visual setting because it intrudes the least on the surrounding streetscape. Although there are street-running portions of this route along Washington Boulevard and Flower Street, most of the at-grade alignment is located on a wide right-of-way in a street with little visual definition. The only potentially negative portion of this alignment occurs on Flower Street, south of the portal to the subway section. Between the freeway overpass and the subway portal. Flower Street would have to be widened and the curbside trees removed during construction. While all attempts would be made to replace the trees, it is not clear whether there would be sufficient sidewalk width after street widening to replant this visual element. Otherwise, using a subway to penetrate to 7th Street essentially eliminates the visual impacts of of this route segment, allowing patrons to have access to the rail project without being able to see it on the crowded street.

The LA-1 alignment would run at-grade through heavily congested historic districts. Both Broadway and Spring Streets were trolley car streets at the same time the most important structures were built. Introducing a new rail transit system would not be out of context with the surrounding visual environment. However, widening Broadway to accommodate the rail transit system would remove some terrazzo sidewalks and require the relocation of trees. Streetscape changes would be subtle but historically important. The aerial portion of this alignment, as it crosses the Hollywood/Santa Ana freeway, could affect views of the historically important El Pueblo de Los Angeles. The modern aerial structure would not be compatible with the historic context of this area.

The LA-3 alternative, on aerial structure, would have the most significant adverse visual impacts of all of the downtown Los Angeles alternatives. The guideway would

be out of context with the older, lower-scale historic structures along Olympic and 9th Streets. The proximity of the guideway to the buildings would create shade/shadow impacts on the sidewalks and the adjacent buildings. At the western end of 9th Street, bents are required for the curve in the guideway as it moves from the north to the southside of the street, and for the curve at the corner of Figueroa and 9th Steet. Both create potential adverse visual impacts on new adjacent developments such as Skyline Condominiums. The median up Figueroa has mixed impacts. There is a significant change in the the streetscape with the blockage of some short and intermediate views. However, the modern towers north of 7th Street are designed and sited in a manner far more compatible with an aerial guideway than elsewhere in the downtown.

Historic and Cultural Resources (24). The effects of the project to historic and cultural resources would vary depending on which alternative is chosen for implementation. In a comparative ranking, LA-2, the Flower Street Subway, would have the least impact; LA-1, the Broadway/Spring Couplet, would have more negative effects; while LA-3, the Olympic/9th Aerial, would have the most negative impact.

The Flower Street Subway (LA-2) alternative would have no effects (visual, noise, or vibration) on the historic resources along the route because the system would be underground in the historic areas.

The Broadway/Spring Couplet (LA-1) would traverse two National Register Historic Districts, Broadway Theater and Spring Street Financial for most of it's at-grade segment. Streetcars ran on both these streets during the period for which these buildings have been found historically significant. Therefore, the at-grade segment is not considered to have significant adverse effects to historic buildings. The only significant effect of the at-grade segment would be to the patterned terrazzo sidewalks marking both existing and past commercial enterprises on Broadway due to the necessity to widen that street by two feet. Period streetlights and plaques in front of the Million Dollar Theater would be moved and/or replaced as mitigation measures.

For the aerial segment of LA-1 (paralleling the Hollywood Freeway) there would be visual impacts to El Pueblo de Los Angeles, Father Serra Park, and Union Station. These impacts, although considered to be minor adverse effects after mitigation, are what places this alternative as second in the ranking.

The Olympic/9th Aerial (LA-3) has a much longer aerial segment than LA-1, 2.8 miles versus 0.6 miles and therefore creates a visual intrusion for 12 historic structures along it's alignment. Two of the 12 affected buildings are listed on the National Register of Historic Places; one building is a City of Los Angeles historic landmark; and, three buildings are contributing structures to the Broadway Theater National Register Historic District. The magnitude of these impacts is the reason for placing this alternative as having the greatest relative impact on historic and cultural resources.

Other Socioeconomic Concerns (25).

Population -

Alternatives in downtown Los Angeles would vary greatly in their potential to serve the general population. LA-1 would serve as projected year 2000 population of 13,500 (8 stations), while LA-2 would potentially serve 8,830 residents with its five stations. LA-3 would potentially serve only 4,590 residents, also with its five stations. Station areas along LA-1 are projected to grow by 24 percent between 1980 and 2000, along LA-2 by 14 percent, and along LA-3 by 35 percent. These growth rates, projected by SCAG, include only a third of the growth planned by the CRA for South Park by 2006. The additional two-thirds of the growth would substantially equalize the population served by the three alternatives.

Housing -

If the operation of the project affects housing in downtown Los Angeles, it will be by intensifying residential development activity in station areas. SCAG's projections for downtown Los Angeles, however, do not indicate any housing growth directly attributable to the operations of the project. If there is any project-induced residential development activity in downtown Los Angeles, it will occur in the South Park area where the project could support CRA's redevelopment activities. Each of the three downtown Los Angeles alignment alternatives would have two stations within walking distance of South Park.

Community Services -

The project is expected to have both beneficial and adverse effects on downtown Los Angeles community services. Benefits in the form of improved access will be realized by those community service facilities within station areas or within areas served by the complementary bus network. The LA-1 alignment would serve up to 51 community facilities, while the LA-2 and LA-3 alignments would provide access to only 17 and 21 facilities, respectively.

The most significant adverse effects on community services in downtown Los Angeles will be (1) the additional demand placed on LAPD's law enforcement efforts, and (2) impairment of police, fire and paramedic emergency vehicle operations due to increased congestion at grade crossings. It is expected that impact on law enforcement activities would be similar among all three downtown Los Angeles alternatives. Impairment of emergency vehicles operations, however, would be significant only along at-grade segments, thus the severest impacts would be imposed by LA-1 and LA-2.

Local Business Activity -

All of the downtown Los Angeles alignment alternatives would pass through what are predominantly highly-developed areas on Washington Boulevard, Spring and Main Streets, Broadway, Flower and 9th Streets, and Figueroa Street. The predominantly commercial character of these streets would not be significantly affected by implementation of the light rail system.

The project could indirectly result in increased retail sales and sales tax revenues in downtown Los Angeles through the enhanced potential for 100,000 square feet of new and infill retail uses. Additional growth would bring new property and increased taxes, as well. Based on the projections of new development and assuming an average annual taxable sales volume ranging between $100 and $125 per square foot in 1983 constant dollars, the project alternatives could indirectly generate annual tax revenue as follows: LA-1, $1.5 million; LA-2, $2.8 million; LA-3, $2.9 million.

Air Quality (26). All of the project alternatives would create a slight overall decreased in the regional pollutant burden. The Broadway/Spring Couplet (LA-1)

would be slightly better than the Flower Street Subway (LA-2) or Olympic/Ninth Aerial (LA-3) due to the resulting lowest vehicle-miles travelled and highest average travel speeds for automobile traffic. The differences, though, are insignificant.

Other Natural Environmental Concerns (27). Alternative LA-1 would most likely require the removal of between 107 and 118 mature trees. Alternative LA-2 would require removal of between 6 and 26 trees, while LA-3 would displace 40 trees. There are no other impacts on vegetation and wildlife in downtown Los Angeles by any of the alternatives. No adverse water quality impacts would result from implementation of any of the downtown alternatives. Finally, none of the alternatives would adversely affect soil conditions during earthquake, flood, or other natural catastrophe.

4.2.6 Conformity with Plans and Policies (Measure 28)

Air Quality Management Plan. The change in emissions levels due to changes in on-road motor vehicle traffic resulting from operation of any of the proposed downtown Los Angeles alignment alternatives would be miniscule. The system alternative including LA-1 would provide the most emissions improvement as a result of having the highest level of diversion of auto users to transit use. Among all of the other system alternatives, there is no significant difference in the level of emissions. The small reduction in emissions projected to result from building a light rail transit line from Long Beach to downtown Los Angeles will conform to and support the goals and policies of the 1982 Adopted Air Quality Management Plan.

Regional Transportation Plan. The SCAG Regional Transportation Plan (RTP) establishes a set of objectives for the Long Beach-Los Angeles corridor. These objectives include a 30 percent increase in total capacity and a tripling of transit ridership during peak hours. The system alternatives that would best meet this objective would be those with the highest ridership estimates. According to patronage modeling conducted for the project, those system alternatives which include the Olympic/9th Aerial (LA-3) have the highest total daily boardings. (See also Measure 8, above.)

Local Redevelopment Plans. For the most part, all of the downtown alignment alternatives would conform to goals of the redevelopment areas they serve. In two instances, however, redevelopment efforts could be impaired by the project. Existing and proposed residential development in the South Park area could be adversely

affected by the presence of an elevated LA-3 alignment. The aerial structure would be located immediately in front of existing Skyline condominium complex and other proposed residential development sites along 9th Street between Figueroa and Hope Streets. This would impair the view of residences fronting 9th Street and could negatively affect visual privacy. In the Central Business District Redevelopment Area, pedestrian and vehicular congestion along Broadway resulting from the implementation of LA-1 could adversely affect retail activity. No adverse effects on redevelopment plans would result from implementing alternative LA-2.

4.3 MID CORRIDOR

Key findings of the technical evaluation of alternatives are briefly summarized for the Mid Corridor in Table 4.2 (six sheets). More detailed discussions of the information in this table begin immediately below. For convenience, the evaluation measures covered under each category of measures are listed at the beginning of each subsection.

4.3.1 Ridership

(1) Average Daily Rail Transit Ridership
(2) Average Daily Corridor Transit Ridership (Rail and Bus)

All of the Mid Corridor project alternatives assume the same rail transit alignment, station locations, and operations plan. As described in greater detail in Chapter 2.0, Alternative MC-2 provides for grade-separation of the rail transit and rail freight tracks through the central Compton area; the MC-3 alternative re-routes the SPTC railroad off of the Wilmington Branch at Watts Junction and onto the West Santa Ana and San Pedro Branches.

The only variations in the character of the rail transit system itself among the Mid Corridor alternatives are: (1) one transit station is placed below grade in Compton under MC-2, and (2) rail freight operations are removed from transit station areas between 103rd Street on the north and Del Amo Boulevard. Neither modification would have any measurable effect on overall rail system ridership.

TABLE 4.2
EVALUATION OF ALTERNATIVES - MID CORRIDOR
(Page 1 of 6)

Measure \ Alternative	MC-1	MC-2	MC-3
(1) Average Daily Rail Transit Ridership (Boardings)	No measureable difference among Mid Corridor alternatives.		
(2) Average Daily Corridor Transit Ridership	No measureable difference among Mid Corridor alternatives.		
(3) Average One-Way Running Time (Minutes)	No measureable difference among Mid Corridor alternatives.		
(4) Accessibility to Activity Centers	Same for all Mid Corridor alternatives.		
(5) Mobility for Transit Dependents	Same for all Mid Corridor alternatives. All stations fully accessible to the handicapped.		

TABLE 4.2
EVALUATION OF ALTERNATIVES - MID CORRIDOR
(Page 2 of 6)

Measure \ Alternative	MC-1	MC-2	MC-3
(6) Reliability, Safety, and Security	No significant differences among Mid Corridor alternatives.	Security slightly less at below-grade stations.	Slightly better rail transit reliability and safety due to removal of rail freight operations from Wilmington Branch. Slightly increased rail freight/vehicular conflicts along Santa Ana Boulevard and Alameda Street.
(7) Capacity for Additional Service	Additional capacity possible with shorter headways. Sames as MC-2.	Additional capacity with shorter headways. Same as MC-1.	Capacity increase possible with additional tracks south of Watts Junction. Superior to MC-1 and MC-2.
(8) Integration with Regional Transportation Plan	Same for all Mid Corridor alternatives. Direct linkage to Century Transitway at Imperial; indirect linkage to Harbor Transitway.		
(9) Guideway Transit Transfer Volumes - Metro Rail - Century Transitway	Same for all Mid Corridor alternatives.		
(10) Impact on Bus	Same for all Mid Corridor alternatives. Service modifications proposed for 13 RTD bus lines and one LBTC bus line. Operations		

TABLE 4.2
EVALUATION OF ALTERNATIVES - MID CORRIDOR
(Page 3 of 6)

Measure \ Alternative	MC-1	MC-2	MC-3
(11) Total Capital Cost by Segment (1)	$159,400,000 At Grade - 13.82 miles Aerial - 1.45 miles	$294,800,000 At Grade - 11.48 miles Aerial - 1.45 miles Open Cut - 2.34 miles	$171,200,000 At Grade - 13.29 miles Aerial - 1.98 miles Railroad Relocation - 6.20 miles
(12) Total Capital Cost by System Alternative (1, 2)	$427,300,000	$562,700,000	$439,100,000
(13) Annual Rail Transit Operation and Maintenance Cost	No estimable difference among Mid Corridor alternatives.		
(14) Annual Rail Transit Operating Revenue - Operating Cost Recovery	Same for all Mid Corridor alternatives.		
(15) Construction Energy by Segment	1,069 billion BTU 8.55 million gal. gasoline	3,180 billion BTU 25.44 million gal. gasoline	1,131 billion BTU 9.05 million gal. gasoline

Notes: (1) Costs do not include right-of-way, relocation, impact mitigation, and escalation.
(2) Assumes alternatives LA-3 (Figueroa/9th Aerial) and LB-4 (Atlantic/Pacific Loop). Includes yard facilities and vehicles.

TABLE 4.2
EVALUATION OF ALTERNATIVES - MID CORRIDOR
(Page 4 of 6)

Measure \ Alternative	MC-1	MC-2	MC-3
(16) Construction Energy by System Alternative (1)	1,878 billion BTU 15.02 million gal. gasoline	3,989 billion BTU 31.91 million gal. gasoline	1,940 billion BTU 15,62 million gal. gasoline
(17) Construction Energy Payback (1)	5.5 years	11.7 years	5.7 years
(18) Construction Impacts	Standard temporary minor impacts, including water runoff, siltation, vegetation removal, noise, and traffic congestion. No permanent or significant effects.	Same as MC-1. Possible temporary flooding in Compton trench.	Same as MC-1.
(19) Economic Development and Revitalization	All alternatives link and provide modest assistance to major revitalization projects. At-grade profile increases visibility in Compton area.	Depressed profile reduces visibility in Compton area. Pedestrian cross-traffic improved.	At-grade profile increases visibility in Compton area. Removal of freight traffic further supports Compton projects. Watts grade separation adversely affects station redevelopment plans.
(20) Traffic	Minimal rail transit impact during peak hours. Rail freight conflicts unaffected.	Minimal rail transit impact during peak hours. Three new grade separations in Compton improve traffic flow in that area.	Minimal rail transit impact during peak hours. Freight rail conflicts removed from Wilmington Branch and added to West Santa Ana and San Pedro Branches in Watts-Compton area. Minor increases in aggregate auto waiting time over MC-1.

Notes: (1) Assumes alternatives LA-1 (Broadway/Spring Couplet) and LB-4 (Atlantic/Pacific Loop). Includes vehicles and yard facilities.

TABLE 4.2
EVALUATION OF ALTERNATIVES - MID CORRIDOR
(Page 5 of 6)

Measure \ Alternative	MC-1	MC-2	MC-3
(21) Rail Freight Operations	No impact on through operations. Minimal impact on switching activity at select freight spur/rail transit at-grade crossings.	No impact on through operations. Minimal impact on switching activity at select freight/rail transit at-grade crossings.	Operations diverted to West Santa Ana Branch and San Pedro below Watts Junction. Minor impact on switching activity.
(22) Noise and Vibration	Rail Transit -- No significant noise effect relative to ambient levels. No vibration impact.		
	Rail Freight -- No change.	Rail Freight -- Noise reduced in Compton area.	Rail Freight -- Noise and vibration removed from Willowbrook. Perceptable noise increase (4-12 dBA) along West Santa Ana Branch. Possible vibration impact to Watts Towers. (1)
(23) Visual Quality	No change from existing condition.	Visual intrusion in Compton reduced. Visual division of community added at same location.	Potentially significant adverse impact on Watts Station (LRT aerial structure).
(24) Historic and Cultural Resources	No significant impact.	No significant impact.	Potential adverse impact on Watts Station (visual) and Watts Towers (vibration).
(25) Other Socioeconomic Concerns - Population and Housing - Community Services - Business Activity	No significant differences among mid-corridor alterantives.		
		Possible minor increase in housing and business activity in Compton area.	Possible minor increase in housing and business activity in Compton area.

Notes: (1) Adverse noise and vibration impacts are mitigable.

TABLE 4.2
EVALUATION OF ALTERNATIVES - MID-CORRIDOR
(Page 6 of 6)

Measure \ Alternative	MC-1	MC-2	MC-3
(26) Air Quality	All alternatives produce minor reductions in regional burden levels for all pollutants except nitrogen oxide, which is marginally increased. All comply with the AQMP.		
(27) Other Natural Environmental Concerns - Topography - Water Quality - Vegetation and Wildlife	No significant impacts (all alternatives).		
(28) Conformity with Plans and Policies	All alternatives conform with 1982 Air Quality Plan. All alternatives conform with RTP goals and policies. Conforms with local redevelopment plans except in Compton Center.	Conforms with local redevelopment plans. Conflicts with rail freight consolidation proposal.	Conforms with local redevelopment plans except in Watts (visual impact).

4.3.2 Transit Service

(3) Average One-Way Running Time
(4) Accessibility to Activity Centers
(5) Mobility for Transit Dependents
(6) Reliability, Safety and Security
(7) Capacity for Additional Service
(8) Integration with the Regional Transportation Plan
(9) Guideway Transit Transfer Volumes
  - Metro Rail
  - Century Transitway
(10) Impact on Bus Operations

As a result of the virtually identical physical and operating characteristics of all three Mid Corridor project alternatives, there is little or no variation in the results of measures used to evaluate the quality and efficiency of transit service. Indeed, running time, accessibility, mobility, integration with the Regional Transportation Plan, and impact on bus operations are all equivalent or insignificantly different for all three alternatives. There are some differences with the remaining two measures, and these are now discussed.

Reliability, Safety, and Security (6). As in the case of the downtown Los Angeles alternatives, the evaluation of system reliability, safety, and security focuses on marginal differences among the Mid Corridor alternatives, as any system built will be designed to utilize the best available technology and management practice. Regardless of alternative chosen, the system will utilize proven "off-the-shelf" technology, and all alternatives should be equally reliable and safe from that perspective.

The alternative treatments of the rail transit system in the Compton area under Alternatives MC-2 and MC-3 both add a modest measure of reliability and safety of its operations. In the case of the MC-2 alternative, the grade-separation removes five rail/arterial grade crossings, thereby improving on-time performance through that area and slightly reducing the chances of collision. Additional safety and reliability for the transit system is provided under MC-3 by removing rail freight operations from the right-of-way south of Watts Junction. The magnitude of the improvement with

either alternative is not sufficient, however, to grant this measure significance in selecting a preferred Mid Corridor alternative.

There are no adverse impacts on vehicular traffic associated with the MC-2 alternative in the Compton area. Creating the five grade-separations improves the efficiency and safety of vehicular traffic crossing the rail corridor, as well. However, relocating rail freight operations onto the now unused West Santa Ana Branch and the currently used San Pedro Branch will increase potential rail freight/vehicle conflict along Santa Ana Boulevard and Alameda Street, with the increased possibility of collision. To some unquantifiable extent, therefore, the MC-3 alternative creates a trade-off between improved rail transit safety and reliability and potentially increased vehicular traffic/rail freight conflict. The magnitude of the increased benefit or cost resulting from implementing MC-3 instead of MC-1 is sufficiently small that the net benefit (or cost) of the action cannot be reasonably assessed. The assessment of this trade-off must remain subjective.

Transit passenger security is essentially identical for all three Mid Corridor alternatives. The single below-grade station in Compton under Alternative MC-2 will create a marginally greater security risk to patrons at that station. A corresponding greater awareness on the part of security forces and installation of monitoring devices such as closed circuit television can effectively mitigate any increased risk.

Capacity for Additional Service (7). All of the Mid Corridor alternatives provide substantially the same opportunity for increased service or route expansions. The MC-2 alternative removes five arterial grade-crossings in Compton, and thus may be viewed as affording a slightly better potential for accommodating increased train service (reduced headways). The difference on a systemwide basis, however is minimal.

4.3.3 Cost and Revenue

(11) Total Capital Cost by Segment
(12) Total Capital Cost by System Alternative
(13) Annual Rail Transit Operation and Maintenance Cost
(14) Annual Rail Transit Operating Revenue and Cost Recovery

As in the case of the downtown Los Angeles alternatives, costs for the Mid Corridor portion of the project have been estimated based on conceptual design drawings developed during the current study period. The capital cost figures shown in Table 4.2 include the following items:

- construction labor, materials, and services
- design and construction management services
- general overhead and administration surcharges
- public agency costs

The cost figures do not include the following:

- right-of-way
- relocation assistance
- environmental impact mitigation
- escalation

These items are under review at this writing and will be included in the revised cost figures provided with the Final EIR.

The cost figures shown for the individual Mid Corridor alternatives (Measure 11) reflect all construction necessary for those specific facilities. In the case of the Mid Corridor, the alignment begins at Long Beach Avenue and Washington Boulevard in the north and terminates near Willow Street and Long Beach Boulevard in the south. Systemwide costs, such as vehicles, maintenance facilities, and central control facilities are not reflected in the cost figures for Item 11. All add-on costs, such as design, overhead, and agency costs are included.

Route mileages by type of profile are provided with the cost figures in Table 4.2 to assist in interpreting the relative costs. The significant difference between the MC-1 and MC-2 options is, of course, the 2.34 miles of open cut through central Compton. The length of the cut is dictated by the maximum 1% grade allowable for the rail freight operation and the need for a 26-foot clearance under the five street overcrossings. The rail transit portion of the cut descends and ascends at a steeper angle, and does not go as deep. Despite this accommodation, however, the cost of the

Compton grade separation adds over $135 million to the cost of the basic Mid Corridor alignment ($159.4 million), exclusive of escalation.

The MC-3 alternative includes the cost of constructing 6.2 miles of new rail freight track along the West Santa Ana and San pedro Branches of the SPTC. A major rail grade-separation, not needed under the MC-1 and MC-2 alternatives, is now required at Watts Junction; this is partly offset by elimination of a new bridge span over Compton Creek which would be required for either of the other two alternatives. The net additional cost of these improvements is almost $12 million (8 percent of the base coat) exclusive of escalation and environmental mitigation*.

For reasons outlined in the discussion of transit service measures, above, none of the Mid Corridor alternatives would significantly affect the operational characteristics of the rail transit system. As a consequence, there are no estimable differences in operation and maintenance costs under the three options, nor in operating revenue and cost recovery.

4.3.4 Energy

(15) Construction Energy by Segment
(16) Construction Energy by System Alternative
(17) Construction Energy Payback

Construction energy requirements for the Mid Corridor segments and full system alternatives were calculated using actual estimates of construction materials and fabrication derived from the conceptual plan and profile drawings. The estimates for the Mid Corridor cover physical construction for the same portion of the system alignment as described under Cost and Revenue, above. The estimates provided for the system alternatives including the LA-1 and LB-4 alignments north and south of the Mid Corridor, respectively, and also include the energy needs for vehicle assembly and construction of maintenance and control facilities.

*Additional design features have been proposed for MC-3 to mitigate and otherwise accommodate perceived adverse environmental impacts of that alternatives. These "enhancements" to the alternative, not formally included in its description by the Commission, are addressed in some detail in Chapter 6.0, where the rationale for selection of a Mid Corridor option is presented.

Energy figures are provided in BTUs and in terms of equivalent gallons of gasoline to aid in their interpretation. When considered in isolation, the MC-1 and MC-3 alternatives are virtually identical in their construction energy requirements. Construction of the open cut in Compton under the MC-2 alternative, however, raises the energy consumption of that alternative to almost triple that for the other two.

When considered on a systemwide basis, alternatives using MC-1 and MC-3 continue to be extremely close in total energy consumption. The difference shown by MC-2 is reduced somewhat (in percentage terms) but continues to account for more than twice the energy need of the other two options.

Energy savings on a regional basis will result from implementation of any of the rail transit alternatives. The regional operations and maintenance energy savings due to reduced auto vehicle-miles travelled is approximately the same for all of the Mid Corridor options. This amount is an estimated 272 billion BTUs annually, equivalent to 2.18 million gallons of gasoline. Based on this figure, the investment of constuction energy for the system alternative using MC-1 can be recovered, 5.5 years. The equivalent payback period for MC-3 is almost identical—5.7 years. The payback period for system alternatives incorporating the MC-2 option is more than double this time (11.7 years), a direct result of the relative size of the initial investment required.

4.3.5 Environmental Impact

(18) Construction Impacts
(19) Economic Development and Revitalization
(20) Traffic
(21) Rail Freight Operations
(22) Noise and Vibration
(23) Visual Quality
(24) Historic and Cultural Resources
(25) Other Socioeconomic Concerns
(26) Air Quality
(27) Other Natural Environmental Concerns

The discussions of environmental impacts of the Mid Corridor alternatives provided below are summaries and assessments of significant issues. A full presentation

addressing all probable impacts can be found in the Draft Environmental Impact Report.

Construction Impacts (18). Construction efforts in the Mid Corridor would require some shallow excavation and grading along the entire alignment for alternatives MC-1 and MC-3. Alternative MC-2 (Compton Grade Separation) would require an extensive 2.2-mile-long trench excavation. While soil disturbance, siltation and water run-off would be minor for alternatives MC-1 and MC-3, they would be extensive for the MC-2 alternative.

All Mid Corridor alternatives would cause minor increase in the air pollutant burden during construction period due to grading and excavation (fugitive dust) and equipment exhaust. An increase in noise levels would also occur during construction of any of the alternatives. Noise leves and fugitive dust would be highest in the area of the Compton Grade Separation (MC-2).

There would be temporary increases in traffic congestion, disruption to adjacent businessess, reduced parking and obstruction of emergency vehicle access. These impacts would be minimal for MC-1 and MC-3; however, they would be significant for alternative MC-2 along the length of the 2.2-mile-long trench.

There would be some acquisition of parcels of land for power substations and park-and-ride lots which would occur with any of the Mid Corridor alternatives. A temporary increase in local construction employment would also occur with any of the Mid Corridor alternatives.

In summary, the MC-1 and MC-3 alternatives would necessitate similar types of construction activity and would create comparable levels of adverse impact. None of these impacts would be unusual, and all could be mitigated to accepted levels using prevailing construction practice. Construction of the open cut in Compton (Alternative MC-2) would create additional levels of water siltation, fugitive dust, noise, and adverse traffic impact over a duration of up to thirty months. These impacts, while no more severe than those associated with freeway construction, would nevertheless be greater than those resulting from construction of MC-1 or MC-3.

Economic Development and Revitalization (19). The project is expected to provide modest assistance to economic development and revitalization efforts in the Mid Corridor, an effect noted in the other corridor segments, as well. It is projected that the project could induce up to 100 thousand square feet of retail and 300 thousand square feet of office space in the Mid Corridor by the year 2000. In addition, the project could provide additional support for development of planned shopping centers at the 103rd Street and Imperial Highway stations, as well as additional development in the Florence Avenue business district and in downtown Compton. Depending on the alignment chosen, the rail project could also assist the Watts redevelopment project.

The net fiscal impact of the project in the Mid Corridor has been estimated at over $3.5 million annually. This includes $2 million in retail sales taxes and $1.5 million in property taxes generated by project-induced development.

Implementation of the MC-2 alternative would benefit Compton redevelopment efforts by partially removing rail freight traffic from central Compton. This would be offset to some extent, however, the creation of a visual "moat" through the city, which would also block any view of the City's downtown for rail transit passengers.

The MC-3 alternative would benefit downtown Compton in the same manner as MC-2, but without the attendant problems of the open cut and the removal of rail transit service from ground level. As presently designed, however, the MC-3 alternative would create a major aerial structure at Watts Junction, causing a significant visual impact on historic Watts Station and potentially undercutting redevelopment efforts there.*

All of the Mid Corridor alternatives offer advantages and disadvantages for economic revitalization efforts in that segment. The MC-1 option does not adversely affect redevelopment efforts, but also does not address Compton's desire to remove rail freight service from its downtown. The MC-2 option improves the character of downtown Compton, but only at tremendous cost and not without some adverse impact, as well. The MC-3 option is designed to remove rail freight traffic from

*Alternative treatments of the Watts Junction grade separation have been explored to attempt to mitigate this problem. These treatments, which involve additional cost, are discussed in Chapter 6.0.

Compton Center, but at a possible cost to redevelopment plans at Watts Junction. While, net benefit to the Mid Corridor segment cannot be quantified, it appears that, given the boundaries of what the rail transit project should encompass, the MC-1 alternative provides the greatest assistance to redevelopment efforts with the least adverse consequences.

Traffic (20). The effects of the rail project on traffic in the Mid Corridor are quite limited, and are essentially the same for all three alternatives. Using sequencing systems to coordinate train movements with traffic signals on major cross-streets, total transit vehicle/auto conflict will be modest. The addition of rail transit service will produce an insignificant increase in total auto waiting time at crossings over and above existing waiting and congestion generated by rail freight service.

The MC-2 alternative grade separation would provide a benefit to traffic in the Compton area between Rosecrans Avenue and Alondra Boulevard.

The MC-3 alternative would move rail freight service from the Wilmington Branch to the San Pedro Branch between Watts Junction and Dominguez Junction. This action will have the effect of removing rail freight/auto conflicts from cross-streets on the Wilmington Branch and adding them to streets crossing the West Santa Ana and San Pedro Branches. It has been estimated that the effect of moving the freight line would be an insignificant net increase in total vehicle waiting time at grade-crossings. Thus, the impact of that alternative would be to shift the location of undesirable traffic delay without measurably changing the total magnitude of the delay.

Rail Freight Operations (21). Under Alternatives MC-1 and MC-2, the rail transit line would share the right-of-way with rail freight operations of the Southern Pacific Transportation Company along its Wilmington Branch between downtown Los Angeles and Cota Crossing. South of Cota Crossing, it is assumed that SPTC will abandon its East Long Beach Branch, thus leaving exclusive use of the right-of-way to rail transit operations. If this should occur, the transit line will join the active SPTC right-of-way at Washington Boulevard in Los Angeles and leave it at Cota Crossing.

All of the mid-corridor alternatives provide for full maintenance of SPTC rail freight operations at maximum levels of activity projected for the year 2000. Rail transit and freight rail branch line tracks will be fully segregated at all points throughout the

corridor, and all mainline crossings of the two systems will be grade separated. In a few cases, at-grade crossings of rail transit tracks and SPTC industrial spur tracks will be required in order to maintain service to rail freight customers. No impact to either operation is anticipated from activity on these spur tracks.

The MC-1 and MC-2 alternatives maintain the same alignment for the SPTC Wilmington Branch, with the exception that the freight line is depressed (grade separated) in the City of Compton under Alternative MC-2. The MC-3 alternative adds new freight traffic on the West Santa Ana Branch (not used for the past 20 years) and additional freight traffic on the San Pedro Branch (Alameda Street) through the Watts-Compton area. Both branch lines would be rehabilitated prior to implementing additional freight traffic. Other than a minor increase in distrance traveled (less than 1 mile overall) no significant impact on rail freight operations would be anticipated. Existing freight traffic on the San Pedro Branch line is sufficiently low that transferring traffic from the Wilmington line would not impact the freight rail operations significantly.

The preceding statement notwithstanding, the cities of Compton and Los Angeles have indicated that they are concerned over the potential traffic impact of rerouting freight operations onto the San Pedro Branch, particularly in light of long-range forecasts which show a doubling of freight traffic moving to and from the port district. As a result, the SPTC has indicated that it will not consider such a change in its operations without explicit guarantees from affected cities that no action will be attempted to curtail freight service. This issue is related to the larger question of consolidating freight service throughout the Los Angeles-Long Beach corridor, which is addressed in Chapter 6.0.

Noise and Vibration (22). Comparison of project light rail vehicle operating noise characteristics with existing ambient noise levels and with applicable noise standards indicates that rail transit operations would not create a significant adverse noise impact under any of the proposed alternatives. This is particularly true due to the relatively high ambient and single event noise levels generated by existing rail freight traffic in the corridor.

Contributions by rail transit vehicles to the total ambient sound level would range from 0.1 to 0.5 dBA (CNEL), an imperceptable amount for existing ambient levels of

66 to 78 dBA. Depressing the rail transit and rail freight tracks through Compton (MC-2) would result in decreased ambient noise levels in that area. Projected decreases at sensitive receptors in that area would range from -3.9 to -14.4 dBA.

The addition of freight rail service on the West Santa Ana and San Pedro Branches under the MC-3 alternative would result in significant increases in measured and perceived noise levels along both alignments. Increases along the West Santa Ana Branch would range up to 12.4 dBA, while the increase on the San Pedro Branch—which currently has freight rail traffic—would range from 3.7 to 7.0 dBA at typical sensitive receptors.

Mitigation of the adverse noise impact along Santa Ana Boulevard and Alameda Street could be accomplished through modifications to existing buildings. Improvements to existing homes would not provide mitigation for the outside environment.

No significant increase in vibration levels would result from the rail transit service, regardless of the alternative chosen. Under the MC-2 alternative, vibration from rail freight operations would be reduced in the Compton area. Diverting rail freight service to the West Santa Ana Branch under MC-3 would increase vibration along Santa Ana Boulevard, with possible adverse effects to the historic Watts Towers. This vibration could be effectively mitigated with appropriate construction materials and techniques.

Visual Quality (23). In general, the rail project will have relatively little adverse impact on the overall character, scale, and form of the visual setting of communities in the Mid Corridor. As the alignment generally follows the existing SPTC right-of-way, the power system support poles will be the most visible part of the system. The magnitude of other possible impacts (fencing, power substations, grade-separations) generally will be minor, as the existing visual setting for the most part does not include sensitive land uses, significant views, or well-defined street spaces.

For the MC-2 alternative, the grade separation within the median strip of Willowbrook Avenue would lessen the visual impact of rail transit and rail freight trains in the central Compton area. However, this benefit would be more than offset by the impact of a chain fence set atop a concrete wall bordering a wide open cut. The cut would physically and visually separate the residential communities on either side of Willow-

brook Avenue. Also, transit riders would loose their view of downtown Compton, with possible loss of economic benefits.

The elevated grade crossing and aerial station at 103rd Street required for the MC-3 alternative would be visually prominent and would impinge on views from the adjacent community. Its scale would be incompatible with the historic Watts Station, and would obstruct views of the station from the east. In addition to the effect on the Watts Station, the MC-3 alternative would result in rail freight traffic being diverted to the now unused West Santa Ana Branch, which is bordered primarily by residential development. The reinstatement of rail service through that corridor would constitute an additional adverse visual impact for the community.

As a result of the combination of the two impacts associated with MC-3 just described, that alternative can be definitively identified as the least attractive from the perspective of visual quality. However, the sum of the effects of the MC-2 open cut is also negative, but less significantly so. The MC-1 alternative ranks the best of the three.

Historic and Cultural Resources (24). Throughout the Mid Corridor segment, the project alignment follows the historic route of the Pacific Electric Long Beach Line. With the exception of Watts Station and the Watts Towers, none of the alternatives would be an adverse impact on any historic or cultural resources.

The railroad relocation alternatives (MC-3) would require a grade-separation at 103rd Street near the location of historic Watts Station. As discussed above under visual quality, use of an aerial structure to effect the grade-separation would result in cutting off certain views of the station and introducing a new visual element into its environment. This impact could not be mitigated. The Watts Towers would also be affected by rerouted rail freight traffic under Alternative MC-3. This traffic would introduce levels of activity—with accompanying noise and vibration—potentially incompatible with the historic structure. While the vibration impact could be mitigated, the basic levels of noise and visual intrusion associated with rail freight service could not.

Alternative MC-3, then, is the only Mid Corridor option which presents potentially adverse impacts on historic resources. Alternative designs of the 103rd Street grade

separation have been developed to attempt to mitigate the impact on Watts Station. These are discussed in Chapter 6.0. The noise and visual intrusion of freight trains in the area around the Watts Towers cannot be mitigated.

Other Socioeconomic Concerns (25). There are no significant differences among the Mid Corridor alternatives with respect to their probable short- and long-term effects on related socioeconomic concerns, including: population, housing, community services, and local business activity.

Air Quality (26). The rail transit project will create a slight overall decrease in the regional air pollutant burden, regardless of which alternatives are chosen. The selection of a Mid Corridor alternative will have no effect on the magnitude of this minor benefit.

Other Natural Environmental Concerns (27). No adverse impacts on the natural environment should result from implementing any of the Mid Corridor alternatives. This includes vegetation and wildlife, water quality, and soil conditions. Water ponding in the open cut under the MC-2 alternative could be effectively controlled with appropriate drainage facilities.

4.3.6 Conformity with Plans and Policies (Measure 28)

Regardless of the Mid Corridor alternative implemented, the rail transit project will be in conformance with goals and policies of the 1982 Air Quality Management Plan and the Regional Transportation Plan.

The project should support and assist the following redevelopment projects in the Mid Corridor: Florence/Graham Community Revitalization Target Area, Watts Redevelopment Project, Willowbrook Neighborhood Redevelopment Project, and the Compton CBD Redevelopment Project. There is little difference among the three Mid Corridor alternatives in their potential to serve these projects. The implementation of any of the alternatives generally will be compatible with their revitalization plans and goals.

The MC-2 and MC-3 alternatives might provide assistance to the Compton Redevelopment Project beyond that offered by MC-1 by removing rail freight traffic from Compton Center. The MC-3 alternative would create a negative visual impact on the

Watts Station area, potentially inhibiting redevelopment plans for that area. Alternative designs have been considered and are discussed in Chapter 6.0.

Finally, the selection of a Mid Corridor alternative for this project may have important consequences with ongoing attempts to formulate a long-range plan for rail freight service to the ports of Los Angeles and Long Beach. Electing MC-1 would have no effect on subsequent freight rail decision-making. Implementing MC-3 would represent a first step toward a proposal to consolidate freight traffic on the San Pedro Branch. While it would constitute an interim solution, nothing in the design of MC-3 would preclude later implementation of the full consolidation concept. A decision to construct the Compton Grade Separation (MC-2), however, would represent a commitment of large resources toward the maintenance of rail freight activity on the Wilmington Branch.

5.0 SUMMARY OF PUBLIC AND AGENCY COMMENT

5.1 INTRODUCTION

The California Environmental Quality Act (CEQA) and its guidelines provide a forum for public review and comment on a proposed project and its probable impact on the natural and built environments. The term "public" is broadly defined and includes public elected officials (as individuals), official policy bodies and public agencies, private interest groups, organizations, and private individuals. The CEQA process affords the opportunity not only to comment on specific issues addressed by the Draft Environmental Impact Report, but also to offer explicit views on the relative desirability of one or more of the alternatives under consideration.

Extensive comment on the Draft EIR for the Long Beach - Los Angeles Rail Transit Project was received through correspondence and at six public hearings held throughout the project corridor. Included among that comment were many expressions of support or opposition to particular alignment alternatives, with specific issues raised to substantiate particular views in most cases.

There were sixty-six (66) written communications received commenting on the Draft EIR, as follows:

- Elected office holders - 3
- Public agencies - 28
- Private organizations - 14
- Private individuals - 21

Some of the letters raised only a single issue or route preference, while others raised multiple issues or requested more in-depth information. Major concerns of respondents were evident in that 22 different issues received five or more comments. These are:

Issue	Number of Comments
Traffic	39
Safety and Security	24
Freight Operations	22
Historic Impact	17
Bus Operations	16
Rail Coordination	14
Transit Operations	14
Construction Impacts	14
Mitigation Measures	11
Ridership	10
Accessibility	9
Financial Impact	9
General Impact	9
Visual Impact	9
Displacement	8
System Performance	8
Noise Impact	8
Economic Impact	6
Pedestrian Issues	6
EIR procedures	6
System Configuration	5
Rail Travel Time	5

Two public hearings were held each in downtown Los Angeles and in the Mid Corridor. A total of 23 persons spoke at the Los Angeles hearings, while 21 speakers presented views at the two principal Mid Corridor hearings. The distribution of speakers by affiliation is shown in the following table:

SUMMARY OF ATTENDANCE AT CORRIDOR PUBLIC HEARINGS (1984)

	Elected Office-Holder	Public Agency	Private Organization	Individual	Total
Los Angeles					
1. June 19	--	--	2	13	15
2. June 20	--	1	4	3	8
	--	1	6	16	23
Mid Corridor					
1. June 21[a]	--	1	1	7	9
2. June 23[b]	1	--	3	8	12
	1	1	4	15	21
TOTAL	1	2	10	31	44

a. Compton

b. Florence/Firestone

In all, 32 parties responded in one medium or another to offer an opinion on one or more of the alignment alternatives in either downtown Los Angeles or the Mid Corridor. In addition, two city councils (Los Angeles and Compton) adopted resolutions in support of or opposition to specific alignment alternatives. Twenty correspondents and nine public hearing speakers expressed dissatisfaction with alternatives considered, while some respondents called for the study of new alternatives not considered in the Draft EIR.

The material reviewed for the analysis of public comment consists of all written communications and transcripts of oral testimony taken at the public hearings.* In each piece of testimony, specific comments were isolated which expressed an opinion

*A complete list of those offering written comment or oral testimony on the Draft EIR is provided in Appendix B of this report.

regarding one or more of the alignment alternatives. In the vast majority of cases, commenting parties stated in specific terms either a preference or objection to a given alignment alternative. In a minority of cases, however, comments were made which would imply support or objection to a given alternative, but did not make specific reference to that alternative. In all such cases, inferences were drawn from comments not stating a particular alignment preference but, by the nature of the comment, clearly implied one or another.

Both positive and negative comments were considered in this analysis. However, a definite statement of preference or opposition was required in order for a comment to be included. Thus, a statement in opposition to a given alignment was not taken as support for the remaining alternatives, and vice versa.

The views and concerns offered during public review of the Draft EIR constitute a valuable body of information which supplements and contrasts with the technical analysis and discussion presented in Chapter 4.0. This chapter provides a summary of all comments received expressing support or opposition to a given alignment or alignments. The opinions and reasoning behind them are then analyzed, and the relative seriousness of concerns and objections is assessed. As in Chapter 4.0, the discussions are separated for the downtown Los Angeles and Mid Corridor segments. Where possible, the analysis of responses underlying concerns is organized to conform with the six categories of criteria used for the technical evaluation.

5.2 DOWNTOWN LOS ANGELES

Throughout the public comment period on the Draft EIR, a total of 28 agencies, organizations, and individuals—including the Los Angeles City Council—offered opinions on the relative desirability of one or more of the downtown Los Angeles alignment alternatives. Since in many cases opinions on more than one alternative were presented, a total of 45 separate opinions were recorded. These opinions are tallied in Table 5.1.

The Los Angeles City Council action opposing the LA-1 alignment is perhaps the most significant item shown in Table 5.1. The Council adopted a resolution July 6, 1984 stating "that the Central Business District (CBD) at-grade alternative (LA-1) for the

TABLE 5.1

SUMMARY OF PUBLIC OPINION

DOWNTOWN LOS ANGELES

	LA-1	LA-2	LA-3
City Council			
City of Los Angeles	-		
Elected Officials			
(None)			
Public Agencies			
CRA	-	+	-
SCAG	-	-	+
SCRTD	-		
CA Dept. of Parks	-		
TOTAL	-4	+1/-1	+1/-1
Private Organizations			
Central City Association	-	+	-
Citizens for Rail CA	+		
Coalition for Rapid Transit		+	-
Electric Rail Hist. Assoc.	+		
Forest City		-	
L.A. Conservancy	-	+	-
L.A. Union Pass. Terminal	-		
Railpac	+		
Spillman-Boatman	+		
TOTAL	+4/-3	+3/-1	-3
Private Individuals			
TOTAL (14 respondents)	+5/-1	+4/-3	+2/-7
TOTAL OPINIONS	**+9/-9**	**+8/-5**	**+3/-11**

+ Support
- Opposition

Long Beach-Los Angeles Rail Transit Project be also opposed."* The record of the Council action was transmitted to the Commission by the City's Department of Transportation; it is an outgrowth of the extensive concern expressed by that Department and other government agencies regarding the possible impact of that project alignment on vehicular and pedestrian traffic on Broadway, Spring Street, and cross streets.

The record of other opinions expressed on the downtown Los Angeles alternatives reveals striking differences of perception, or at least valuation, between public agencies, private organizations and individuals. The agencies which offered opinions were uniformly against the LA-1 alternative, but were evenly split between the other two—LA-2 and LA-3. Private organizations which offered opinions, by contrast, were marginally in favor of LA-1, more in favor of but less concerned about LA-2, and consistently opposed LA-3. Private individuals echoed the sentiments of the organizations, with consistent support for LA-1 and consistent opposition to LA-3. Overall, this balancing of opinion between public agencies and private groups and individuals left a split opinion on LA-1, a decisive negative vote on LA-3, and a solidly favorable vote on LA-2.

The analysis of public comment presented in Tables 5.2 through 5.4 offers some insight into the pattern of opinions. As shown in Table 5.2, the evaluation of the benefits and drawbacks of LA-1 revolves around two issues: (1) the perception by some of a modest superiority in service delivery, including accessibility to jobs and transit dependents and a direct interconnection with Union Station, versus (2) the belief by agencies, private groups, and some individuals that serious conflicts with vehicular and pedestrian traffic would result. Other concerns leading to opposition include the difficulty in providing high platforms to assist wheelchair boarding procedures, a slower running time, a possible adverse impact on historic Union Station, and less adequate links with Metro Rail and the proposed Harbor Transitway.

Ridership and energy do not surface as considerations in the evaluation of the downtown Los Angeles alternatives, including LA-1. The stated adverse visual impact on Union Station is not a unanimous view, and concerns about safety and reliability in mixed traffic are offset by the safe experiences of dozens of transit systems around

*A copy of the resolution is provided in Appendix C.

TABLE 5.2

ANALYSIS OF PUBLIC COMMENT

LA-1 (BROADWAY/SPRING COUPLET)

MEASURE	SUPPORT		OPPOSITION	
	Basis	Type of Respondent	Basis	Type of Respondent
RIDERSHIP	–	–	–	–
SERVICE	Accessibility to jobs, people. Interface with Union Station.	Individuals Private groups Individual	Running time. Mobility for handicapped (high platforms). Safety/Reliability.	Individual Agency Agency
COST AND REVENUE	Lower cost.	Individual	–	–
ENERGY	–	–	–	–
ENVIRONMENTAL IMPACT	Best (least) construction impact.	Individual	Vehicular Traffic. Pedestrian Traffic. Parking. Business Activity. Historic Resources (Union Station).	Los Angeles City Council Agencies Private Groups Individuals
PLANS AND POLICIES	–	–	Less adequate tie with Metro Rail, Harbor Transitway.	Agency

TABLE 5.3

ANALYSIS OF PUBLIC COMMENT

LA-2 (FLOWER STREET SUBWAY)

MEASURE	SUPPORT		OPPOSITION	
	Basis	Type of Respondent	Basis	Type of Respondent
RIDERSHIP	-	-	-	-
SERVICE	Best connectivity (Metro Rail, Harbor Transitway). Good expansion potential.	Agencies Private Groups Agency	No connection with Union Station.	Individual
COST AND REVENUE	-	-	-	-
ENERGY	-	-	-	-
ENVIRONMENTAL IMPACT	Best (least) visual and historic impact.	Private Group	Construction impacts.	Individuals Private Group
PLANS AND POLICIES	Best support for RTP. Supports redevelopment goals.	Agency	-	-

TABLE 5.4

ANALYSIS OF PUBLIC COMMENT

LA-3 (FIGUEROA/9TH AERIAL)

MEASURE	SUPPORT		OPPOSITION	
	Basis	**Type of Respondent**	**Basis**	**Type of Respondent**
RIDERSHIP	-	-	-	-
SERVICE	Running time best. Access to jobs best.	Agency Individuals	No connection with Union Station.	Individual
COST AND REVENUE	-	-	-	-
ENERGY	-	-	-	-
ENVIRONMENTAL IMPACT	-	-	Visual. Noise. Historic. Economic. Traffic.	Agencies Private Groups Individuals
PLANS AND POLICIES	-	-	Conflicts with redevelopment plans.	Private Group Individual

the world which now operate in mixed traffic. The views expressed by respondents to the Draft EIR, then, really coalesce around a trade-off of two values: provision of "traditional" streetcar-type service to an older and more transit-dependent area, including a direct link-up with a proposed multi-modal terminal (Union Station) versus a reasonable assessment that significant vehicular traffic impacts may result, with attendant congestion and delay. The City Council has expressed concern with a resolution of opposition to this alternative.

The record for the LA-2 alternative (Flower Street Subway) shown in Table 5.3 is less contentious, reflecting the 8-5 tally recorded in Table 5.1. Opposition to the alignment comes almost exclusively from residents of the Forest City Development Group and the Skyline Condominium, both concerned about construction impacts in the South Park development area, and subsequent effects of the rail line on property values. While the Los Angeles Community Redevelopment Agency is closely involved in the South Park Development, its concerns lie more with the LA-3 alignment, and it offers no direct opposition to LA-2.

In support of this alignment, public agencies and private groups promote the following favorable characteristics: (1) best connectivity with Metro Rail and the Harbor Transitway, (2) good potential for expansion to the south, (3) best (least) visual, noise, and historic impact, and (4) best supports redevelopment goals for the area.*

The summary of opinion offered on the LA-2 alignment contrasts the specific concerns of directly-affected property owners with the implicit (or occasionally explicit) concurrence by a wide range of agencies and groups that this alternative offers the best choice of the three available in downtown Los Angeles, for a variety of reasons. Support for LA-2 comes, finally, from the more intense opposition to the other two alternatives.

This view is substantiated when analyzing the response to Alternative LA-3 (Figueroa/9th Aerial) in Table 5.4. In that table, the reverse picture of that presented in Table 5.3 is found. Some individuals give limited support to the aerial alignment

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*Concern over the nature of future connections between LA-2 and the Harbor Transitway has been expressed by City officials. This question is currently under review by the LACTC, Caltrans, and the LADOT.

because of its apparent superiority in running time, access to jobs and (presumably) resulting ridership. This view is supported by only one public agency.

By dramatic contrast, agencies, private groups, and individuals all join to oppose this alternative on a variety of environmental impact grounds. To many, placing a large aerial guideway through a historic district and a built up redevelopment area is simply unacceptable. There is no balancing of impact versus service delivery or system utilization. The impacts of visual intrusion, noise, and vibration on historic structures, businesses, and new development projects are considered significantly adverse and unmitigatable. Additional concerns of the impact of guideway columns on traffic flow are also expressed.

The consistency of the official (public agency) opposition to LA-1 and the combination of public and private opposition to LA-3—both on the grounds of environmental impact—suggest the straightforward conclusion that the LA-2 alignment (Flower Street Subway) is the only downtown Los Angeles alternative sufficiently acceptable to a broad cross-section of public opinion. This conclusion will be analyzed further in combination with the findings of technical evaluation in Chapter 6.0.

5.3 MID CORRIDOR

Public comment on Mid Corridor alternatives was generally more muted than that on options in downtown Los Angeles. From all comments received at the two public hearings and by letter, only eleven expressions of support or opposition to specific alignment alternatives were received. Only one agency indicated an opinion on two alignments; as a result, the total number of "votes" cast in the Mid Corridor was twelve.

The summary of public opinion on Mid Corridor alternatives is shown in Table 5.5. During the summer of 1984, the City Councils of Compton and Los Angeles both adopted resolutions regarding the MC-3 alignment (SPTC Railroad Relocation).*

*The Los Angeles Council resolution addressing LA-1 also addresses MC-3. The Los Angeles and Compton resolutions can be found in Appendix C.

TABLE 5.5

SUMMARY OF PUBLIC OPINION

MID CORRIDOR

	MC-1	MC-2	MC-3
City Councils			
City of Compton			+*
City of Los Angeles			-
TOTAL			+1/-1
Elected Officials			
Filer		+	
Public Agencies			
L.A. Co. CDC			+
CRA	-	-	
SCRTD		-	
CA Dept. of Parks			-
TOTAL	-1	-2	+1/-1
Private Organizations			
Hoover Redevelopment Comm.			-
Private Individuals			
TOTAL (3 respondents)	+	-	+2
TOTAL OPINIONS	**+1/-1**	**+1/-3**	**+4/-3**

+ Support
- Opposition

* Supports MC-3 only with SPTC in depressed section along Alameda. This requirement is not part of the MC-3 as defined. See Chapter 6.0.

The Los Angeles Council voted to oppose "any mid-corridor alternative which diverts rail freight traffic to the presently unused rail right-of-way paralleling Santa Ana Boulevard in Watts." This is precisely the MC-3 alignment alternative. The Compton resolution (August 21, 1984) stated "that the City will support Alternative MC-3 of the Long Beach/Los Angeles Light Rail Transit Project on the condition that freight rail traffic be routed solely to the Southern Pacific San Pedro Branch in a depressed trainway through the City of Compton." While the two resolutions appear to be in conflict, the MC-3 alignment as described in the Draft EIR does not provide for a "depressed trainway" for the San Pedro Branch through the City of Compton. As the Commission has not at this time adopted a modified alternative to include such a depressed trainway, the effect of the Compton action is to also oppose the MC-3 alternative.

The only elected official to offer an opinion on the Mid-Corridor alternatives was Compton Councilman Maxie Filer. He reiterated his support for the MC-2 option (Compton Grade Separation), citing economic benefits to Compton as the basis. He was the only party to endorse MC-2.

The Los Angeles CRA opposed MC-2, but also opposed MC-1 (Compton At-Grade), maintaining that removal of rail freight traffic from the Wilmington Branch was necessary to minimize freight/transit conflicts. The agency did not actually endorse MC-3, however, due to potential conflicts at the Watts Station area (103rd Street).

Other opinion on Mid Corridor alternatives was decidedly limited. Two public agencies opposed MC-2, while two others split their opinion on MC-3. Only one private individual supported MC-1, while two others supported MC-3. No individual offered an opinion on MC-2.

The analysis of this limited record of opinion is presented in Tables 5.6 through 5.8. In Table 5.6, the MC-1 alignment is opposed by the Los Angeles CRA because (as mentioned) of possible rail freight/rail transit conflicts along the Wilmington Branch. The extremely limited number of switch turnouts, coupled with virtually no projected operational conflicts (simultaneous arrival at grade-crossings) renders this concern insignificant.A private individual expressed support for MC-1 (not shown in Table 5.6), but offered no substantiation.

TABLE 5.6

ANALYSIS OF PUBLIC COMMENT

MC-1 (COMPTON AT GRADE)

MEASURE	SUPPORT		OPPOSITION	
	Basis	**Type of Respondent**	**Basis**	**Type of Respondent**
RIDERSHIP	-	-	-	-
SERVICE	-	-	Possible conflicts with rail freight switch traffic.	Agencies
COST AND REVENUE	-	-	-	-
ENERGY	-	-	-	-
ENVIRONMENTAL IMPACT	-	-	-	-
PLANS AND POLICIES	-	-	-	-

TABLE 5.7

ANALYSIS OF PUBLIC COMMENT

MC-2 (COMPTON GRADE SEPARATION)

	SUPPORT		OPPOSITION	
MEASURE	Basis	Type of Respondent	Basis	Type of Respondent
RIDERSHIP	-	-	-	-
SERVICE	-	-	Possible conflicts with rail freight switch traffic.	Agencies
COST AND REVENUE	-	-	Service improvement not in line with cost.	Agency
ENERGY	-	-	-	-
ENVIRONMENTAL IMPACT	Reduced noise and visual intrusion. Improved economic activity.	Public Official	Reduced visibility to transit passengers in Compton.	Individual
PLANS AND POLICIES	Supports redevelopment at Compton Center.	Public Official	-	-

TABLE 5.8

ANALYSIS OF PUBLIC COMMENT

MC-3 (RAILROAD RELOCATION)

MEASURE	SUPPORT		OPPOSITION	
	Basis	Type of Respondent	Basis	Type of Respondent
RIDERSHIP	-	-	-	-
SERVICE	Improved in-vehicle safety, reliability.	Agency	-	-
COST AND REVENUE	-	-	-	-
ENERGY	-	-	-	-
ENVIRONMENTAL IMPACT	-	-	Traffic. Noise. Vibration. Historic. Visual.	Compton City Council* Los Angeles City Council Public Officials Agencies SPTC Railroad Private Groups Individuals
PLANS AND POLICIES	-	-	Watts Station redevelopment.	Agencies Private Group Individuals

*City of Compton resolution supports MC-3 only with full rail freight grade separation along Alameda Street. The basic definition of MC-3 does not provide for this, and as such is opposed by the City.

In Table 5.7, the opinion of Councilman Filer is contrasted with the muted concerns of public agencies on the cost-effectiveness of the grade-separation, as well as the above-mentioned concern over freight/transit conflicts. One individual also expressed the opposing view that placing the rail transit below grade in Compton Center would reduce the ability of the rail system to assist economic growth and redevelopment in the area.

The MC-3 alignment alternative was formulated to provide an alternative solution to the problem of running combined freight and transit service through Compton Center. During its development, however, increasing numbers of problems have been found with the alignment, with the result that public opinion has come down in virtually unanimous opposition. In Table 5.8, the single agency view that this alignment would improve transit and freight operational safety and reliability, as well as assist redevelopment in Compton, is contrasted with the negative views of every type respondent concerning a wide variety of environmental impacts. The majority of these concerns center on four issues: (1) noise and vibration impact on homes located next to the now-abandoned West Santa Ana Branch; (2) noise and vibration impact on the historic Watts Towers; (3) traffic impact along Santa Ana Boulevard and Alameda Street; and (4) visual and noise impacts on historic Watts Station. Further, the Southern Pacific Transportation Company has also gone on record opposing any relocation to the San Pedro Branch unless liability and continuation of service guarantees can be provided.

The sum of public opinion on the Mid Corridor alternatives defies a consensus view. The City of Compton continues to maintain opposition to the MC-1 Alternative, though this opposition is not of record. Virtually no other respondent has offered an opinion on MC-1. MC-2 is supported publically only by one elected official. Finally, numerous problems exist with the MC-3 alignment. While there is general feeling that this is a "good" alignment with the potential to solve many problems in the Mid Corridor, intervening obstacles have created more opponents than supporters. The identification of a "most preferable" alternative for the Mid Corridor must await consideration of this analysis in concert with the results of the technical evaluation in Chapter 6.0.

6.0 FINDINGS AND RECOMMENDATIONS

6.1 INTRODUCTION

In this final chapter of the Alternatives Evaluation Report, specific definitions of the proposed Long Beach-Los Angeles Rail Transit Project ("alternatives") are identified from among competing options as those best meeting the sum of all goals and objectives established for the project. Consideration throughout this report has been toward identification of a superior route alignment in the downtown Los Angeles segment of the project corridor, and a way to best address adverse environmental conditions—conditions incidental to the rail transit project itself—in the Mid Corridor segment. (Consideration of an alignment in Long Beach must await completion of a Supplemental Environmental Impact Report for that portion of the project.) It is the recommendation of the Staff of the Los Angeles County Transportation Commission that these identified project definitions ("preferred project alternatives") be adopted as part of the final project definition at the time of project authorization.

The project alternative recommendations are the outgrowth of the joint consideration of principal findings from (1) the technical evaluation of alternatives (from Chapter 4.0) and (2) the summary of public and agency comment on the Draft EIR for the project (from Chapter 5.0). As outlined in Chapter 1.0, the technical evaluation process is intended as an independent assessment by Commission staff and its consultants of the extent to which project alternatives conform with and advance the various goals and objectives of the project established by the Commission. Evaluation criteria are defined to provide operational measures of goals- and objectives-achievement. The summary of public and agency comment provides an analysis and assessment of preferences for particular alternatives offered by respondents to the Draft EIR, including consideration of all concerns expressed in connection with the statements of preference.

In this, Chapter 6.0, the two bodies of information are directly compared and contrasted to discover where and how they either support or contradict one another. Statements of preference may be founded on correct interpretations of facts presented in the Draft EIR and other technical documents, or they may be the result of an

eccentric focus on overly narrow issues. Conversely, the technical analysis of project characteristics always carries with it the biases of the professionals conducting it, and may inadequately focus on issues of legitimate concern to specific groups and the community at large.

The subsequent discussions describe the attempt to first identify a project alternative in each of the two corridor segments which is clearly superior to the other options. Failing that, the analysis shifts to identifying and assessing the benefits and costs of competing alternatives—a trade-off analysis. In the final stages, the analysis is assisted by the identification of serious deficiencies in one or more of the options, deficiencies which must eliminate those options from further consideration, regardless of offsetting benefits.

Following the organization of the rest of the report, the discussion of downtown Los Angeles alternatives and the resulting Staff recommendation is presented first, followed by that for the Mid Corridor alternatives. The actual recommendations appear at the end of each section, and in the Executive Summary at the front of the report.

6.2 DOWNTOWN LOS ANGELES

6.2.1 Analysis of Principal Findings

The discussion of the technical evaluation of alternatives in Chapter 4.0 documents that the results of the 28 measures employed in the evaluation varied in their ability to assist identification of a superior, or preferred, alternative in downtown Los Angeles. That is, while many of the measures showed substantial differences in performance of the three options considered, several of the measures were unable to distinguish among them. Table 6.1, Summary Evaluation of Alternatives, presents material identifying the "most desirable" and "least desirable" alternatives, and identifies those measures where significant differences can be demonstrated. The terms "most" and "least" denote performance with respect to a given measure. Thus, the most desirable alternative will maximize ridership, quality of service, conformity with plans and policies and energy savings, while minimizing cost and adverse environmental impact. The reader is referred to Chapter 4.0 for more in-depth discussions of these findings.

TABLE 6.1
SUMMARY EVALUATION OF ALTERNATIVES

DOWNTOWN LOS ANGELES

CONSIDERATION	MOST DESIRABLE	LEAST DESIRABLE	COMMENTS
RIDERSHIP			
Rail System	LA-3	LA-1/LA-2 equal	50% difference. Related to running time.
Total Corridor (Rail and Bus)	No significant differences.	--	--
COST			
System Capital Cost	LA-2	LA-3	Figures from Draft EIR.
Operating Cost Recovery	LA-3	LA-1	Related to ridership.
SERVICE			
Running Time	LA-3	LA-1/LA-2 equal	Related to ridership.
Accessibility/Mobility	LA-1	LA-2/LA-3 equal	Minor differences.
Reliability/Safety	No significant differences.	--	--
PLANS/POLICIES			
Conformity with RTP	LA-2	LA-1	Somewhat better links with Metro Rail and Harbor Transitway.
Conformity with Development Plans	LA-2	LA-3	See impacts discussion.
IMPACT			
Visual	LA-2	LA-3	Unmitigable adverse impact on historic and residential property.
Historic	LA-2	LA-3	
Noise	LA-2	LA-3	
Traffic	LA-2	LA-1	LA-1 impact partially mitigable.
Other	No significant differences.	--	--
ENERGY	LA-1/LA-2	LA-3	Minor differences.
AGENCY/PUBLIC RESPONSE			
City of Los Angeles	No position.	LA-1	On record opposing LA-1.
Public Agencies	LA-2/La-3 equal	LA-1	Consistent opposition to LA-1.
Private Groups	LA-2	LA-3	Support for LA-2; Strong opposition to LA-3; Mixed reaction to LA-1.

Consideration is first given to system ridership in Table 6.1 Forecasts show that ridership aboard the rail transit system should be approximately 50 percent higher if the LA-3 (Figueroa/9th Aerial) alternative is implemented. The other two alignment alternatives produce ridership estimates which are essentially equal. However, when total corridor transit ridership is considered, including bus service and service on other proposed transitway projects, all of the alternatives perform equally—within one percent of each other. Thus, it must be concluded that this more global measure of transit system utilization and efficiency is not sensitive to the choice of downtown Los Angeles alignment.

The LA-2 alternative (Flower Street Subway), when considered as part of a complete system, has been estimated to be the least expensive of the three downtown options by a small amount; the LA-3 alternative is estimated to have the highest initial capital cost. The total spread in the difference is less than 10 percent, however, well within the reliability of the cost estimates at this stage of project development. (It is emphasized that these cost figures presented here will be updated in the Final EIR to reflect additional design and the inclusion of costs for right-of-way, relocation, impact mitigation, and escalation.) By contrast, however, Alternative LA-3 is estimated to be most cost-efficient on an operating basis, while the LA-1 alternative (Broadway/Spring At-Grade) is the least efficient. The significantly higher ridership generated by LA-3 creates proportionately more revenue to offset a more modest increase in operating cost. As a result, operating cost coverage—the amount of operations and maintenance cost recovered out of the farebox—is considerably higher for LA-3. This is partly the result, however, of the diversion of some ridership from the Harbor Transitway; the apparent superiority of LA-3 is therefore somewhat overstated.

The measures of transit service show scattered results among the three alternatives, none of which is highly significant. The LA-3 alternative posts the best one-way running time (49 minutes from end to end), but this superior performance is also reflected in the system ridership, which in turn provides that alternative with the best operating cost recovery. The at-grade alignment (LA-1) is marginally superior in its service to downtown activity centers and transit dependents. That alignment passes through older and poorer parts of the downtown, serving a variety of activities and rider groups. It should be noted that the LA-3 alignment actually serves more employment, but much of that is in the economically healthy financial district and

Bunker Hill areas. The final measure of transit service—reliability, safety, and security—does not significantly distinguish among the three alternatives.

More consistency is found in the areas of conformity with plans and policies and environmental impact. The Flower Street Subway alternative (LA-2) has been consistently identified as that alternative which either provides the greatest assistance in achieving transportation and redevelopment plan goals, or that which offers the least impediment to the achievement of those goals. Thus, the LA-2 alternative provides somewhat better links with other proposed linehaul transit systems, including Metro Rail and the Harbor Transitway. It provides support to redevelopment plans in the South Park area, while at the same time creating the least adverse environmental impact.

This last consideration is critical, in that the most significant distinctions among the downtown alternatives lie in the area of environmental impact. In four areas of impact—visual, historic, noise, and traffic—the LA-2 alternative is unequivocably less harmful than the other two options. In the case of the first three impacts areas, it is marginally superior to the LA-1 alternative, primarily due to the particular alignments chosen. The aerial guideway alternative (LA-3) however, has the potential to create significant adverse and unmitigatable impacts in redeveloping residential areas and historic districts. These problems in the South Park area and along 9th Street are documented in more detail in Chapter 4.0 and in still greater detail in the Draft EIR.

The LA-1 alternative would cause the greatest impact on vehicular traffic due to its at-grade profile, though the severity of that impact would be moderate. LA-3, too, would cause some traffic impact due to the need to place aerial guideway columns in the middle of certain streets, adding to its overall undesirability on environmental grounds.

A review of the measures revealing significant differences among the alternatives—cost, running time, conformity with plans, and environmental impact—reveals the apparent superiority of the LA-2 alternative with respect to most measures, a view that is reinforced when examining the record of public opinion. This record is summarized briefly at the bottom of Table 6.1 and in more detail in Table 6.2. In the latter table, a consensus of the positions of the five types of groups analyzed in Chapter 5.0 is arrayed for each of the three alternatives. Opposition, support, and a

TABLE 6.2

SYNOPSIS OF PUBLIC POSITIONS

DOWNTOWN LOS ANGELES

	LA-1	LA-2	LA-3
City Council	OPPPOSED (1)	-	-
Elected Officials	-	-	-
Public Agencies	OPPOSED (1,2)	Split (1,4,5)	Split (1,7)
Private Groups	Split (1,3)	SUPPORTIVE (4,6)	OPPOSED (1)
Individuals	Split (1,3)	SUPPORTIVE (6)	OPPOSED (1)

Basis:
(1) Most environmental impact
(2) Less safety and reliability
(3) Best accessibility
(4) Best connectivity and expansion potential
(5) Best support for plans and policies
(6) Least environmental impact
(7) Best running time and job access

split view are indicated, as are the primary reasons for the positions as obtained from correspondence and hearing testimony.

Of considerable importance in assessing public opinion on the downtown options is the Los Angeles City Council resolution expressing opposition to the LA-1 alternative. As described in Chapter 5.0, this resolution places the City on record as opposing this alternative, primarily for reasons associated with traffic impact. This opposition is echoed by several other public agencies, some of whom add safety and reliability as an additional reason to oppose Alternative LA-1. The traffic impact is confirmed by the technical analysis, though the analysis places its magnitude at a more moderate level. Private groups and individuals are divided on Alternative LA-1, partly due to its superior accessibility to economically disadvantaged and transit-dependent areas.

Strong opposition to the LA-3 alternative is expressed by private groups and individuals on environmental grounds, a view which is substantiated by the technical evaluation. There is general concurrence on this view by public agencies, though limited support for the alternative has been offered due to its efficiency (running time) and access to employment centers. Overall, however, opposition based on environmental concerns overwhelms expressions of support based on reasons of service delivery.

The LA-2 alternative is the only one of the three which has received consistently-voiced support, with the exception of concern expressed over temporary construction impacts. The alternative is found desirable by private groups and individuals, primarily due to its relative lack of long-term environmental impact, a position which is confirmed by the technical analysis. It is also considered by public agencies and some private groups to have the best connectivity and expansion potential, an opinion which, while not contradicted by the technical evaluation, is not supported either. The technical evaluation does consider LA-2 to have the best fit with plans and policies, a conclusion which is affirmed by certain public agencies.

6.2.2 Project Recommendation for Downtown Los Angeles

Following a complete review of the foregoing data, analysis, findings, and conclusions, it is the recommendation of the staff of the Commission that the LA-2 alignment alternative (Flower Street Subway) be adopted as the project alignment in downtown

Los Angeles at the time of project authorization. This recommendation derives principally from the following conclusions:

(1) There are significant differences among the alternatives in the degree to which they would create adverse and unmitigatable environmental impacts. The LA-2 alignment is superior in virtually every impact measure.

(2) By contrast, differences in transit service delivery, corridor transit ridership, and energy savings are not significant for virtually every measure used.

(3) The LA-2 alignment results in a slightly lower system capital cost for the project. The superior operating cost recovery performance of the LA-3 alternative is necessarily more speculative, and may be overstated.

(4) The LA-2 alignment is the only downtown alternative to receive consistent public and agency support, while suffering only limited criticism.

(5) The technical evaluation of alternatives differs with expressed public views only in assessing the magnitude of probable adverse environmental impacts. There is no disagreement on the likelihood of impacts occurring, nor on the relative impact of the three alternatives.

While the absolute magnitude of the probable traffic impact from LA-1 may be debated, there is agreement among technical analysts and public figures alike that an at-grade treatment of the rail transit project will not be adequate as the permanent downtown segment of an expanded, countywide system. The projected level of building density and resulting vehicular traffic loads strongly call for a grade-separated system within the downtown.

The aerial alignment (LA-3) was designed to capture ridership and eliminate surface traffic impacts, goals which were both met. The result of implementing LA-3, however, would be to create a significant adverse impact on the community character of a historic district and redeveloping residential area. The LA-2 alignment, by contrast, would minimize conflict with vehicular traffic through its combination of

compatible at-grade treatment (on Washington Boulevard) and subway profile as it enters the financial district.

The recommendation of the subway alternative in this case is not intended as a statement of policy affirming the superiority of subway alignments over aerial guideway alignments. Rather, it represents the judgement that the LA-2 alignment best achieves the objectives of providing cost-effective transit service to downtown Los Angeles with a minimum of delay and environmental impact. Aerial alignments will continue to receive consideration in all other transit guideway projects throughout the region.

6.3 MID CORRIDOR

6.3.1 Comparison of Basic Alternatives

The summary evaluation of Mid Corridor alternatives is presented in Table 6.3, where measures showing substantial differences among the alternatives are clearly highlighted from those which reveal only minimal variance. Measures showing no differences at all are not included in this table. As explained in Section 6.2.1, above, the terms "most desirable" and "least desirable" reflect the performances of the alternatives shown with respect to given measures. Again, the most desirable alternative maximizes ridership, quality of service, conformity with plans and policies and energy savings, while minimizing cost and adverse environmental impact. More extended discussions of the findings summarized here can be found in Chapters 4.0 and 5.0.

In reviewing the information presented in Table 6.3, it is first important to note that the choice of Mid Corridor alternative will not affect rail transit system ridership and operating cost recovery. The system's alignment and station locations are the same for all three alternatives; the placement of the Compton Station in an open cut (Alternative MC-2, Compton Grade Separation) would have no measurable effect on ridership, while the open cut under MC-2 or the diversion of rail freight service off the Wilmington Branch under Alternative MC-3 (SPTC Rail Relocation) would produce no measurable impact on operations and maintenance costs for the transit system.

TABLE 6.3
SUMMARY EVALUATION OF ALTERNATIVES

MID CORRIDOR

CONSIDERATION	MOST DESIRABLE	LEAST DESIRABLE	COMMENTS
RIDERSHIP	No differences.	—	—
COST			
System Capital Cost	MC-1	MC-2	Cost Difference - MC-2: +$135 million Cost Difference - MC-3: +$ 12 million*
Operating Cost Recovery	No differences.	—	—
SERVICE			
Safety - Transit Riders	MC-3	MC-1	Differences are minimal.
Safety - Vehicular Traffic	MC-1/MC-2 equal	MC-3	Differences are minimal.
Other	No significant differences.	—	—
PLANS/POLICIES			
RTP	No differences.	—	—
Compton	MC-3 (modified)	MC-1	Supports only modified MC-3 (rail freight in depressed section).
CRA/Watts Junction	MC-1/MC-2 equal	MC-3	—
Rail Consolidation	MC-3	MC-2	MC-2 renders rail consolidation unlikely.
IMPACT			
Traffic	MC-2	MC-1/MC-3 equal	Superiority of MC-2 for traffic, noise, and visual is minimal. MC-3 merely shifts MC-1 traffic and noise impacts from one location to another, and adds vibration as an impact.
Noise	MC-2	MC-1/MC-3 equal	
Visual	MC-2	MC-3	
Historic	MC-1/MC-2 equal	MC-3	
Vibration	MC-1/MC-2 equal	MC-3 (mitigable)	
Other	No significant differences.	—	—
ENERGY	MC-1	MC-2	—
AGENCY/PUBLIC RESPONSE			
City of Compton	MC-3 (modified)	MC-1	Supports only modified MC-3 (rail freight in depressed section).
City of Los Angeles	No position.	MC-3	On record opposing MC-3.
County of Los Angeles	No position.	No position.	—
SPTC	MC-1/MC-2 equal	MC-3	Requires service and insurance guarantees for MC-3.
Public Agencies	Mixed positions.	No positions.	Limited response.
Public Groups	No positions.	No positions.	Limited response.

* Does not include additional right-of-way or other enhancements (see text).

By contrast with these findings, the differences in capital costs for the three alternatives are dramatically different. Construction of the open cut through Compton adds approximately $135 million to the cost of the baseline Mid Corridor alternative (MC-1, Compton At Grade), exclusive of escalation. As explained in Chapter 4.0, the high cost of the Compton grade separation results from the need to provide a 26-foot clearance for the SPTC freight line, a depth which must be reached using standard one-percent descending and ascending grades. The total length of the open cut is over two miles. Rerouting rail freight service off the Wilmington Branch at Watts Junction adds slightly more than $12 million to the cost of MC-1, also exclusive of escalation. This cost differential is accounted for by the construction of six miles of new rail freight track and an aerial structure at Watts Junction to grade-separate the freight line and rail transit line.

Using virtually all of the transit service measures described in Chapters 3.0 and 4.0, no significant distinctions can be found among the three Mid Corridor alternatives. Differences do arise in the consideration of safety between MC-1 and MC-3. Under the first alternative (and MC-2, as well) transit riders are at slightly greater risk due to nearby presence of freight operations in the shared right-of-way of the Wilmington Branch. Relocating the rail freight service off of that line between Watts Junction and Dominguez Junction provides modest improvement in vehicle safety and overall system reliability. Diverting the rail freight service, however, increases the chances of rail/auto conflict at cross-streets along the West Santa Ana Branch (where currently there is no rail freight service) and along the San Pedro Branch. The magnitude of this increased danger is, like that for transit riders under MC-1 and MC-2, minimal. Overall, the measure of transit system safety and reliability is not useful in distinguishing among the alternatives in the Mid Corridor.

The consideration of conformity of the proposed project with adopted plans and policies is closely linked with the probable environmental impacts of the project. Concerns in both areas provide the only significant distinctions among the alternatives, and are the ultimate basis for recommending a single option for implementation.

Initially, it should be noted that all of the alternatives generally conform with the Regional Transportation Plan. They all produce the same system and corridor transit ridership, and provide the same links with other linehaul projects. Each alternative,

however, adversely affects at least one major development or infrastructure plan, potential impacts which have elicited extensive opposition from responsible jurisdictions and/or agencies. In all cases, the adverse effects are directly linked with environmental impact, and so the two are discussed jointly.

Under the MC-1 alternative, rail freight operations are maintained through downtown Compton, which is pursuing a concerted program of redevelopment and economic revitalization. The freight operations create significant adverse effects on traffic conditions and the general character of the area by temporarily obstructing cross-streets and creating noise, dust, and visual intrusion. The MC-2 alternative was originally developed during the course of studies for the rail transit project to attempt to mitigate these adverse impacts in Compton, impacts which are incidental to and not the result of the rail transit project. This alternative does in fact reduce the adverse impact of rail freight service in Compton by a significant amount.

The MC-2 Alternative increases the capital cost of the Mid Corridor segment of the rail transit project by over 50 percent. It also contradicts and effectively precludes efforts by the Southern California Association of Governments and various South Bay municipalities to implement a long range plan for accommodating large projected increases in rail freight traffic to and from the ports of Los Angeles and Long Beach.* The preferred alternative of that plan is to consolidate rail freight service onto the San Pedro Branch of the Southern Pacific Transportation Company, in part by removing it permanently from the Wilmington Branch which now passes through downtown Compton. Construction of an open cut for the rail freight line through Compton for the SPTC would represent an explicit commitment of extensive resources ($135+ million) to the Wilmington Branch, and an implicit commitment of maintaining freight service on that line well into the foreseeable future.

The MC-3 alternative was developed as an alternative to the MC-2 option to accomplish the same purpose—that of removing rail freight traffic from the center of Compton. Removing the rail freight line from the Wilmington Branch right-of-way would also increase the reliability of the rail transit system by a modest amount.

*"San Pedro Bay Ports Access Study, Phase II: Railroad Access," Southern California Association of Governments, 1984.

This alternative is superior to MC-2 in achieving the primary objective of removing rail freight traffic from Compton, and it also avoids the adverse impacts associated with the two-mile open cut.

Alternative MC-3, however, creates other adverse environmental impacts at three locations: Watts Junction, along the now-abandoned West Santa Ana Branch, and on the San Pedro Branch paralleling Alameda Street. These impacts include (1) visual and historic impact to Watts Station and associated redevelopment efforts in that area; (2) noise, vibration, and visual impacts to properties abutting the West Santa Ana Branch (including historic Watts Towers); and (3) traffic impacts along the San Pedro Branch (Alameda Street). Alternative designs of the Watts Junction grade-separation could mitigate the impact there to acceptable levels; these are discussed later in this chapter. The traffic impacts along Alameda Street could be mitigated with the construction of extensive grade-separations. Acceptable mitigation of building interiors along the West Santa Ana Branch could be accomplished with building soundproofing; vibration impacts on the Watts Towers could be eliminated through the construction of special trackbeds in that area. However, complete mitigation of the impacts there—particularly the noise and visual intrusion—could not be completely effected without constructing such devices as soundwalls, which would significantly alter the character of the area.

Thus, the MC-3 alternative is opposed by the City of Los Angeles, and is conditionally opposed by the City of Compton and the Southern Pacific Transportation Company. The effective result of the Compton City Council resolution on the project is to reject the MC-3 alternative as it is now defined. The City of Compton is on record supporting the MC-3 railroad relocation only if the San Pedro Branch is grade-separated (depressed) through Compton. The SPTC will agree to the relocation only if they receive explicit guarantees from corridor jurisdictions preserving their rights to maintain service on the San Pedro Branch at required levels.

Public opinion on the Mid Corridor alternatives is summarized at the bottom of Table 6.3 and in more detail in Table 6.4. In the latter table, the opposition to each of the alternatives and the underlying basis for the opposition to each of the alternatives is shown. Words in all capital letters indicate extensive and consistent opposition, while initial capitals reflect an insufficient number of respondents to be considered significant.

TABLE 6.4

SYNOPSIS OF PUBLIC POSITIONS

MID CORRIDOR

	MC-1	MC-2	MC-3
City Councils	-	-	OPPOSED (6)*
Elected Officials	-	Supportive (2)	-
Public Agencies	Opposed (1)	OPPOSED (1,3)	Split (1,6)
Private Groups	-	-	Opposed (6)
Individuals	Split (7)	OPPOSED (4)	Split (6,7)

*A Compton City Council Resolution supports the MC-3 alternative only with the relocated rail freight line a fully grade-separated along Alameda Street ("depressed trainway"). This resolution is interpreted as opposition to the MC-3 alternative as it is now officially defined. The Los Angeles City Council is on record opposing MC-3.

Basis:
(1) Reliability and safety
(2) Economic benefit
(3) Cost
(4) Visual impact
(5) Traffic impact
(6) Visual, noise, traffic, and historic impacts
(7) Reasons not given

6.3.2 Need For and Description of MC-3 Enhancements

Before and during conceptual design efforts for the MC-3 alternative, increasing notice was paid to the potential adverse impacts of that alternative on various locations in the Cities of Compton and Los Angeles. As described in the preceding section, adverse environmental impacts to three locations were identified: (1) Watts Junction (Watts Station area), (2) the areas surrounding the West Santa Ana Branch in Los Angeles, and (3) on Alameda Street and cross-streets bisecting the San Pedro Branch in Compton. As a result, a variety of design alternatives or additional design elements - "enhancements" - were formulated to attempt to address each of the adverse impacts. These enhancements are as follows:

WATTS JUNCTION

(1) Rail transit line "flyunder" and station, either north or south of 103rd Street (visual mitigation).
(2) Restoration of project impact on Watts Towers park area.

WEST SANTA ANA BRANCH (SANTA ANA BOULEVARD)

(3) Tree planting (visual mitigation).
(4) Noise mitigation (building soundproofing).
(5) Fencing (increased safety for residents).

SAN PEDRO BRANCH (ALAMEDA STREET) (Traffic mitigation)

(6) At-grade intersection improvements, and/or
(7) Underpasses at selected arterial, or
(8) Full rail grade separation (Compton "depressed trainway").

None of the proposed enhancements has been officially incorporated into the definition of MC-3 alternative. The estimated cost of the enhancements, exclusive of the full rail grade separation along Alameda Street, is $25-30 million. This assumes that underpasses would be constructed at Rosecrans Avenue and Alondra Boulevard. (By comparison, the cost of the full rail grade separation along Alameda Street has been

estimated at in excess of $130 million.) Evaluation of statutes governing the applicability of Proposition A funds indicates that the enhancement projects might not qualify for funding from that source.

6.3.3 Comparison of Alternatives MC-1 and MC-3

The extremely high cost of the MC-2 alternative and its potential impact on plans to consolidate rail freight traffic in the corridor has led to a more focused look at the remaining two options prior to arriving at a recommendation for the Mid Corridor. Alternatives MC-1 and MC-3 are explicitly compared with each other under two sets of assumptions in Tables 6.5 and 6.6. In the first table, none of the MC-3 enhancements described in the preceding section are considered. In the second table, all enhancements except the rail grade separation along Alameda Street area assumed to be included in the MC-3 alternative. When examining this table, it should be noted that none of the enhancements have been officially adopted into the definition of the alternative.

The information presented in Table 6.5 represents the assessment of the technical evaluation. Thus, MC-1 is judged superior to MC-3 on three environmental grounds: noise, visual, and historic. For reasons outlined earlier in this chapter and in Chapter 4.0, the two alternatives are considered essentially equal in traffic impact. The MC-3 alternative merely shifts the adverse effects of rail freight traffic from one location to another.

Alternative MC-1 is superior to MC-3 without the enhancements from the perspective of redevelopment efforts in the Watts Station area (Watts Junction). MC-3, of course, is superior in its contributions to redevelopment in downtown Compton. There is no difference between them with regard to other development and transportation plans, including the freight rail consolidation proposal.

The positions of various municipalities, agencies, and private groups are repeated in this table for convenience. The position of the City of Compton includes MC-3, shown in parentheses to reflect their requirement for construction of the rail grade separation along Alameda Street as predication for their acceptance of MC-3.

TABLE 6.5

COMPARISON OF MID CORRIDOR ALTERNATIVES
MC-1 and MC-3

(MC-3 without Enhancements)

CONSIDERATION	MOST DESIRABLE	LEAST DESIRABLE
RIDERSHIP	No difference	
SERVICE	No difference	
ENERGY	No significant difference	
COST	MC-1	MC-3
IMPACT		
Noise	MC-1	MC-3
Visual	MC-1	MC-3
Historic	MC-1	MC-3
Other	No difference	
CONFORMITY WITH PLANS		
Compton(1)	MC-3	MC-1
Watts Junction(2)	MC-1	MC-3
Other	No difference	
INSTITUTIONAL RESPONSE		
City of Compton(3)	MC-3 (modified)	(6)
City of Los Angeles(4)	(6)	MC-3
SPTC(5)	MC-1	MC-3
County of Los Angeles	No position	
Public Agencies	No clear positions	
Private Groups	No position	

Notes:
(1) Compton Redevelopment Project

(2) Watts Redevelopment Project

(3) Compton supports MC-3 only with rail freight grade separation along Alameda Street.

(4) Los Angeles opposes MC-3.

(5) SPTC will accept MC-3 only with service continuance guarantees from municipalities.

(6) No position taken.

TABLE 6.6

COMPARISON OF MID CORRIDOR ALTERNATIVES
MC-1 and MC-3

(MC-3 with Enhancements[1])

CONSIDERATION	MOST DESIRABLE	LEAST DESIRABLE
RIDERSHIP	No difference	
SERVICE	No difference[2]	
ENERGY	No significant difference	
COST	MC-1	MC-3
IMPACT Noise Other	MC-1 No difference	MC-3[3]
CONFORMITY WITH PLANS Compton Watts Junction Other	(MC-3)[4] MC-3 No difference	MC-1 MC-1
INSTITUTIONAL RESPONSE	No change from basic alternative. (See Table 6.5)	

Notes:
(1) Does NOT include rail freight grade separation along Alameda Street.

(2) One relocation option for the 103'rd Street Station would have a moderate adverse impact on train speed in that area.

(3) Proposed mitigation measure effective for building interiors only.

(4) See Note 3 in Table 6.5.

Construction of MC-3 with the enhancements listed narrows the differences between it and Alternative MC-1, but some distinctions remain (see Table 6.6). In particular, MC-1 becomes relatively still cheaper with the additional costs of the enhancements. Further, while the majority of the environmental problems associated with MC-3 are removed, the problem of noise mitigation along the West Santa Ana Branch remains. Buildings can be soundproofed, leaving the noise and visual effects on the outside environment present.

6.3.4 Project Recommendation for the Mid Corridor

The foregoing discussions have attempted to present the characteristics of the three Mid Corridor alternatives under consideration, and to evaluate them in light of the desires of various affected municipalities and private organizations located throughout this segment of the project corridor. While it has not been possible to reconcile all conflicts inherent in selection of a Mid Corridor alternative, the evaluation process has allowed the clear identification of all relevant project characteristics (beneficial and adverse) and the trade-offs implicit in the selection of one alternative over another.

It is the recommendation of the Commission staff that the MC-1 alternative (Compton At Grade) be adopted as the project definition in the Mid Corridor at the time of project authorization. The MC-1 alternative is considered superior in two ways: (1) it provides transit service to the Mid Corridor at a level at least equal to the other alternatives, at considerably less cost; and (2) from the perspective of the Southern Pacific Transportation Company and a majority of public agencies, it offers the best opportunity for early implementation.

This recommendation is supported by the findings that the MC-2 alternative (Compton Grade Separation) contains two serious drawbacks: First, the $135 million cost of constructing the grade separation (open cut) would constitute a significant percentage of the cost of the entire rail transit project (over 30 percent). In view of this additional cost, it is noted that the grade separation alternative was developed to mitigate adverse environmental conditions caused by rail freight traffic in downtown Compton, conditions which are incidental to and not the result of the rail transit project.

Second, such a major new capital investment in the Wilmington Branch of the Southern Pacific Transportation Company would effectively preclude implementation of the rail freight consolidation plan now under active development and review by SCAG and affected jurisdictions in the project corridor. Most jurisdictions agree that the implementation of this plan is needed to permanently remove rail freight traffic from the Wilmington Branch.

The MC-3 alternative (SPTC Railroad Relocation) has been proposed as an alternative solution to the rail freight traffic problem in downtown Compton. During the course of its development, however, it has engendered significant organized opposition from the two affected Mid Corridor municipalities (Compton and Los Angeles) for similar but varying reasons. Both cities consider this alternative, as it is presently defined, unacceptable due to adverse environmental consequences. The City of Compton has gone on record supporting the alternative only if a rail grade separation is constructed along Alameda Street to mitigate what they perceive is an unacceptable traffic impact. The City of Los Angeles has gone on record opposing the alternative due to unacceptable visual, noise, and vibration impacts in the vicinity of Watts Junction and along Santa Ana Boulevard. In effect, the MC-3 alternative is perceived to merely move the traffic impact of rail freight service from downtown Compton to a new location along Alameda Street and to add, as well, the additional adverse effects of noise, vibration, visual intrusion, and impact on historic resources.

Enhancements of the MC-3 alternative designed to mitigate these adverse consequences are only partly successful, and add significantly to the cost of the project. Problems with outdoor noise and visual intrusion would remain along the West Santa Ana Branch after soundproofing of affected buildings. Some traffic delay would remain along the San Pedro Branch after performing at-grade intersection improvements and constructing selective arterial grade separations. Applicability of Proposition A funding to these enhancements would be questionable, particularly for a full grade separation along Alameda Street.

It should be observed that neither MC-1 nor MC-3 precludes the implementation of the rail consolidation plan, part of which has been proposed as a fourth Mid Corridor

alternative, not now under consideration as part of this project. The MC-3 alternative does represent a first step toward realizing that plan, but carries with it a buried cost attendant with any temporary or interim measure—namely, that full implementation of rail traffic consolidation would take freight traffic off the Wilmington Branch well north of Watts Junction. At that time, the rail transit grade separation at Watts Junction would no longer be needed, and as such would represent a prematurely retired—and hence inefficient—capital investment. Alternative MC-1, without the Watts Junction grade separation, would not present this potential problem.

The Southern Pacific Transportation Company has expressed serious reservations with the MC-3 alternative, citing as their primary concerns two issues: (1) the need for guarantees from affected jurisdictions stating that they will take no action to curtail SPTC operations on the San Pedro Branch to levels below what would prevail after implementation of the relocation alternative; and (2) indemnification of their operations along the West Santa Ana Branch. These are not irreconcilable problems, but they do add to the lengthy list of problems associated with Alternative MC-3.

The Commission staff acknowledges that the recommended adoption of Alternative MC-1 carries with it an interest by the Commission in seeing that the Wilmington Branch rail freight traffic is ultimately consolidated with traffic using the Alameda Street rail corridor (San Pedro Branch). This interest derives not only from the Commission's overall role in addressing transportation mobility in Los Angeles County (here, helping to reduce or eliminate rail freight/auto traffic congestion) but also from the benefits to the operation and safety of the light rail transit system by removing freight trains from proximity to transit tracks and stations. Accordingly, the Commission staff recommends that the Commission continue its active participation in the region's port rail consolidation effort, moving toward interagency adoption of facilities and funding plans. Timely resolution of funding and other institutional issues should result in effective mitigation of potential rail freight/auto conflicts.

APPENDIX A

LIST OF SUPPORTING TECHNICAL DOCUMENTATION

1. Bolt, Beranek and Newman, "Noise and Vibration Technical Report," February 1984.

2. California Department of Transportation, District 7, "Long Beach to Los Angeles Light Rail Transit Feasibility Study," October 1981.

3. Myra Frank and Associates, "Housing Technical Report," March 1984.

4. _____, "Community Services Technical Report,"July 1984.

5. Parsons Brinckerhoff/Kaiser Engineers, Long Beach - Los Angeles Rail Transit Project, "Preliminary Analysis," February 1982, "Summary Report," February 1983.

6. _____, "Analysis of Preliminary Way and Structure Alternatives," (working paper), May 1983.

7. _____, "Development of Complementary Bus Network," (working paper), August, 1983.

8. _____, "Conceptual Design Report," (2 volumes), January 1984.

9. _____, "Identification and Evaluation of Candidate Yard and Shops Sites", December 1983.

10. _____, "Construction Equipment Usage Factors," January 1984.

11. _____, "Cost Estimates of Alternatives," (2 volumes), January 1984.

12. _____, "Operations and Maintenance Plan," January 1984.

13. _____, et al., "Draft Environmental Impact Report," (2 volumes and summary), May 1984.

14. _____, et al., "Long Beach Route Alternatives—Conceptual Assesment," July, 1984.

15. _____, et al., "Supplemental Environmental Impact Report," (forthcoming December 1984).

16. Sedway/Cooke Associates, "Land Use and Development Technical Report," May 1984.

17. Southern California Association of Governments, "Long Beach - Los Angeles Corridor Socioeconomic Growth Forecast," January 1984.

18. _____, "Energy Analysis for the Long Beach-Los Angeles Rail Transit Project," February 1984.

19. _____, "Patronage Estimation and Impacts Analysis," (technical report), March 1984.

APPENDIX B

LIST OF RESPONDENTS TO THE DRAFT EIR

WRITTEN COMMENTS

City Councils

City of Compton (Resolution)
City of Los Angeles (Resolution)

Elected Office Holders

House of Representatives	Mervyn M. Dymally
California Assembly	Maxine Waters
Los Angeles City Council	Joan M. Flores

Public Agencies

Air Quality Maintenance Department	Brian Farris
Los Angeles County Sheriff	Chief Robert Campbell
Long Beach Transit	Jack Gabig
Central City Association	Christopher Stewart
Southern California Association of Governments	Frank Hotchkiss
Los Angeles County Fire Department	Donald Bartlett
Huntington Park	William P. Cunningham
Long Beach Unifies School District	Leon Taylor
County-Community Development Commission	James Hankla
Rapid Transit District	John Dyer
Los Angeles National Association for the Advancement of Colored People	John T. McDonald, III
Los Angeles Department of Water and Power	Carl D. Haase

APPENDIX B

(Continued)

Public Agencies (Continued)

Los Angeles City Planning	Calvin S. Hamilton
Los Angeles Department of Transportation	Donald R. Howery
Railroad Passenger Association of California	Noel T. Braymer
Los Angeles Bureau of Engineering	Phil King
City of Carson	Kay A. Calas
County of Los Angeles Road Department	T. A. Tidemanson
Community Redevelopment Agency	Ed Helfeld
City of Compton	Laverta Montgomery
California Department of Parks and Recreation	Maurice H. Getty
Public Utilities Commission	William L. Oliver
California Transportation District	W. B. Ballantine
Port of Los Angeles	W. Calvin Hurst
City of Signal Hill	Gerard Goedhart
County Regional Planning Department	Norman Murdock
City of Bell	Clarence Knechtel
City of Long Beach	

Letters From Private Organizations

Upland Industries	D. E. Clark
California Hospital Medical Center	Richard Norling
Coalition for Rapid Transit	Abraham Falick
American High Speed Rail	Nicholas M. Brand
Bauer Professional Building	89 Doctors
Forest City Dillon	Steven P. Albert
Long Beach Citizens for Responsible Light Rail	Stephen Bass
Los Angeles Union Passenger Terminal	R. L. Pfister
Automobile Club of Southern California	A. Keith Gilbert

APPENDIX B

(Continued)

Letters From Private Organizations (Continued)

Los Angeles Conservacy	Ruth Ann Lehrer
Hoover Redevelopment Project Area Committee	Michael Thompson
Electric Railway Historical Association of Southern California	David G. Cameron
Avalon-Central Neighborhood Association	Gregory J. Franks
Citizens for Rail California	James Washington

Letters From Individuals

Inez Norris

Bryan Allen

Jack Richer

Frances Danenmaier

Rita Traub

Samuel Schiffer

Nettie S. Evans

Craig Johnson

Al Pereira

Mike Perlman

T. A. Nelson, P.E.

Peter Cole

Robert Swan

Robert Perez

Alexander Haagen

Andrew J. Markham

Roy L. Schinnerer

APPENDIX B
(Continued)

Letters From Individuals (Continued)

Richard A. Stromme
David G. Cameron
Peter Zimmerman
Thomas Starr

SPEAKERS AT PUBLIC HEARINGS

Name	Residence/Affiliation
First Los Angeles Hearing - June 19, 1984	
Thomas Ness	Whittier
James McCarthy	Los Angeles/Skyline Condominium
James Gusky	Norwalk
Brian Allen	Los Angeles
Loraine Osuna	Los Angeles/Skyline Condominium
Enrique Torres	Los Angeles
James Washington	Los Angeles/LA RailPack
James Hall	Los Angeles
Noresca Brant	Los Angeles
Ken Runela	Los Angeles/Skyline Condominium
Harry Gusky	Norwalk
John Miller	LA Conservancy
James Norton	Los Angeles/Skyline Condominium
James Seal	(No address)
David Gould	Chatsworth

APPENDIX B

(Continued)

Second Los Angeles Hearing - June 27, 1984

David Grayson	Central City Association
David Cameron	Electric Railway Association of Southern California
Tony Bloonert	Skyline Homeowners Association
Frankee Banerjee	Los Angeles Community Redevelopment Agency
James Ortner	Automobile Club of Southern California
Mel Pierovich	(No address)
Brian Allen	Los Angeles
Enrique Torres	Los Angeles

First Mid Corridor Hearing (Compton) - June 21, 1984

Maxie Filer	Councilman, City of Compton
Thomas Kno	Caltrans
George Warren Swale	Compton
Edward Lonney	Compton
Eddie Randolph	Compton
Henry Hereiford	Compton
James Draugh	Compton
Roland Exum	Downtown Compton Merchants Association
Cecil Karstensen	Huntington Beach

APPENDIX B

(Continued)

Second Mid Corridor Hearing (Florence/Firestone) - June 23, 1984

Kenny Hahn	Supervisor, Los Angeles County
Valerie Porter	Activist
Amanda Stratton	(No address)
Betty Clifford	Coordinating Council
Wilber Valley	Jarvis Senior Citizens Club
Charles P. Curry	(No address)
Harold Crockett	(No address)
Luther Anderson	(No address)
Louise Manuel	WLCAC
Alberta Dillard	(No address)
Brian Allen	Los Angeles
Noel Braymer	Citizens for Rail California

APPENDIX C

CITY COUNCIL RESOLUTIONS

TRANSPORTATION AND TRAFFIC COMMITTEE

CITY OF LOS ANGELES

ADOPTED AS AMENDED - *SEE BELOW

81-6161 Recommends, in the matter of the Long Beach-Los Angeles Rail Transit Project Draft Environmental Impact Report (Draft EIR) we RECOMMEND as follows:

1. That, by the adoption of this report, the Council oppose any mid-corridor alternative which diverts rail freight traffic to the presently unused rail right-of-way paralleling Santa Ana Boulevard in Watts.

2. That the Central Business District (CBD) at-grade alternative (LA-1) for the Long Beach-Los Angeles Rail Transit Project be also opposed.

3. That the Los Angeles Transportation Commission (LACTC) be requested to develop additional information and discussion for inclusion in the EIR on the items of concern as follows:

   a. An alternative proposal or mitigation measure for diverting freight traffic from the Wilmington Branch along Willowbrook Avenue in Watts to the San Pedro Branch along Alameda Street, to avoid the impacts of rail freight in the residential community of Watts.

   b. Provision for the use of the historic Watts Rail Station.

   c. An alternative location and/or redesign of the elevated structure proposed at Watts Rail Junction (103 St.) under Alternative MC-3, in order to reduce community impacts.

   d. An alternative or mitigation measure for grade-separation of the rail crossings at Wilmington Avenue and Imperial Highway.

   e. Provision for a direct revenue connection between the Century Freeway (I-105) Rail Transitway to the LB-LA Transit Project.

   f. A provision for future southerly extensions of alignments LA-2 and LA-3 as direct rail connections to the Harbor Freeway (I-110) Transitway.

   g. Expanded discussion on traffic impacts of at-grade operation in the CBD.

   *h. Transit ridership impacts in South Los Angeles resulting from Proposition A fund allocation shifts in 1985.

4. That the LACTD be requested not to select a Preferred Alternative Recommendation prior to the Council's review of the requested supplemental EIR information.

5. That the City Clerk be instructed to notify the LACTC of the Council's actions on the above recommendations.

*6. In Conformance with previous council action & SCAG policy, request the Interstate Commerce Comsn. to make it a condition of approval of the merger of the South. Pacific Transportation Co. (SP) and the Santa Fe Railway, to become the South. Pacific-Santa Fe Railway, that the new railroad operate preferentially on the SP-San Pedro Branch (Alameda St.).

RESOLUTION NO. 14,234

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF COMPTON ESTABLISHING A POSITION ON THE LONG BEACH/LOS ANGELES LIGHT RAIL TRANSIT PROJECT AND THE CONSOLIDATED RAIL CORRIDOR

WHEREAS, the existing rail freight traffic has caused traffic delays, congestion, and reduced emergency vehicle access; and

WHEREAS, the proposed Consolidated Rail Corridor Alternative at-grade with increased freight rail traffic will severely affect the economic, physical and social environment of the Compton Central Business District and other redevelopment project areas along the proposed rail corridor; and

WHEREAS, to mitigate the negative effects of the Consolidated Rail Corridor Alternative the City has expressed the position to limit rail freight traffic to Alameda Street within a depressed trainway through the City of Compton; and

WHEREAS, the Mid-Corridor (MC-3) Alternative of the Light Rail Transit Project proposes to transfer freight trains from the Southern Pacific Wilmington Branch (Willowbrook Avenue) to the Southern Pacific San Pedro Branch (Alameda Street), with light rail on Willowbrook Avenue whereby both train modes will operate at-grade; and

WHEREAS, City staff finds that the MC-3 Alternative for the Light Rail Project along with a depressed trainway on Alameda Street for the Consolidated Rail Corridor Alternative (for freight rail traffic) will best serve the City.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF COMPTON DOES HEREBY RESOLVE AS FOLLOWS:

Section 1. That the City will support Alternative MC-3 of the Long Beach/Los Angeles Light Rail Transit Project on the condition that freight rail traffic be routed solely to the Southern Pacific San Pedro Branch in a depressed trainway through the City of Compton.

Section 2. That a certified copy of this Resolution shall be forwarded to the Ports Advisory Committee, the Southern California Association of Governments, the Los Angeles County Transportation Commission, the Interstate Commerce Commission, the Public Utilities Commission, and the California Congressional Delegation.

Section 3. That copies of this Resolution shall be filed in the Office of the City Manager and the Planning Department.

Section 4. That the Mayor shall sign and the City Clerk shall attest to the adoption of this Resolution.

ADOPTED this 21st day of August, 1984.

C-2 MAYOR OF THE CITY OF COMPTON

RESOLUTION NO. 14,234
PAGE TWO

ATTEST:

CITY CLERK OF THE CITY OF COMPTON

STATE OF CALIFORNIA
COUNTY OF LOS ANGELES
CITY OF COMPTON SS

I, Charles Davis, City Clerk of the City of Compton, hereby certify that the foregoing Resolution was adopted by the City Council of the City of Compton, signed by the Mayor and attested by the City Clerk at a regular meeting thereof held on 21st of August, 1984.

That said Resolution was adopted by the following vote, to wit:

AYES: COUNCIL MEMBERS - Filer, James, Adams, Robbins, Tucker
NOES: COUNCIL MEMBERS - None
ABSTAIN: COUNCIL MEMBERS - None
ABSENT: COUNCIL MEMBERS - None

CITY CLERK OF THE CITY OF COMPTON