MID-COAST CORRIDOR PROJECT
San Diego, California

FINAL ENVIRONMENTAL IMPACT STATEMENT
(Final EIS)

Volume I

by the

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL TRANSIT ADMINISTRATION (FTA)

and the

METROPOLITAN TRANSIT DEVELOPMENT BOARD

PREPARED PURSUANT TO:


June 2001
ALTERNATIVES ANALYSIS/
FINAL ENVIRONMENTAL IMPACT STATEMENT

for the

MID-COAST CORRIDOR

SAN DIEGO, CALIFORNIA

Prepared pursuant to:

Prepared by

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL TRANSIT ADMINISTRATION

and

SAN DIEGO METROPOLITAN TRANSIT DEVELOPMENT BOARD

With the cooperation of

CALIFORNIA DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

Pursuant to


Date: JUN 12 2001

For FTA: Leslie Rogers
Regional Administrator

Date: May 16, 2001

For MTDB: Thomas F. Larwin
General Manager
FINAL ENVIRONMENTAL IMPACT STATEMENT

LEAD AGENCIES: U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL TRANSIT ADMINISTRATION (FTA)
and
METROPOLITAN TRANSPORTATION
DEVELOPMENT BOARD

TITLE OF PROPOSED ACTION: MID-COAST CORRIDOR PROJECT
SAN DIEGO, CALIFORNIA

ABSTRACT: The Metropolitan Transit Development Board (MTDB) proposes to improve transit services to the Mid-Coast Corridor in the City of San Diego. Alternatives include a No-Build Alternative, a Transportation Systems Management (TSM) Alternative, and the Mid-Coast LRT Project, Balboa Extension and Nobel Drive Coaster Station Project, which would extend light rail transit (LRT) service along the San Diego Northern Railway (SDNR) corridor from just south of the San Diego River, 5.5 kilometers (3.5 miles) to Balboa Avenue (State Route 274). Three new LRT stations would be located at Tecolote Road, Clairemont Drive, and Balboa Avenue. The proposed project would also provide a new station on the existing commuter rail (Coaster) line, at a location south of Nobel Drive and east of Towne Centre Drive. Reductions in traffic congestion on area roadways and improvements in mobility and accessibility are expected to result from the project. Negative impacts would include noise, loss of wetlands and protected habitat, conversion of open space area to transportation uses, and visual impacts of retaining walls and station facilities. Mitigation measures include sound attenuation walls, construction of replacement wetlands and habitat, reconfiguration of an informal hiking/bicycle path, and landscaping to screen visual impacts.

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PREFACE

The Final Environmental Impact Statement (FEIS) was prepared for the Mid-Coast Corridor in San Diego, California. An Alternatives Analysis/Draft Environmental Impact Statement/Draft Environmental Impact Report (AA/DEIS/DEIR) was prepared for the Corridor and circulated in 1995. Pursuant to requirements of the National Environmental Policy Act (NEPA), this FEIS analyzes potential impacts of transit improvements, proposed by the Metropolitan Transit Development Board (MTDB) and the Federal Transit Administration (FTA), at the project-specific level. It is the result of an extensive evaluation of alternatives and impact assessment process. Five transportation investment alternatives for the Mid-Coast Corridor, involving different transit services and high occupancy vehicle lanes along various alignments, were initially identified and evaluated. Technical analyses of each alternative were conducted regarding a range of environmental issues, and results were compiled into the 1995 AA/DEIS/DEIR. A public hearing on the AA/DEIS/DEIR was held on April 27, 1995. A total of 64 written and oral comments were received from agencies, individuals, and organizations.

In response to information and analyses contained in the AA/DEIS/DEIR and to public comments regarding the impacts and benefits of project alternatives, the MTDB selected a Preferred Investment Strategy/Locally Preferred Alternative (LPA) on October 26, 1995. The first phase of the LPA would include an extension of light rail transit (LRT) service along the San Diego Northern Railway (SDNR) corridor from just south of the San Diego River, north approximately 5.5 kilometers (3.5 miles) to Balboa Avenue. Three new LRT stations would be located at Tecolote Road, Clairemont Drive, and Balboa Avenue. The construction phase would also include a new station on the existing commuter rail (Coaster) line at a location south of Nobel Drive and east of Towne Centre Drive. Preliminary Engineering (PE) has been completed for these proposed improvements. MTDB is committed to ongoing public involvement to increase community understanding of the project and to elicit community input regarding environmental and design issues. Community involvement was conducted during preparation of the AA/DEIS/DEIR and culminated in its public circulation and public hearing. Public involvement, through two community-based project advisory committees, also continued into the PE and Final EIS phase of the project.

The first volume of this FEIS contains information regarding the purpose and need for the project, alternatives considered, and the environmental and socioeconomic effects that can be expected if the project is implemented. Information contained in the AA/DEIS/DEIR is summarized, and additional clarification is provided regarding potential impacts of the Mid-Coast LRT Project, Balboa Extension and Nobel Drive Coaster Station Alternative, and a low-cost Transportation Systems Management (TSM) Alternative. A No-Build Alternative is also evaluated. The second volume contains copies of all written and oral comments received on the AA/DEIS/DEIR, along with written responses to those comments.

A copy of this FEIS is being provided to all agencies, organizations, and individuals who commented on the AA/DEIS/DEIR. A series of technical studies was prepared as part of the environmental investigations for the proposed project. These studies built upon the technical work that was conducted during the AA/DEIS/DEIR phase of the project, analyzed conditions under the No-Build Alternative, and identified potential impacts under the TSM and the Mid-Coast LRT Project, Balboa Extension and Nobel Drive Coaster Station Alternatives. These studies are available for review at MTDB's offices. The technical studies completed for the AA/DEIS/DEIR and FEIS are listed in Appendix E (References) of this document.
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SUMMARY

The Mid-Coast Corridor Project would extend San Diego Trolley light rail transit (LRT) service on a new line from the Old Town Transit Center north paralleling Interstate 5 (I-5) to the University City Community. The first implementation phase of this project, identified in this document as the Mid-Coast LRT Project, Balboa Extension and Nobel Drive Coaster Station, would extend LRT service 5.5 kilometers (3.5 miles) to Balboa Avenue, State Route 274, and would include a new commuter rail (Coaster) station at Nobel Drive. Alternatives presented in this document include a low-cost Transportation Systems Management (TSM) Alternative that seeks to provide bus transit service comparable to the LRT Extension, and a No-Build Alternative. Although expanded parking at the Sorrento Valley Coaster Station is also part of the first implementation phase of the Mid-Coast project, the Metropolitan Transit Development Board (MTDB) is providing environmental review for this expansion under a separate environmental document.

S.1 PLANNING CONTEXT

The MTDB adopted (via Resolution No. 95-35) the Mid-Coast Preferred Investment Strategy/Locally Preferred Alternative (LPA) in October 1995, following public review of six transportation improvement alternatives presented in the February 1995 Mid-Coast Corridor Alternatives Analysis/Draft Environmental Impact Statement/Draft Environmental Impact Report (AA/DEIS/DEIR). The Board’s selection designates the preferred strategy for long-term development of LRT, high occupancy vehicle (HOV), and Coaster station improvements in the Mid-Coast Corridor. This investment strategy was selected following evaluation of the AA/DEIS/DEIR alternatives, including LRT, HOV lanes and expanded bus service. The LPA was found to be the most cost-effective and beneficial alternative, and the one receiving the broadest public support. In its resolution, the Board also certified the Mid-Coast Final Environmental Impact Report (FEIR) prepared under the California Environmental Quality Act (CEQA). MTDB is preparing this Final Environmental Impact Statement (FEIS) for the corridor project, pursuant to the National Environmental Policy Act (NEPA), in order to implement the first phase of the LPA.

The Mid-Coast LRT Project, Balboa Extension and Nobel Drive Coaster Station is listed in SANDAG’s current Regional Transportation Plan (RTP) 2000, and is consistent with the City of San Diego’s long-range planning guidelines and policies as stated in the Community Planning Area plans governing the project area. Construction of the Nobel Drive Coaster Station is consistent with transportation policies cited in the University Community Planning Area Plan, although the Plan does not specifically identify the Nobel Drive Station site as a commuter rail transfer point.
S.2 PURPOSE OF AND NEED FOR THE PROJECT

The purpose of the Mid-Coast Corridor Project is to:

- Improve public transit services in the rapidly growing Interstate 5 (I-5)/Mid-Coast Corridor by providing increased transit capacity and faster, convenient access to Centre City San Diego and major corridor activity centers;

- Accommodate future travel demand in the corridor by expanding modal options;

- Alleviate growing traffic congestion and bottlenecks in the I-5 and Interstate 805 (I-805) inland corridors between Centre City and Old Town San Diego and the communities of Mission Bay, Pacific Beach, La Jolla, University City, Clairemont, and Carmel Valley, and on major parallel north-south arterials in the area, such as Morena Boulevard and Genessee Avenue;

- Enhance regional connectivity through expanded, interconnected light rail transit (LRT) services along the primary travel corridors in San Diego County, including I-5, Interstate 8 (I-8), and State Route 94, and enhance connections to AMTRAK and Coaster Commuter Rail service.

- Alleviate growing parking demand and the congestion and circulation impacts resulting from increased peak hour traffic in Centre City San Diego;

- Improve regional air quality by reducing automobile emissions;

- Improve mobility options to employment, education, medical, and retail centers for corridor residents and visitors; and

- Support local economic and land development goals.

The I-5/Mid-Coast Corridor is a key north-south transportation link in the metropolitan San Diego region. North San Diego County, the travel shed area for the Mid-Coast Corridor, has grown rapidly along both the coastal strip (along I-5) and the inland corridor (along I-805). Large numbers of commuters and other trip makers use the Corridor in both the north-south and east-west directions to reach work destinations as well as commercial and educational centers. The Corridor funnels trips between North County and downtown San Diego, yet also serves a substantial demand for travel to and from the Corridor’s center near La Jolla and the University of California, San Diego (UCSD).

Freeway and arterial congestion already exist in the Mid-Coast Corridor during peak hours of each weekday. In some areas, congestion in the reverse commute direction occurs as commuters travel to and from jobs and schools located in the middle of the corridor. On weekends and during summer months, I-5 and several east-west arterials experience congestion due to travel to and from events.
at the Del Mar Fairgrounds (located at the north boundary of the Corridor), and to and from the beach and park areas located along I-5. As Corridor population and employment growth continue, traffic congestion is expected to worsen. Yet, the ability to expand roadway capacity in this Corridor is extremely limited. The topography and sensitive natural areas of the Mid-Coast Corridor limit the alternatives for both north-south and east-west travel.

S.3 PROJECT DESCRIPTION, COSTS AND FUNDING

This FEIS evaluates three alternatives: a No-Build Alternative, a Transportation Systems Management (TSM) Alternative, and the Mid-Coast LRT Project, Balboa Extension and Nobel Drive Coaster Station Alternative (also referred to in this FEIS as the Balboa LRT Extension/Nobel Drive Coaster Station Alternative or the Build Alternative). These three alternatives are described below; detailed descriptions are in Chapter 2 of this document.

S.3.1 No-Build Alternative

The No-Build Alternative consists of the year 2015 highway and transit networks with improvements only as currently planned and programmed for funding. The 2015 future No-Build highway network was developed in coordination with San Diego Association of Governments (SANDAG) to reflect SANDAG’s estimates of fiscally committed year 2015 transportation elements. The list of improvements is contained in the 2000 Regional Transportation Plan (RTP), and is summarized in Appendix G of this document.

For the highway network, the No-Build Alternative would include the following major improvements in the Mid-Coast Corridor:

- Extending Nobel Drive to the east and constructing a Nobel Drive/I-805 interchange,
- Widening of I-5 (north of the Mid-Coast Corridor) and I-805 with HOV lanes, and
- Completion of SR 56 as a freeway connecting I-5 at Carmel Valley with I-15.

For the transit network, the No-Build Alternative resembles current bus and rail transit service, with the addition of the anticipated Mission Valley East LRT extension and a development of LRT service from Escondido to Oceanside. The No-Build LRT system would consist of the “Blue Line,” operating from the Old Town Transit Center to San Ysidro; the “Green Line,” operating west from the Grossmont Center Station along the new Mission Valley alignment to the 12th and Imperial Station, via the Convention Center alignment; and the “Orange Line,” operating from Santee Town Center to the 12th and Imperial station, via the Convention Center alignment. Weekday headways of 7 ½ minutes during peak hours (6-9 AM and 3-7 PM) and 15 minutes during off-peak hours are anticipated for all three LRT rail lines under the No-Build Alternative.
S.3.2 Transportation Systems Management (TSM) Alternative

The Transportation Systems Management (TSM) Alternative consists of the future baseline highway network plus improvements to future transit service and facilities. The transit improvements focus on providing bus service that is comparable, to the extent possible, to that afforded by the Mid-Coast LRT Project, Balboa Extension and Nobel Drive Coaster Station Alternative.

TSM transit capital and operating improvements include:

- A change in peak-period headways from 30 to 15 minutes for bus routes 9, 30, and 50,
- Construction of a 113-space park-and-ride lot for bus patrons at Balboa Avenue and Morena Boulevard (see Figure 2.3-1),
- Construction of a 114-space park-and-ride lot for bus patrons at Clairemont Drive and Morena Boulevard (see Figure 2.3-2), and
- Change in the routing for bus lines 27 and 30 to serve the new park-and-ride lot at Balboa Avenue.

Changes in the peak-period bus headways for bus routes 9, 30, and 50 would require acquisition of six express and two local buses. Except as follows, bus routes for the TSM would be the same as those for the No-Build Alternative as shown in Figures 2.2-2 and 2.2-3:

- Route 27 would be routed into and out of the new park-and-ride lot at Balboa Avenue and Morena Boulevard. It would otherwise travel its current route.
- Route 30 would travel east along Grand Avenue to Mission Bay Drive, but would then turn one block north and cross I-5 on Balboa Avenue with service to the new park-and-ride lot on Balboa Avenue and Morena Boulevard.

S.3.3 Mid-Coast LRT Project, Balboa Extension and Nobel Drive Coaster Station

The Balboa LRT Extension/Nobel Drive Coaster Station Alternative includes:

- A dual-track extension of LRT service from the Old Town Transit Center across the San Diego River and north adjacent to I-5 to a terminal station at Balboa Avenue, with intermediate stations at Tecolote Road and Clairemont Drive; and
- A new Coaster (commuter rail) Station at Nobel Drive.

S.3.3.1 LRT Alignment. The dual-track Mid-Coast LRT Project, Balboa Extension would lie almost entirely within the existing San Diego Northern Railway (SDNR) right-of-way, which is owned by MTDB. The project would begin south of the San Diego River, where the Balboa Extension would diverge from the Mission Valley LRT line. The Mission Valley line curves to the east across the San Diego River at this point. The Balboa Extension would continue north on a new bridge over the San Diego River and Friars Road, running parallel to and on the east side of the existing SDNR tracks.
The Balboa LRT Extension would pass under Tecolote Road, under Clairemont Drive, and over Balboa Avenue (SR 274), where it would terminate.

S.3.3.2 LRT Stations. Three stations are proposed for the Balboa LRT Extension. Proceeding north from the Old Town Transit Center, LRT stations would be located at Tecolote Road, Clairemont Drive, and Balboa Avenue. Surface parking is proposed at each station, including: 103 spaces at the Tecolote Station, 50 spaces at the Clairemont Station, and 272 spaces at Balboa. Parking structures are not proposed at any location in the Balboa LRT Extension.

The three LRT stations would have side platforms, i.e., one platform on the outside of each LRT track. LRT station platforms would be approximately 110 meters (360 feet) long to accommodate a four-car light rail train. Typical passenger amenities at stations would include a separation wall between the LRT platform and the SDNR tracks, covered shelter with seating, fare vending machines and ticket validators, telephones, lighting, drinking fountains, bicycle racks, information kiosks, accessibility for elderly and disabled passengers, and landscaping.

S.3.3.3 Other Proposed Facilities. Other facilities would include realignment, relocation and replacement of San Diego Northern Railway (SDNR) spur tracks; construction of a new loading dock and awning on the east side of the Union Tribune Building; a series of five modular traction power substations at four locations along the right-of-way to feed electricity from the San Diego Gas and Electric power system to the LRT overhead catenary system; a 275-meter (902-foot) long reinforced concrete box girder bridge across both the San Diego River and Friars Road; a 20-meter (66-foot) long concrete box girder bridge spanning Tecolote Creek; and a 37-meter (121-foot) long concrete box girder bridge over Balboa Avenue (SR 274).

S.3.3.4 Traffic Circulation Improvements. Localized street and pedestrian access improvements would be constructed in the vicinity of the LRT stations.

S.3.3.5 Commuter Rail Station at Nobel Drive. The Nobel Drive Coaster Station would be located on the south side of Nobel Drive, east of Towne Centre Drive, on a vacant parcel of land currently owned by the City of San Diego. The station would include two side platforms 205 meters (1,000 feet) long. Bus bays would be provided on Nobel Drive. A parking area with 225 parking spaces would be located at street level and would connect, using a combination of stairs, ramps, and elevator, to the station platform approximately 10 meters (33 feet) below the parking area. The station stairs, ramps, and elevator would also allow access via the station platform to the Rose Canyon Preserve, which lies south of the commuter rail tracks, and to the informal bicycle trail that runs parallel to the railroad right-of-way in this area.

S.3.3.6 LRT Operating Characteristics. With the introduction of the Balboa LRT Extension, the LRT Blue Line from San Ysidro would continue north from the Old Town Transit Center and terminate at a new Balboa Avenue LRT station, with two new intermediate stops at the Tecolote and Clairemont stations. Weekday headways of 7 ½ minutes during peak hours (6-9 AM and 3-7 PM) and 15 minutes during off-peak hours are anticipated for all three LRT lines with the Balboa LRT Extension. The peak train length requirement on the three routes is three vehicles. The peak vehicle fleet size is 215 LRT cars.
S.3.3.7 Related Bus Services. San Diego Transit Corporation (SDTC) bus service would be integrated with the new LRT and Coaster rail service to provide effective feeder and transfer bus connections, with timed transfers to the extent possible. Bus service would either continue or be modified to provide connections to the nearest LRT or Coaster station. Bus routes to downtown that would duplicate LRT service in the Mid-Coast Corridor would be eliminated. All proposed bus service changes would be advertised for public notice and comment before they are enacted.

S.3.4 Capital Costs of the TSM and Build Alternatives

Total capital costs for the TSM Alternative are estimated at $10.4 million, escalated to the start of construction in 2001. Combined capital costs for the Balboa LRT Extension/Nobel Drive Coaster Station are estimated at $125.8 million. These costs are escalated to start of construction, which is estimated to be 2005 for the Balboa LRT Extension and 2001 for the Nobel Drive Coaster Station.

S.3.5 Operating and Maintenance Costs of the TSM and Build Alternatives

Year 2015 total system-wide transit annual operating and maintenance costs of the TSM Alternative are projected to be $188.716 million (1999 $). Year 2015 total system-wide transit annual operating and maintenance costs of the Build Alternative are projected to be $190.117 million (1999 $).

S.3.6 Financing the Alternatives

The Mid-Coast LRT Project, Balboa Extension and Nobel Drive Coaster Station Alternative is proposed to be funded from a combination of federal, state and local sources, including Section 5307 of the federal Transportation Equity Act for the 21st Century (TEA21), Congestion Mitigation and Air Quality (CMAQ), Clean Fuels Program, Fixed Guideway Modernization, Discretionary/New Starts (under TEA21), previously authorized funds under the Intermodal Surface Transportation Efficiency Act, State Transit Assistance (STA), State Highway Account/Public Transportation Account, fare revenues, TransNet Sales Tax revenues, Air Pollution Control District (APCD) AB 2766 vehicle registration fee, Transportation Development Act (TDA), Joint Development and Vehicle Sale/Leaseback revenues, contributions from San Diego State University, and miscellaneous local funds. TEA21 authorizes $61 million for the Balboa LRT Extension (Section 5338(b), TEA21).

If the Mid-Coast LRT Project, Balboa Extension and Nobel Drive Coaster Station Alternative were not constructed and the TSM Alternative were implemented instead, the TSM Alternative would need to be funded from state and local sources.
S.4 ALTERNATIVES CONSIDERED IN THE AA/DEIS/DEIR

Six transportation investment alternatives for the Mid-Coast Corridor were evaluated in the AA/DEIS/DEIR. These alternatives built upon a No-Build Alternative that consisted of the transportation system as it existed in 1995, plus all new transportation improvements programmed for construction in the following six years. The other alternatives included a TSM Alternative, a TSM/Commuter Rail Alternative, a Commuter Rail Tunnel Alternative, a High Occupancy Vehicle (HOV) Lane Alternative, and two LRT Alternative alignment options: the I-5 Alignment Option and the Genesee Avenue Alignment Option. The AA/DEIS/DEIR used a variety of effectiveness measures, including cost-effectiveness, increasing the use of public transportation, increasing the quality and quantity of public transportation, compatibility with local and regional planning, change in total transit riders, change in transit mode share, change in vehicle miles of travel (VMT), change in congested miles of roadway, change in auto and transit travel times to Centre City, and service accessibility, as well as comparing environmental impacts, to evaluate the alternatives.

During the Alternatives Analysis, MTDB worked closely with the residents, business leaders, religious organizations, community associations, and neighborhood groups that make up the Mid-Coast Corridor community. A Project Advisory Committee (PAC) was formed, consisting of local agency staff, community leaders, and members of the public. More than 100 community coordination activities were undertaken as part of the study. Public and agency comments on the AA/DEIS/DEIR were received during a 60-day public comment period and at an April 27, 1995, public hearing. Public comments on the proposed Preferred Investment Strategy/Locally Preferred Alternative were heard at the October 26, 1995, MTD Board meeting prior to Board action on the LPA. The LPA (or portions thereof) has been endorsed by the City of San Diego and the following local planning organizations: Pacific Beach Community Planning Committee, Clairemont Mesa Planning Committee, and University Community Planning Group.

On the basis of the ridership, cost, cost-effectiveness evaluation, and environmental impact data developed during the AA/DEIS/DEIR phase; the recommendation of the PAC; the results of the community outreach process conducted throughout the studies; the comments on the AA/DEIS/DEIR received at the public hearing and during the public comment period; and resolutions of support from the City of San Diego, the University Community Planning Group, and SANDAG; in October 1995, the MTDB Board selected the LRT Alternative, I-5 Alignment Option as the Locally Preferred Alternative (now, Preferred Investment Strategy). This is also the environmentally superior and least environmentally damaging, practicable alternative. The MTDB Board officially adopted the Balboa LRT Extension and Nobel Drive Coaster Station project as the first phase of the Mid-Coast Corridor Project Preferred Investment Strategy by resolution in October 1995.

S.5 SUMMARY OF ENVIRONMENTAL IMPACTS AND PROPOSED MITIGATION MEASURES

Environmental impacts and proposed mitigation measures are summarized in Table S-1. (For a full description of impacts and mitigation measures, refer to Chapters 4, and 5.)
S.6 CONSULTATION AND COORDINATION

In addition to an extensive public and local agency outreach program, FTA and MTDB have conducted consultation regarding impacts of the proposed project with the appropriate resource and regulatory agencies throughout the studies. Preliminary Engineering and the preparation of this FEIS involved coordination with the U.S. Environmental Protection Agency (USEPA), National Marine Fisheries Service (NMFS), U.S. Army Corps of Engineers (ACOE), U.S. Fish and Wildlife Service (USFWS), Caltrans, California Department of Fish and Game (CDFG), the San Diego Association of Governments (SANDAG), and the City of San Diego. Mitigation for impacts to wetlands and other waters of the United States will be provided pursuant to Section 404 of the Clean Water Act in accordance with consultations concluded with the ACOE.

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<td>Moderately improved access to San Diego CBD and corridor activity centers</td>
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<td>Transit System-wide Ridership</td>
<td>352,573 daily boardings</td>
<td>356,940 daily boardings</td>
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<td>Automobile Traffic</td>
<td>Increased traffic and congestion. Three of 11 intersections reach unacceptable levels of service.</td>
<td>Roadway miles operating at LOS E to F would decrease by 3.1 km (1.9 miles). Nine study intersections would have slightly improved or same LOS; two would have slightly worse LOS.</td>
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<td>Parking</td>
<td>Parking demand would continue to increase with growth in auto trips.</td>
<td>Addition of bus park-and-ride lots/spaces at Clairemont Drive and Balboa Avenue. Trip diversion from auto to bus could reduce demand for parking in San Diego CBD and corridor activity centers. No loss of existing parking.</td>
</tr>
<tr>
<td>IMPACT CATEGORY</td>
<td>SUMMARY OF IMPACTS AND PROPOSED MITIGATION MEASURES</td>
<td>BALBOA LRT EXTENSION/NOBEL DRIVE COASTER STATION ALTERNATIVE</td>
</tr>
<tr>
<td>----------------</td>
<td>-----------------------------------------------------</td>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td>Land Use &amp; Planning, Including Coastal Zone Consistency</td>
<td>No land use changes. Consistent with City of San Diego Community Planning Area policies. Coordination would be needed with California Coastal Commission and City of San Diego regarding Coastal Zone consistency requirements.</td>
<td>Approximately 0.84 hectare (2.06 acres) of open space use and 1.91 hectares (4.7 acres) of industrial and commercial uses would be converted to transportation uses. Improved access to Rose Canyon Open Space Park. Consistent with City of San Diego Community Planning Area policies. Coordination would be needed with California Coastal Commission and City of San Diego regarding Coastal Zone consistency requirements.</td>
</tr>
<tr>
<td>Property Acquisition and Displacements</td>
<td>No impact.</td>
<td>Acquisition of up to 4.42 hectares (10.95 acres) of City property. No residential or business relocations. Acquisition pursuant to MTDB’s agreement with City of San Diego.</td>
</tr>
<tr>
<td>Barriers to Social Interaction</td>
<td>No effects.</td>
<td>No new barriers to neighborhood cohesion and social interaction.</td>
</tr>
<tr>
<td>Public Facilities and Services</td>
<td>No effects.</td>
<td>Acquisition of up to 0.84 hectares (2.06 acres) of publicly held open space. Acquisition of publicly owned property pursuant to agreement with City of San Diego.</td>
</tr>
<tr>
<td>IMPACT CATEGORY</td>
<td>NO BUILD ALTERNATIVE</td>
<td>TSM ALTERNATIVE</td>
</tr>
<tr>
<td>-----------------</td>
<td>----------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Cultural Resources</td>
<td>No impacts on archaeological or historic resources.</td>
<td>No impacts on known archaeological or historic resources. Monitoring during construction is recommended.</td>
</tr>
<tr>
<td>Parklands</td>
<td>No impact.</td>
<td>No impact.</td>
</tr>
<tr>
<td>Energy kilojoules (kJ) / Btu's</td>
<td>Daily: 560.4 billion / 531.1 billion</td>
<td>Daily: 559.8 billion / 530.6 billion</td>
</tr>
<tr>
<td></td>
<td>Annually: 184.8 trillion / 175.2 trillion</td>
<td>Annually: 184.6 trillion / 175.0 trillion</td>
</tr>
<tr>
<td>IMPACT CATEGORY</td>
<td>SUMMARY OF IMPACTS AND PROPOSED MITIGATION MEASURES</td>
<td>BALBOA LRT EXTENSION/NOBEL DRIVE COASTER STATION ALTERNATIVE</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------------------------------------------------</td>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td>Noise and Vibration</td>
<td>No impact.</td>
<td>No exceedences of FTA Noise Abatement Criteria. FHWA Noise Abatement Criteria approached at receptor locations near Balboa Avenue LRT Station. Noise attenuation walls will be constructed in the vicinity of Balboa Station.</td>
</tr>
<tr>
<td>Air Quality</td>
<td>No impact.</td>
<td>Long-term regional benefits from slight decrease in pollutant emissions due to small decrease in auto/truck VMT.</td>
</tr>
<tr>
<td>Safety and Security</td>
<td>Safety and security supervision of park-and-ride lots provided by the City of San Diego Police Department (SDPD). Construction of park-and-ride lots will conform to MTDB safety and security design criteria. Standard security measures implemented with expanded bus service. No disproportionate effects to children.</td>
<td>Safety and security supervision of LRT stations and facilities is the responsibility of the MTDB and will be performed by MTDB/SDPD/SDTI security officers. Security for the Nobel Drive Coaster Station provided by the City of San Diego Police and the security force of the NCTD. The LRT facilities and commuter rail station will be built to MTDB safety and security design criteria. No disproportionate effects to children.</td>
</tr>
<tr>
<td>Hazardous Materials</td>
<td>No impact.</td>
<td>Potential hazardous materials sites defined. (See construction period effects below.)</td>
</tr>
<tr>
<td>Geology and Seismicity</td>
<td>No impact.</td>
<td>Some potential for seismically induced liquefaction and/or settlement; corrosion potential of on-site soils. The LRT facilities and commuter rail station will be built to MTDB design criteria for seismic safety and corrosion resistance. Emergency response services provided.</td>
</tr>
<tr>
<td>IMPACT CATEGORY</td>
<td>SUMMARY OF IMPACTS AND PROPOSED MITIGATION MEASURES</td>
<td>BALBOA LRT EXTENSION/NOBEL DRIVE COASTER STATION ALTERNATIVE</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------------------------------------------------</td>
<td>-------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>NO BUILD ALTERNATIVE</td>
<td>TSM ALTERNATIVE</td>
</tr>
<tr>
<td>Floodplains</td>
<td>No impact.</td>
<td>No impact.</td>
</tr>
<tr>
<td>Water Resources and Water Quality</td>
<td>No impact.</td>
<td>Marginal increase in impervious surfaces and runoff. New storm drainage facilities provided. Best management practices implemented. Stormwater Prevention Plan not required.</td>
</tr>
<tr>
<td>Special Status Species or Habitats</td>
<td>No impact.</td>
<td>No impact.</td>
</tr>
<tr>
<td>Wetlands and Waters of the U.S.</td>
<td>No impact.</td>
<td>No impact.</td>
</tr>
<tr>
<td>Job Creation During Construction (person year equivalents)</td>
<td>None</td>
<td>16 On-site 37 Total</td>
</tr>
<tr>
<td>IMPACT CATEGORY</td>
<td>NO BUILD ALTERNATIVE</td>
<td>TSM ALTERNATIVE</td>
</tr>
<tr>
<td>-----------------</td>
<td>----------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Construction-Period Effects</td>
<td>No effects.</td>
<td>No effects.</td>
</tr>
<tr>
<td>Traffic</td>
<td>Traffic Management Plan will be implemented to maintain emergency access, vehicular traffic, bus service, bicycle and pedestrian activity during construction. Construction staging plans will be developed to minimize effects on existing roadways and rail services, and bicycle and pedestrian facilities. The public will be notified in advance of proposed traffic detours and their duration.</td>
<td>No impact.</td>
</tr>
<tr>
<td>Land Use/Access</td>
<td>No impact.</td>
<td>No impact.</td>
</tr>
<tr>
<td>Noise/Vibration/Air Quality</td>
<td>Construction specifications will limit noise, vibration, and air emissions (including dust) effects.</td>
<td>Noise/Vibration/Air Quality Construction specifications will limit noise, vibration, and air emissions (including dust) effects.</td>
</tr>
<tr>
<td>Water Quality</td>
<td>Compliance with storm water permitting regulations and implementation of erosion control techniques will minimize effects on water resources. Storm drainage systems will be maintained at all times.</td>
<td>Water Quality Compliance with storm water permitting regulations and implementation of erosion control techniques will minimize effects on water resources. Storm drainage systems will be maintained at all times.</td>
</tr>
<tr>
<td>Hazardous Materials</td>
<td>Health and safety plan will be implemented to address hazardous materials effects.</td>
<td>Hazardous Materials Health and safety plan will be implemented to address hazardous materials effects. Appropriate handling, treatment and off-haul of utility poles coated with creosote and PCBs will be performed.</td>
</tr>
<tr>
<td>Geotechnical/Seismic</td>
<td>Construction activities will adhere to MTDB criteria for geotechnical and seismic safety.</td>
<td>Geotechnical/Seismic Construction activities will adhere to MTDB criteria for geotechnical and seismic safety.</td>
</tr>
</tbody>
</table>
### Table S-1

**Summary of Impacts and Proposed Mitigation Measures**

<table>
<thead>
<tr>
<th>IMPACT CATEGORY</th>
<th>SUMMARY OF IMPACTS AND PROPOSED MITIGATION MEASURES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NO BUILD ALTERNATIVE</td>
</tr>
<tr>
<td>Construction-Period Effects (continued)</td>
<td>No effects.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: PTG-De Leuw, Cather & Co., 1998*

Mitigation requirements for project impacts to vegetative communities/habitat and special status species have been identified in accordance with the City of San Diego’s Section 10(a) incidental take permit, pursuant to the 1997 Implementing Agreement among the USFWS, CDFG, and the City of San Diego to establish a Multiple Species Conservation Program (MSCP) for the Conservation of Threatened, Endangered, and Other Species in the Vicinity of San Diego, CA.

Copies of the Final EIS were sent to all agencies, organizations, and individuals who received a copy of the AA/DEIS/DEIR, as well as to any agency, organization or individual who commented on or requested a copy of the AA/DEIS/DEIR. Notice of the availability of the Final EIS was published in the Federal Register, sent to all individuals on the project mailing list, and published in local newspapers of general circulation.

### S.7

**ADDITIONAL PERMITS AND APPROVALS**

Other permits and approvals involving other local, state, and federal agencies will be required as shown in the Table S-2. There are no interagency disagreements or unresolved issues identified at this time.

### Table S-2

**Agency Permits and Approvals**

<table>
<thead>
<tr>
<th>Agency</th>
<th>Permit or Approval</th>
<th>Action Requiring Permit or Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>US Army Corps of Engineers</td>
<td>Section 404 Nationwide Permit</td>
<td>Discharge of dredged or fill material into waters of the US including wetlands.</td>
</tr>
<tr>
<td>US Army Corps of Engineers</td>
<td>Section 10 Permit</td>
<td>Obstruction or alteration of navigable waters of the US.</td>
</tr>
<tr>
<td>US Department of the Interior, USFWS</td>
<td>Endangered Species Act Review</td>
<td>Impacts to listed endangered, threatened or candidate species or species of special concern.</td>
</tr>
<tr>
<td>Agency</td>
<td>Permit or Approval</td>
<td>Action Requiring Permit or Approval</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>---------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>US Coast Guard</td>
<td>Section 9 Bridge Permit</td>
<td>Construction of bridges and/or causeways across navigable waters of the US.</td>
</tr>
<tr>
<td>US DOT (FTA)</td>
<td>Section 4(f) Determination</td>
<td>Any Federal DOT action involving use of a publicly owned, significant park, recreation area, wildlife, or water fowl refuge, or land from an historic site. (A determination that there are no 4(f) impacts would be included in Record of Decision.)</td>
</tr>
<tr>
<td>California Coastal Commission</td>
<td>Coastal Development Permit</td>
<td>Development of the Balboa LRT Extension in the Coastal Zone.</td>
</tr>
<tr>
<td>California Department of Fish and Game</td>
<td>Section 1601/1603 Stream bed Alteration Permit</td>
<td>Any modification of a stream or waterway.</td>
</tr>
<tr>
<td>California Public Utilities Commission</td>
<td>Separation of Grade Permit</td>
<td>Grade separated crossings at I-8, Tecolote Road, Clairemont Drive, and Balboa Avenue.</td>
</tr>
<tr>
<td>California State Historic Preservation Office</td>
<td>National Historic Preservation Act Review (Section 106)</td>
<td>Application for federal assistance, permit, or license.</td>
</tr>
<tr>
<td>San Diego Regional Water Quality Control Board</td>
<td>Section 401 Water Quality Certification National Pollutant Discharge Elimination System Permit (NPDES)</td>
<td>Section 401 certification required before issuance of a federal permit for any activity resulting in discharges into state waters. NPDES permit required for storm water discharges for construction activities of 2 hectares (5 acres) or more.</td>
</tr>
<tr>
<td>Caltrans</td>
<td>Encroachment Permit</td>
<td>Use of Caltrans right-of-way.</td>
</tr>
<tr>
<td>City of San Diego</td>
<td>Site Development Permit</td>
<td>Use of City-owned property.</td>
</tr>
</tbody>
</table>

CHAPTER 1

Purpose of and Need for Project
CHAPTER 1: PURPOSE OF AND NEED FOR PROJECT

1.1 PURPOSE

The purpose of the Mid-Coast Corridor Project is to:

- Improve public transit services in the rapidly growing Interstate 5 (I-5)/Mid-Coast Corridor by providing increased transit capacity, and faster, convenient access to Centre City San Diego, and major corridor activity centers;

- Accommodate future travel demand in the corridor by expanding modal options;

- Alleviate growing traffic congestion and bottlenecks in the I-5 and Interstate 805 (I-805) coastal corridors between Centre City and Old Town San Diego and the communities of Mission Bay, Pacific Beach, La Jolla, University City, Clairemont Mesa, and Carmel Valley, and on major parallel north-south arterials in the area, such as Morena Boulevard, Clairemont Drive, and Genesee Avenue;

- Enhance regional connectivity through expanded, interconnected light rail transit (LRT) services along the primary travel corridors in San Diego County, including I-5, Interstate 8 (I-8), and State Route 94, and enhance connections to AMTRAK and Coaster Commuter Rail service.

- Alleviate growing parking demand and the congestion and circulation impacts resulting from increased peak hour traffic in Centre City San Diego;

- Improve regional air quality by reducing automobile emissions;

- Improve mobility options to employment, education, medical, and retail centers for corridor residents and visitors; and

- Support local economic and land development goals.

Improving public transit services to alleviate current and future traffic congestion in one of the busiest transportation corridors in metropolitan San Diego is the primary purpose of the Mid-Coast Corridor Project. Extended LRT service would provide much needed additional capacity to address an anticipated growth in corridor travel demand by the year 2010. When operations begin in or around the year 2005, the new service would connect Mid-Coast Corridor residents with other LRT lines serving National City, La Mesa, and El Cajon in the southern and eastern sections of San Diego County, thereby enhancing direct public access to other regional activity centers. Improved access is an important precondition for shaping land uses and successfully focusing business and recreational development opportunities.
The project would complement and expand existing travel modes in the Corridor. LRT would provide the primary north-south transit service, with buses providing rail feeder service and the primary east-west transit services in the Mid-Coast Corridor. The North County Transit District (NCTD) Coaster line would continue to provide commuter rail service connecting Oceanside with downtown San Diego, with enhanced access provided through an additional station in the Corridor. As a cost competitive alternative to the private auto, LRT would divert auto trips from heavily traveled roadways and ease traffic congestion, particularly on I-5 and north-south arterial streets. By accommodating more trips to San Diego Centre City on transit, demand for downtown parking would lessen and circulation impacts would be less severe. A secondary effect of reduced traffic, roadway congestion, and parking requirements would be a decrease in auto emissions and a concomitant improvement in air quality in what is already a federal non-attainment area for ozone and a state non-attainment area for ozone and particulates.

This project purpose is consistent with the following transportation goals and objectives adopted by MTDB for the San Diego region:

- Increase the number and proportion of those using public transportation in order to minimize the adverse impacts of the automobile.

- Increase the quality and quantity of public transportation:
  - Provide a means of travel for those without alternative forms of transportation.
  - Offer a viable alternative for those with a choice of transportation mode.
  - Enlarge the capacity of the metropolitan area's transportation system.

- Develop public transportation in concert with local and regional plans to achieve:
  - More efficient patterns of land development.
  - More efficient expenditures of funds.
  - More meaningful public input to the planning process.
  - Higher transit ridership.

- Develop public transportation in the most cost-effective manner possible to maximize the use of public/private funds and passenger revenues.

The Mid-Coast LRT Project, Balboa Extension is listed in SANDAG’s current Regional Transportation Plan (RTP), 2000, and is consistent with the City of San Diego’s long-range planning guidelines and policies as stated in the Community Planning Area Plans governing the project area. The proposed new Nobel Drive Coaster Station is listed in SANDAG’s current RTP (2000) and is consistent with transportation policies cited in the University Community Planning Area Plan, although the Plan does not specifically identify the Nobel Drive Station site as a commuter rail transfer point.
1.2 NEED

The I-5/Mid-Coast Corridor is a key north-south transportation link in the metropolitan San Diego region. North San Diego County, the travel shed area for the Mid-Coast Corridor, has grown rapidly along the I-5 coastal strip. Large numbers of commuters and other trip makers use the Corridor in both the north-south and east-west directions to reach work destinations as well as commercial, recreational, and educational centers. The Corridor funnels trips between North County and downtown San Diego, yet also serves a substantial demand for travel to and from the Corridor’s center near La Jolla and the University of California San Diego. The Mid-Coast Corridor Study Area is illustrated in Figures 1.2-1 and 1.2-2. Figure 1.2-2 has been included to show the proposed transportation improvements in relation to the study corridor.

Freeway and arterial congestion already exist in the Mid-Coast Corridor during peak hours of each weekday. In some areas, congestion in the reverse commute direction occurs as commuters travel to and from jobs and schools located in the middle of the Corridor. On weekends and during summer months, I-5 and several east-west arterials experience congestion due to travel to and from events at the Del Mar Fairgrounds (located at the Corridor’s North boundary), and to and from the beach and park areas located along I-5. As Corridor population and employment growth continue, traffic congestion is expected to worsen. Yet, the ability to expand roadway capacity in this Corridor is extremely limited. The topography of the Mid-Coast Corridor limits the alternatives for both north-south and east-west travel.

1.2.1 General Corridor Conditions

San Diego County is located at the southern end of the State of California, at the extreme southwestern corner of the continental United States. San Diego County contains a variety of physical terrains, including a coastal strip extending from the Mexican Border on the south to Oceanside on the north. San Diego County is rapidly growing and urbanizing with the establishment of many new neighborhoods and small to moderate size businesses. The rate of population growth has caused demand for utilities and services to grow, while the transportation infrastructure has seen only moderate improvements. The San Diego region population was 2.5 million in 1990, and is expected to reach 3.7 million by the year 2015 (SANDAG Series 8 Forecast), an increase of over 50 percent.

The Mid-Coast Corridor lies midway along the coastal strip, north of downtown San Diego. The Corridor contains approximately 194 square kilometers (75 square miles) of privately- and publicly owned lands bounded by the Pacific Ocean on the west, Del Mar and Carmel Valley to the north, Kearny and Sorrento Mesas to the east, and Mission Valley to the south. The Corridor contains a mix of commercial, residential, recreational, and educational land uses. The corridor transportation network serves a population that resides both within, and north and east of the actual Corridor boundary.

The 1990 population in the Corridor Study Area was 261,000. Mid-Coast Corridor growth is projected to occur primarily in the Carmel Valley/Sorrento Mesa areas, where vacant lands are rapidly being developed for residential and business use.
MID-COAST LRT PROJECT
BALBOA EXTENSION AND NOBEL DRIVE COASTER STATION
FINAL ENVIRONMENTAL IMPACT STATEMENT

Metropolitan Transit Development Board
San Diego, California

PURPOSE AND NEED

Figure 1.2-1
Mid-Coast Corridor Study Area

Source: SANDAG, June 1995
For the two subregional areas (SRAs) in which improvements under the FEIS alternatives are proposed (i.e., the University SRA and the Kearny Mesa SRA -- See Figure 3.3-1), population is expected to increase by nearly 20 percent. Moreover, tourism plays a role in the activity patterns of the Mid-Coast Corridor. Over 8,000 hotel rooms are located within the Corridor along with several key attractions such as Sea World (3.84 million annual visits). Other major retail, educational, and service facilities within the Corridor include:

- The University of California at San Diego;
- The University of San Diego;
- University Towne Centre Mall;
- La Jolla Village Square;
- Veterans Administration Hospital; and
- Scripps Hospital (Genesee Avenue).

The Mid-Coast Corridor contains a wide variety of transportation services and facilities, with emphasis on freeways, arterials, and, to a lesser extent, bus transit. The Corridor contains approximately 48 kilometers (30 miles) of freeway and 320 kilometers (200 miles) of arterial roadway. Express and local bus transit and shuttle bus services utilize both freeways and arterials to serve Corridor transit needs. Major employment, recreation, and retail centers in the Corridor provide substantial parking capacity for their employees, customers, and visitors. Future Corridor trip volumes are expected to increase with the addition of substantial volumes of work and school trips from a variety of sources within and outside of the Corridor due to projected high growth in these areas.

The Corridor's canyon terrain constrains the addition of capacity to existing roads and freeways and makes the construction of new major transportation facilities extremely unlikely. Areas identified as sensitive environmental lands, such as the Rose Canyon Open Space Park, Los Penasquitos Canyon Preserve, Torrey Pines State Reserve, the San Dieguito River Park Preserve, and Mission Bay Park preclude or greatly limit the construction of additional transportation facilities.

1.2.2 Existing Highway System

Transportation in the Mid-Coast Corridor is strongly influenced by the freeway system, numerous key arterials, and several interchanges. Major freeway and arterial roadways in the Mid-Coast Corridor include:

- I-5, which runs in a north-south direction from downtown San Diego to Del Mar Heights Road, continuing north out of the Corridor study area;

- I-805, which runs in a north-south direction from the junction with I-5 at Carmel Mountain Road to the State Route (SR)-163 junction, continuing south out of the study area; and

- SR-52, which runs in an east-west direction from I-5 to the I-805 junction, and continues east out of the study area.

PURPOSE AND NEED

1-6
Figures 1.2-3 and 1.2-4 present an overview of near-term (year 2005) expected person-trip travel demand in the region, and graphically depict the importance of the Mid-Coast Corridor as a key north/south link in the metropolitan region. The highest travel demand line shown in Figure 1.2-3, some 145,000 daily person-trips, traverses the Mid-Coast Corridor Zone 10 as trips accrue from northerly origins to the San Diego Central Business District (CBD).

Since the mid-1980s, the level of peak-hour freeway congestion, has increased due to population and employment growth and the lack of freeway capacity expansion. Several specific problem areas include:

- **I-5/I-805 Junction** - This junction of two major north-south freeways produces chronic peak-hour and special-event (fairgrounds) congestion;

- **I-5/SR-52 Junction** - This facility is not a complete interchange due to topography. Traffic between Ardath Road west of I-5 and I-5 north of SR-52 must use surface streets in northern La Jolla to make the connection to the northwest quadrant of the junction; and

- **Pacific Beach Exit, Southbound I-5** - During evening peak hours, traffic congestion usually develops at the Balboa Avenue/Mission Bay Drive exit of southbound I-5. The length of the roadway from the ramp to the first traffic light is less than 0.8 kilometers (one-half mile). Traffic stopped at the intersection literally backs up onto I-5, causing general congestion as far north as the SR-52/I-5 junction.

Table 1.2-1 shows I-5 freeway segments in the corridor, and the directions and times when unacceptable levels of service were measured on the freeway in 1997. As shown, within the Mid-Coast Corridor, major segments of I-5 currently operate at unacceptable levels of service (E and F) in both directions and during both the AM and PM peaks.

**1.2.3 Existing Arterial Street System**

The majority of arterial streets in the Corridor run in a north-south direction, although facilities like Grand Avenue/Balboa Avenue, Mira Mesa Boulevard, and La Jolla Village Drive/Miramar Road serve as important access routes for the increasing number of east-west vehicle movements. Corridor topography constrains or precludes construction of other north-south or east-west arterials while it exacerbates congestion on these arterials by preventing complete interchanges from being built at several freeway locations, including:

- Southbound I-5 to Ardath Road leading into La Jolla;
- Reverse movement from Ardath Road to northbound I-5; and
- Northbound I-805 to southbound I-5 and northbound I-5 to southbound I-805.
Table 1.2-1
Specific Segments of I-5 with Unacceptable Levels of Service (E & F) and Congestion (1997)

<table>
<thead>
<tr>
<th>Freeway</th>
<th>Segment</th>
<th>Direction</th>
<th>Peak Period</th>
<th>Hourly Count</th>
<th># of General Traffic Lanes</th>
<th>Level of Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-5</td>
<td>South of I-5/I-805 Junction</td>
<td>SB</td>
<td>4 - 5 PM</td>
<td>9,534</td>
<td>4</td>
<td>F</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5 - 6 PM</td>
<td>9,834</td>
<td></td>
<td>F</td>
</tr>
<tr>
<td></td>
<td>South of SR 52 Interchange</td>
<td>NB</td>
<td>7 - 8 AM</td>
<td>8,439</td>
<td>4</td>
<td>E</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4 - 5 PM</td>
<td>8,157</td>
<td></td>
<td>E</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5 - 6 PM</td>
<td>8,679</td>
<td></td>
<td>E</td>
</tr>
<tr>
<td></td>
<td>South of SR 52 Interchange</td>
<td>SB</td>
<td>7 - 8 AM</td>
<td>8,657</td>
<td>4</td>
<td>E</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>8 - 9 AM</td>
<td>7,856</td>
<td></td>
<td>E</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3 - 4 PM</td>
<td>7,732</td>
<td></td>
<td>E</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4 - 5 PM</td>
<td>9,360</td>
<td></td>
<td>E</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5 - 6 PM</td>
<td>9,629</td>
<td></td>
<td>E</td>
</tr>
</tbody>
</table>

Notes: Level of service assumes free flow speed = 70 mph and lane capacity of 2,200 vehicle/hour.

Table 1.2-2 lists major arterial streets and freeways in the corridor and the current (1996) traffic volumes on these facilities.

<table>
<thead>
<tr>
<th>North/South</th>
<th>Corridor Area Served</th>
<th>1997 Average Daily Traffic Volume Range (Thousands)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morena Boulevard</td>
<td>Linda Vista - Clairemont</td>
<td>11 - 31</td>
</tr>
<tr>
<td>Interstate 5</td>
<td>Entire Corridor [1]</td>
<td>123 - 226</td>
</tr>
<tr>
<td>Interstate 805</td>
<td>Entire Corridor [2]</td>
<td>107 - 177</td>
</tr>
<tr>
<td><strong>East-West</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Linda Vista Road</td>
<td>Linda Vista</td>
<td>16 - 23</td>
</tr>
<tr>
<td>Clairemont Drive</td>
<td>Clairemont</td>
<td>16 - 35</td>
</tr>
<tr>
<td>Clairemont Mesa Blvd</td>
<td>Clairemont/Kearny Mesa</td>
<td>16 - 40</td>
</tr>
<tr>
<td>Balboa Avenue</td>
<td>Clairemont</td>
<td>29 - 69</td>
</tr>
</tbody>
</table>

Notes: [1] I-8 to Villa de la Vallee.
	Source: Caltrans 1997 Traffic Volumes; City of San Diego Traffic Index; De Leuw, Cather & Co. 1998

1.2.4 Projected Future Highway System and Deficiencies

Planned Highway Improvements

The only future freeway planned to be built in the Corridor is SR-56, which will provide east-west access from I-5 to the inland areas. The interchange of SR-56 with I-5 will be located at the north end of the I-5/I-805 freeway junction near Carmel Valley Road. This proposed improvement is contained in the 2000 RTP and in the SANDAG forecast model. The only other major planned...
Corridor capacity improvement is the addition of traffic lanes at the I-5/I-805 merge and interchange area as part of the new connection to SR-56 in Carmel Valley.

A Mid-Coast High Occupancy Vehicle (HOV) Alternative is presented in the 1995 Mid-Coast AA/DEIS/DEIR. Development of the AA/DEIS/DEIR HOV Alternative involved Caltrans' planning for HOV lanes on I-5. According to the 2000 RTP, HOV lanes are planned for implementation by Caltrans north of the Mid-Coast Corridor.

Although I-8 constitutes the southern boundary of the Corridor, this east-west freeway, which runs from Mission Bay through Mission Valley, has not been considered for capital improvements as part of this study. However, the I-8 corridor and its interrelation with the I-5 corridor in terms of traffic demand and distribution, is included in the SANDAG forecasting models.

Future Highway Conditions

Table 1.2-3 presents a summary of existing and expected freeway traffic volumes and levels of service in the Mid-Coast Corridor for the years 1997 and 2015. As shown, during the next 18 years, traffic volumes are projected to increase by 24 up to 51 percent on segments of the two north/south freeways, with projected levels of service F for the full corridor. While some state- and locally-funded projects are planned to improve freeway capacity and performance (as described above), these projects will not provide capacity sufficient to serve peak-hour demands.

<table>
<thead>
<tr>
<th>Freeway</th>
<th>Segment</th>
<th>1997 ADT (thousands)</th>
<th>1997 LOS</th>
<th>2015 ADT (thousands)</th>
<th>2015 LOS</th>
<th>Percent Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-5</td>
<td>Del Mar to I-5/I-805 junction</td>
<td>226</td>
<td>F</td>
<td>341</td>
<td>F</td>
<td>51 %</td>
</tr>
<tr>
<td>I-5/I-805 junction to SR-52</td>
<td>166</td>
<td>F</td>
<td>221</td>
<td>F</td>
<td>33 %</td>
<td></td>
</tr>
<tr>
<td>SR-52 to I-8</td>
<td>198</td>
<td>E</td>
<td>266</td>
<td>F</td>
<td>34 %</td>
<td></td>
</tr>
<tr>
<td>I-805</td>
<td>I-5/I-805 junction to SR-52</td>
<td>177</td>
<td>F</td>
<td>212</td>
<td>F</td>
<td>20 %</td>
</tr>
<tr>
<td>SR-52 to SR-163</td>
<td>174</td>
<td>E</td>
<td>216</td>
<td>F</td>
<td>24 %</td>
<td></td>
</tr>
</tbody>
</table>

Notes: 
* assumes free flow speed = 70 mph and 2,200 cars per hour per lane capacity.
* highest ADT in segment selected


Table 1.2-4 presents a summary of existing and expected congested conditions on I-5 in the Mid-Coast Corridor between 1997 and the year 2015. Average daily traffic in the Corridor is expected to increase by 50 percent by 2015, and Corridor congestion is expected to increase substantially. Nearly three-fourths of the 191 lane kilometers (119 lane miles) on I-5 in the Corridor were operating under congested conditions (defined as Level of Service E or F) in 1997. All of the I-5's 191 lane kilometers (119 lane miles) in the Corridor are expected to be operating under congested conditions in the year 2015.
### Table 1.2-4

Growth in Traffic Volumes and Congestion on I-5 in the Mid-Coast Corridor (1997-2015)

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Existing (1997)</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Daily Traffic (000's) -- Range in Corridor</td>
<td>123 - 226</td>
<td>182 - 341</td>
</tr>
<tr>
<td>Total Lane Kilometers / Lane Miles (LM)</td>
<td>191 / 119</td>
<td>191 / 119</td>
</tr>
<tr>
<td>Congested Lane Kilometers/Lane Miles (Level of Service E or F)</td>
<td>142 / 88</td>
<td>191 / 119</td>
</tr>
<tr>
<td>Percent of Lane Kilometers/Lane Miles Congested</td>
<td>74 %</td>
<td>100 %</td>
</tr>
</tbody>
</table>

**Notes:**
- Lane kilometers (lane miles) do not include potential HOV lanes in corridor.
- Level of service is based on V/C ratios per Caltrans standards, assuming a peak hour capacity of 2,200 vehicles/hour/ lane


### Future Arterial Conditions

As with the freeways in the Corridor, as Corridor communities continue to expand in future years, congestion on arterial streets is forecast to worsen. Currently, most arterials are four to six lanes and are congested during peak hours, especially near freeway interchanges.

Table 1.2-5 shows current and forecast ADT volumes on all Mid-Coast Corridor arterials that intersect with Corridor freeways. With only two exceptions, between 1997 and 2015, average daily traffic (ADT) on major arterials within the corridor is projected to increase by as much as 67 percent. Since arterials provide service to automobiles, trucks, buses, and bicycles in both north-south and east-west directions, high-quality transportation improvements are needed to serve travel demand in an efficient manner.

### 1.2.5 Existing and Planned Public Transit Services

#### Bus Transit

Bus transit service in the Mid-Coast Corridor is limited in both frequency and capacity, and there is no through bus transit service traversing the entire Corridor. All bus routes from downtown San Diego terminate in the La Jolla/University City area. Most bus routes are locals, with express services using freeways only for a portion of the route. Mid-Coast Corridor local and express bus routes are operated by the San Diego Transit Corporation (SDTC), and the North County Transit District (NCTD).
### Table 1.2-5
Comparison of Arterial 1997 and 2015 ADT Volumes near Mid-Coast Corridor Freeways

<table>
<thead>
<tr>
<th>Arterial</th>
<th>Segment</th>
<th>1997 ADT (thousands)</th>
<th>2015 ADT (thousands)</th>
<th>Percent Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Del Mar Heights Road</td>
<td>West of I-5</td>
<td>35</td>
<td>51</td>
<td>23%</td>
</tr>
<tr>
<td></td>
<td>East of I-5</td>
<td>38</td>
<td>51</td>
<td>34%</td>
</tr>
<tr>
<td>Carmel Valley Road</td>
<td>West of I-5</td>
<td>21</td>
<td>45</td>
<td>55%</td>
</tr>
<tr>
<td></td>
<td>East of I-5</td>
<td>29</td>
<td>110</td>
<td></td>
</tr>
<tr>
<td>Replaced by SR-56</td>
<td>East of I-5</td>
<td>39</td>
<td>46</td>
<td>18%</td>
</tr>
<tr>
<td>Genesee Avenue</td>
<td>East of I-5</td>
<td>30</td>
<td>32</td>
<td>7%</td>
</tr>
<tr>
<td></td>
<td>West of I-5</td>
<td>46</td>
<td>39</td>
<td>-15%</td>
</tr>
<tr>
<td>La Jolla Village Drive</td>
<td>East of I-5</td>
<td>45</td>
<td>52</td>
<td>16%</td>
</tr>
<tr>
<td></td>
<td>West of I-5</td>
<td>66</td>
<td>67</td>
<td>2%</td>
</tr>
<tr>
<td></td>
<td>West of I-805</td>
<td>8</td>
<td>10</td>
<td>25%</td>
</tr>
<tr>
<td>La Jolla Colony Drive</td>
<td>East of I-5</td>
<td>16</td>
<td>18</td>
<td>13%</td>
</tr>
<tr>
<td>Gilman Drive</td>
<td>West of I-5</td>
<td>45</td>
<td>54</td>
<td>20%</td>
</tr>
<tr>
<td>Ardash Road</td>
<td>West of I-5</td>
<td>85</td>
<td>94</td>
<td>11%</td>
</tr>
<tr>
<td>SR-52</td>
<td>East of I-5</td>
<td>62</td>
<td>66</td>
<td>6%</td>
</tr>
<tr>
<td>Garnet Avenue</td>
<td>West of I-5</td>
<td>29</td>
<td>32</td>
<td>10%</td>
</tr>
<tr>
<td>Balboa Avenue</td>
<td>East of I-5</td>
<td>53</td>
<td>71</td>
<td>34%</td>
</tr>
<tr>
<td>Mission Bay Drive</td>
<td>West of I-5</td>
<td>32</td>
<td>41</td>
<td>28%</td>
</tr>
<tr>
<td>Clairemont Drive</td>
<td>East of I-5</td>
<td>33</td>
<td>55</td>
<td>67%</td>
</tr>
<tr>
<td>Sea World Drive</td>
<td>West of I-5</td>
<td>66</td>
<td>58</td>
<td>-12%</td>
</tr>
<tr>
<td>Mira Mesa Boulevard</td>
<td>East of I-805</td>
<td>66</td>
<td>67</td>
<td>2%</td>
</tr>
<tr>
<td>Miramar Road</td>
<td>East of I-805</td>
<td>13</td>
<td>19</td>
<td>46%</td>
</tr>
<tr>
<td>Governor Drive</td>
<td>West of I-805</td>
<td>13</td>
<td>19</td>
<td></td>
</tr>
</tbody>
</table>

Source: Caltrans 1997 Traffic Volumes; City of San Diego Traffic Index; SANDAG, De Leuw, Cather, 1998.

SDTC operates three express routes between Centre City and the Mid-Coast Corridor via I-5. Route 30 operates on I-5 from downtown San Diego to North Mission Bay, and then serves Pacific Beach, La Jolla, and the University Towne Centre (UTC) Transit Center. Route 30 continues east from UTC along Miramar Road, Camino Ruiz, and Mira Mesa Boulevard to United States International University (USIU). This is the only route linking the Mid-Coast Corridor with the Mira Mesa and Scripps Ranch areas to the east. On the weekend, the UTC-to-USIU portion of the route is served by Route 31. Routes 50 and 150 travel I-5 from downtown to the Clairemont area, UTC, and La Jolla Village Square.

SDTC operates seven local routes in the southern portion of the Corridor, in both north-south and east-west directions. Table 1.2-6 shows the frequency of each route during peak hours, midday, and evenings. With the exception of the combined 34/34A routes, 30-minute headways predominate on local routes throughout the day, with headways on some routes increasing to 60 minutes on evenings and weekends. Overlapping service on paired routes permits 15-minute or 30-minute headways for
most of the combined 34/34A and 5/5A routes, respectively. The express routes (30/31 and 50/150) offer off-peak service, but Routes 30, 50, and 150 do not operate during weekends.

<table>
<thead>
<tr>
<th>Route</th>
<th>Type</th>
<th>Weekday Frequency of Service (minutes)</th>
<th>Corridor Communities Served</th>
</tr>
</thead>
<tbody>
<tr>
<td>5*</td>
<td>Local</td>
<td>Peak 60 Base 60 Evening 60</td>
<td>Clairemont, La Jolla, UTC</td>
</tr>
<tr>
<td>5A*</td>
<td>Local</td>
<td>Peak 60 Base 60</td>
<td>Clairemont, La Jolla, University City</td>
</tr>
<tr>
<td>9</td>
<td>Local</td>
<td>Peak 30 Base 30</td>
<td>Pacific Beach</td>
</tr>
<tr>
<td>27</td>
<td>Local</td>
<td>Peak 30 Base 30</td>
<td>Clairemont, Pacific Beach</td>
</tr>
<tr>
<td>30</td>
<td>Express</td>
<td>Peak 30 Base 30</td>
<td>Pacific Beach, La Jolla, UTC, USIU</td>
</tr>
<tr>
<td>31</td>
<td>Express</td>
<td>Weekends Only 30</td>
<td>UTC, USIU</td>
</tr>
<tr>
<td>34*</td>
<td>Local</td>
<td>Peak 30 Base 30</td>
<td>Clairemont, La Jolla, UCSD</td>
</tr>
<tr>
<td>34A*</td>
<td>Local</td>
<td>Peak 30 Base 30</td>
<td>Clairemont, La Jolla</td>
</tr>
<tr>
<td>44</td>
<td>Local</td>
<td>Peak 30 Base 30</td>
<td>Clairemont</td>
</tr>
<tr>
<td>50*</td>
<td>Express</td>
<td>Peak 30 Base 30</td>
<td>Clairemont, La Jolla, UTC</td>
</tr>
<tr>
<td>150*</td>
<td>Express</td>
<td>Peak AM/PM Only</td>
<td>Clairemont, La Jolla</td>
</tr>
</tbody>
</table>

*These pairs of routes overlap service, effectively cutting the headways by half for portions of the routes for daytime or peak periods only.

NCTD also operates transit service within the Mid-Coast Corridor. NCTD Route 301, a local route, links the UTC Transit Center with Del Mar and other North County coastal points up to Oceanside. Route 310, an express route, links the UTC Transit Center with several I-5 park-and-ride lots and Oceanside during both peak and off-peak periods.

**Commuter Rail**

The North San Diego County Transit Development Board (NSDCTDB) operates the Coast Express Rail (Coaster) service between Oceanside and Centre City San Diego on the San Diego Northern Railway (SDNR) line (owned by the MTDB). The trains augment AMTRAK service in the corridor. Currently the Coaster has eight stations on the approximately 66 kilometers (41 miles) of line and primarily serves commute trips between bedroom communities north of San Diego to jobs in Sorrento Valley, Old Town, and downtown San Diego. Within the Mid-Coast area, the commuter rail service currently provides stations only in Sorrento Valley and Old Town.
Paratransit and Shuttle Buses

The Mid-Coast Corridor is currently served by several shuttle operations, as follows:

- **UCSD** - The University of California, San Diego operates mid-size buses on several campus-area shuttles, and one route to the Hillcrest UCSD Medical Center via I-5. The campus shuttles serve nearby campus housing, parking lots, and University offices located within several kilometers of campus and is intended for students and employees of the University.

- **Medical Paratransit** - Two major medical facilities, Scripps Clinic and Scripps Memorial Hospital, are located in the La Jolla portion of the Mid-Coast Corridor. Each facility is served by specialized vehicles that accommodate the elderly or disabled. The American Red Cross operates a county-wide shuttle service between medical facilities and residences. Other medical facilities, such as the Kaiser/Mission Bay Hospital offices just south of Balboa Avenue near I-5, also receive specialized paratransit service.

- **TMAs** - Several portions of San Diego County are served by Transportation Management Associations (TMAs), organizations that coordinate employer transportation efforts. TMAs are funded by membership dues, and the level of effectiveness of a TMA depends on member commitment and support.

- **Coaster Connection Shuttles** - MTDB and NCTD jointly operate shuttle buses to and from the Sorrento Valley Coaster Station. These shuttles operate on fixed routes connecting the Coaster Station with Torrey Pines Mesa, Campus Point, Sorrento Mesa, and Sorrento Valley. Their service is timed to meet north and southbound Coaster trains.

1.2.6 Public Transit Deficiencies and Needs

The southern portion of the Mid-Coast Corridor, from the San Diego River to Balboa Jolla is better served by local transit routes than is the northern portion. The Clairemont, Pacific Beach, and Linda Vista communities have the more extensive bus service. Riders in these areas can generally reach downtown via a single route or, at most, a single transfer. In many cases, however, bus routing is circuitous, and travel times are too long to attract many riders who can choose their transportation alternatives. Topography is responsible for many of the service area gaps.

In addition, since no HOV lanes are currently in place on I-5 within the Corridor and are not expected to be provided by the year 2015, express routes are subject to the same traffic delays as automobiles, and therefore cannot provide dependable "rapid transit" to downtown. None of the existing express services in the Mid-Coast Corridor effectively provides rapid transit service to downtown San Diego for most Corridor residents. The freeway segments of Routes 30 and 50/150 cover only portions of these routes, with long segments of both routes operating on arterial streets. Therefore, longer travel times to downtown San Diego diminish the attractiveness of these routes. Nevertheless, heavy ridership on several routes in the Corridor, especially the Route 30 express, indicates a need for more effective express transit serving the Mid-Coast Corridor.
The average speed of transit services in the Corridor is approximately 24-32 kph (15-20 mph) for local services and 32-40 kph (20-25 mph) for express services. Moreover, a limited number of car pool park-and-ride lots are available in the Corridor, with only one of five lots served by transit.

Transit ridership could be improved by a combination of increased average speed, improved frequency, and more intense feeder bus or shuttle activity to the main routes at regional transit centers which afford convenient connections to many routes.

1.3 PROJECT STATUS

The Mid-Coast Corridor was formally identified as a regional transportation improvement project in the San Diego Association of Governments' (SANDAG) Regional Transportation Plan of 1986. Since then, further studies have identified a range of transportation issues and needs within or adjacent to the Corridor. These studies included:

- Mission Valley East Final Environmental Impact Statement (FEIS), 1998 (MTDB);
- Mid-Coast Corridor, Final Environmental Impact Report (FEIR), 1995 (MTDB);
- Mid-Coast Corridor AA/DEIS/DEIR, 1995 (MTDB);
- Mission Valley West Light Rail Transit Project EIR, 1991, (MTDB);
- I-5/I-805/SR-56 FEIS/FEIR, 1991 (California Department of Transportation, Caltrans);
- Oceanside - San Diego Commuter Rail Project EIR, 1990, (North County Transit District, NCTD); and
- Old Town Light Rail Transit Project EIR; 1990 (MTDB)

The purpose of the Mid-Coast Corridor Alternatives Analysis/Draft Environmental Impact Statement/Draft Environmental Impact Report (AA/DEIS/DEIR), which was circulated in 1995, was to evaluate appropriate alternative transportation modes and alignments in sufficient detail that a preferred alternative could be selected. The AA/DEIS/DEIR involved ridership projections, operational plans, conceptual engineering, development of operating and capital cost estimates, assessment of environmental impacts, and a cost-effectiveness evaluation.

A Preferred Investment Strategy/Locally Preferred Alternative (LPA) was selected by resolution of the MTD Board on October 26, 1995, on the basis of the February 1995 AA/DEIS/DEIR. This investment strategy was preferred following evaluation of six alternative transportation investment strategies, including light rail, high-occupancy vehicle lanes and expanded bus service, and was found to be the most cost-effective and beneficial alternative. This strategy was also identified as the one receiving the broadest public support. The MTD Board also certified the Mid-Coast Final Environmental Impact Report (FEIR) prepared under the California Environmental Quality Act.

The LPA for the Mid-Coast Corridor would extend light rail service on a new line from the Old Town Transit Center north to the University Community, would add a Coaster Commuter Rail Station at Nobel Drive, would add parking capacity at the Sorrento Valley Coaster Station, and would provide high occupancy vehicle (HOV) lanes on I-5 within the Corridor. The HOV lane improvements included in the LPA are not programmed in the most recent Regional Transportation
Plan (RTP, SANDAG, 2000) and therefore are not included among the alternatives evaluated in this Final EIS.

In response to capital, operations, funding, and jurisdictional constraints, the MTD Board approved the following as the first implementation phase of the Mid-Coast project: (1) a LRT project between Old Town and Balboa Avenue, (2) a new commuter rail (Coaster) station at Nobel Drive, and (3) adding parking at the existing Sorrento Valley Coaster Station. This is the extent of new LRT rail alignment and stations, new and improved Coaster stations, and related facilities that MTDB projects it can construct and operate with identified funding. The implementation schedule for the Mid-Coast Corridor Project is shown in Figure 1.3-1.

FTA and FHWA NEPA regulations (23 CFR 771.129) require a re-evaluation of a draft EIS if a final EIS has not been completed within three years of the draft EIS circulation. The purpose of the re-evaluation is to determine whether a supplement to the draft EIS, or a new draft EIS, is needed. MTDB has conducted a re-evaluation of the Mid-Coast Corridor Project Draft EIS, which was circulated in 1995. The re-evaluation, which is included in Appendix L of this document, indicated that environmental and community conditions have not changed to the degree that the project would result in significant impacts that were not presented in the draft EIS. On this basis, MTDB determined that there is no need to prepare a supplement to the draft EIS, or to prepare a new draft EIS. FTA concurred in the re-evaluation in its letter dated April 27, 2001, which is included in Appendix L.

FTA and FHWA NEPA regulations also require that a re-evaluation be conducted on a final EIS if major steps to advance the action have not occurred within three years after approval of the final EIS. No lapse in activity is anticipated for the Mid-Coast Corridor Project; however, should a three-year lapse occur, MTDB would conduct a re-evaluation of this Final EIS.
### Figure 1.3-1
Implementation Schedule for the Mid-Coast Corridor Project

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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MID-COAST PROJECT (BALBOA) - 415</td>
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<td>2</td>
<td>Planning</td>
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<tr>
<td>3</td>
<td>Final EIS / Record of Decision</td>
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</tr>
<tr>
<td>4</td>
<td>Caltrans PSR/PR, Construct. Review, Station Concept</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>5</td>
<td>Consultant Selection - Final Design</td>
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<td></td>
<td></td>
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<tr>
<td>6</td>
<td>Final Design</td>
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<tr>
<td>7</td>
<td>Advertise &amp; Award</td>
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**Purpose and Need**

1-18
### Figure 1.3-1
Implementation Schedule for the Mid-Coast Corridor Project

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Project: sched Date: Sun 6/10/01

- Task
- Rolled Up Task
- Project Summary
- External Milestone
- Deadline
- Split
- Rolled Up Split
- External Tasks
- Progress
- Rolled Up Progress
- Summary
- Milestone
- Rolled Up Milestone
- Parsons Transportation Group

PURPOSE AND NEED
1-19
CHAPTER 2
Alternatives
CHAPTER 2: ALTERNATIVES

2.1 INTRODUCTION

This chapter describes the Preferred Investment Strategy/Locally Preferred Alternative (LPA) and the alternatives evaluated in this Final EIS for the Mid-Coast Corridor. Three alternatives are evaluated in this FEIS, as follow: (1) the No-Build Alternative; (2) the Transportation Systems Management (TSM) Alternative; and (3) the Mid-Coast Light-Rail Transit (LRT) Project, Balboa Extension and Nobel Drive Coaster Station Alternative. In this FEIS, the Mid-Coast LRT Project, Balboa Extension and Nobel Drive Coaster Station Alternative is also called: (1) the Balboa LRT Extension/Nobel Drive Coaster Station Alternative, or (2) the Build Alternative.

This chapter includes background assumptions, physical and operating characteristics, capital costs, and operating and maintenance costs. Alternatives considered prior to selection of the Locally Preferred Alternative/Preferred Investment Strategy and reasons for this selection are also presented. Project planning that has taken place since circulation of the AA/DEIS/DEIR is also summarized.

2.1.1 Preferred Investment Strategy/Locally Preferred Alternative

The Metropolitan Transit Development Board (MTDB) adopted (via Resolution No. 95-35) the Mid-Coast Preferred Investment Strategy/Locally Preferred Alternative (LPA) following public review of six transportation improvement alternatives presented for public review and comment in the February 1995 Mid-Coast Corridor Alternatives Analysis/Draft Environmental Impact Statement/Draft Environmental Impact Report (AA/DEIS/DEIR). The Board’s selection designates the preferred alignment for long-term development of:

(1) **Light rail transit (LRT) Extension.** The extension would begin at the Old Town Transit Center and extend north, paralleling I-5, to the University City Community. This extension was evaluated in the AA/DEIS/DEIR as the LRT Alternative - I-5 Alignment Option. This alignment option was selected for implementation, rather than the Genesee Alignment.

(2) **Commuter rail (Coaster) station at Nobel Drive.** This new Coaster station was evaluated in the AA/DEIS/DEIR as a component of the Transportation Systems Management (TSM)/Commuter Rail Alternative. This alternative included two new Coaster stations — one at Nobel Drive and the other at Balboa Avenue — and additional parking at the existing Sorrento Valley Coaster Station. The new station at Nobel Drive was selected for implementation, while the Balboa Avenue station was withdrawn from further consideration.

(3) **Additional parking at the Sorrento Valley Coaster Station.** This third component of the TSM/Commuter Rail Alternative was also selected for implementation.
High occupancy vehicle (HOV) lanes in the Mid-Coast corridor. High occupancy vehicle lanes were evaluated in the AA/DEIS/DEIR, and were proposed in the median of I-5 from the Carmel Mountain Road undercrossing to the Pacific Highway overcrossing.

This investment strategy was selected following evaluation of the six AA/DEIS/DEIR alternatives, including light rail, high-occupancy vehicle lanes and expanded bus service. The LPA was found to be the most cost-effective and beneficial alternative. This strategy was also identified as the one receiving the broadest public support. In its resolution, the Board also certified the Mid-Coast Final Environmental Impact Report (FEIR) prepared under the California Environmental Quality Act.

Construction of the HOV lanes would be the responsibility of the California Department of Transportation (Caltrans) and is not evaluated in detail in this FEIS. There is presently no funding through the year 2015 in the most recent Regional Transportation Plan (2000, SANDAG) for the HOV lanes included in the LPA.

2.1.2 Phase 1 of the Preferred Investment Strategy/Locally Preferred Alternative

In response to capital, operations, funding, and jurisdictional constraints, the Board approved the following as the first implementation phase of the project:

1. a LRT project between Old Town and Balboa Avenue,
2. a new commuter rail (Coaster) station at Nobel Drive, and
3. additional parking at the existing Sorrento Valley Coaster Station.

Although expanded parking at the Sorrento Valley Coaster Station is part of the first phase, MTDB is providing environmental clearance for this expansion under a separate environmental document.

This is the extent of new LRT rail alignment and stations, new and improved Coaster stations, and related facilities that MTDB projects it can construct and operate given its financial plan. The location of the full LPA and its first phase is depicted in Figure 2.1-1.

2.1.3 Baseline Assumptions

In formulating future transit alternatives, the Federal Transit Administration (FTA) requires a definition of transportation facilities and services reasonably expected to be in place in the future analysis, or “forecast” year. This common set of transportation system capacity and service levels is termed the future baseline condition. The forecast year for this Final EIS is 2015. The year 2015 baseline transportation conditions were developed in close coordination with the San Diego Association of Governments (SANDAG), the Metropolitan Planning Organization responsible for

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1 In its comments on the Mid-Coast AA/DEIS/DEIR, the U.S. Environmental Protection Agency (USEPA) requested that a composite alternative consisting of both HOV lanes and a LRT extension be evaluated and discussed in the FEIS for the project. Appendix F, which was prepared in 1995 partially in response to USEPA’s comment, contains a sensitivity analysis of various alternatives. Specifically, three sensitivity comparisons are made: (1) combination of the HOV Alternative with the LRT Alternative as requested by the EPA, (2) deferral or elimination of three LRT stations, and (3) addition of train trips for the commuter rail service between Centre City and North County.
determining area-wide population and employment forecasts, modeling regional travel demand, and formulating the Regional Transportation Plan (RTP) and the Regional Transportation Improvement Program (RTIP) that feed into the State Transportation Improvement Program (STIP). The most recent RTP for the San Diego region was adopted in 2000.²

The purpose of comparing alternatives is to determine the potential merits of a new LRT extension and commuter rail station versus lower-cost transportation improvements. To isolate the differences attributable to the new rail alternative, it is necessary that conditions not directly attributable to the rail improvements be held constant across all alternatives. For this analysis, these factors are:

- Population and employment growth forecasts for the Mid-Coast area, as determined and approved by SANDAG.
- Trip generation rates for different types of land uses.
- Linkages between origins and destinations for area trips.
- Area parking costs.
- Loading standards for bus and rail fleet vehicles.
- Transit fares reflecting current MTDB, San Diego Transit Corporation (SDTC), and North County Transit District (NCTD) fare policies for bus, LRT, and commuter rail services.

Travel forecasts for Mid-Coast Corridor alternatives were obtained using the SANDAG Series 8 travel forecasts.³

² Land use and employment forecasts, transportation network improvements, and other regional level assumptions used in developing the alternatives for the AA/DEIS/DEIR were based on the information in the 1994 RTP.

³ The Series 8 is the current model used by SANDAG. Series 7 information was used in the 1995 Mid-Coast AA/DEIS/DEIR, and results from Series 7 modeling are, at times, necessarily reported in this FEIS (e.g., in Chapter 1).
Preferred Investment Strategy and Phasing
Figure 2.1-1b
Preferred Investment Strategy and Phasing
Transit Services. For the future baseline transit network for this Final EIS, the San Diego area transit network was revised to reflect service additions, deletions, reroutings, and service frequency changes anticipated for the future year 2015. Public transit services in the model include:

- SDTC and NCTD bus service,
- Light rail transit,
- Coaster commuter rail, and
- Coaster connection shuttle buses.

2.2 NO-BUILD ALTERNATIVE

The No-Build Alternative consists of the year 2015 baseline highway and transit networks with improvements only as currently planned and programmed for funding.

Highway Network. The 2015 future No-Build highway network was developed in coordination with SANDAG, to reflect SANDAG’s estimates of fiscally committed year 2015 elements. This list is contained in the 2000 RTP. Appendix G presents the roadway improvements included in the 2015 network. For the highway network, the No-Build Alternative would include the following major improvements in the Mid-Coast Corridor:

- Extending Nobel Drive to the east and constructing a Nobel Drive/I-805 interchange,
- Widening of I-5 (north of the Mid-Coast Corridor) and I-805 with HOV lanes, and
- Completion of SR 56 as a freeway connecting I-5 at Carmel Valley with I-15.

Transit Network. For the transit network, the No-Build Alternative resembles current transit service patterns for both bus and rail service, with the addition of the anticipated Mission Valley East LRT extension and the development of light rail service from Escondido to Oceanside.
2.2.1 Light Rail Operations Under the No-Build Alternative

Under the 2015 No-Build Alternative, the LRT system would consist of three routes that would operate as follows:

- One LRT line would operate from the Old Town Transit Center to San Ysidro (called the “Blue Line”).
- One LRT line would operate west from the Grossmont Center Station along the new Mission Valley alignment to the 12th and Imperial Station, via the Convention Center alignment (called the “Green Line”).
- One LRT line would operate from Santee Town Center to the 12th and Imperial station, via the Convention Center alignment (called the “Orange Line”).

Figure 2.2-1 shows the LRT system for the 2015 No-Build Alternative. Table 2.2-1 presents the year 2015 route length and travel time characteristics for the No-Build LRT service.

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<tr>
<th>Route</th>
<th>Length (kilometers/miles)</th>
<th>Travel Time (minutes)</th>
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</thead>
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<tr>
<td>Old Town Transit Center to San Ysidro (Blue Line)</td>
<td>31.5 / 19.6</td>
<td>51</td>
</tr>
<tr>
<td>Grossmont Center (through Mission Valley) to 12th and Imperial Station (Green Line)</td>
<td>26.7 / 16.6</td>
<td>45</td>
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<tr>
<td>Santee Town Center to 12th and Imperial Station (Orange Line)</td>
<td>34.8 / 21.6</td>
<td>60</td>
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</table>

Source: MTDB, 1998

Weekday peak hour headways of 7 ½ minutes during peak hours (6-9 AM and 3-7 PM) and 15 minutes during off-peak hours are anticipated for the three LRT rail lines with the No-Build Alternative. Based on weekday peak period operating requirements and in accordance with MTDB practice, which provides for a 21 percent spare fleet allowance, a peak vehicle fleet size was established. Table 2.2-2 summarizes the peak fleet requirements by route and total. Including the allowance for spare vehicles, 207 LRT rail cars are required for the full No-Build system.

2.2.2 Bus Transit Operations Under the No-Build Alternative

Figures 2.2-2 through 2.2-4 illustrate the Mid-Coast Corridor express and local bus transit networks associated with the 2015 No-Build Alternative.
Figure 2.2-1
LRT System:
Year 2015 No-Build, TSM, and Balboa LRT Extension

MID-COAST LRT PROJECT
BALBOA EXTENSION AND NOBEL DRIVE COASTER STATION FINAL ENVIRONMENTAL IMPACT STATEMENT

Metropolitan Transit Development Board
San Diego, California

ALTERNATIVES
2-8
Table 2.2-2
Peak LRT Fleet Requirements – No-Build Alternative

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<tr>
<th>Route</th>
<th>Old Town Center to San Ysidro (Blue Line)</th>
<th>Mission Valley to 12th &amp; Imperial (Green Line)</th>
<th>Santee to 12th &amp; Imperial (Orange Line)</th>
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<td>One-way Travel Time (minutes)</td>
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<td>Round-trip Time (minutes)</td>
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<td>Gap/Standby</td>
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<td>Special Event</td>
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<td>21 percent Spares</td>
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<td>36</td>
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<tr>
<td>Total Cars</td>
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Source: MTDB, SANDAG

2.2.3 Commuter Rail Operations Under the No-Build Alternative

North San Diego County Transit Development Board (NSDCTDB) operates the Coast Express Rail (Coaster) service between Oceanside and Centre City San Diego. Currently the Coaster has eight stations and a daily 1997 ridership of 3,316 riders or boardings per day. The line is approximately 70 kilometers (41 miles) long and primarily serves commute trips between bedroom communities north of San Diego to jobs in Sorrento Valley, Old Town, and downtown San Diego. There are nine weekday trains each way, plus two additional trains on Friday night.

2.3 TRANSPORTATION SYSTEMS MANAGEMENT (TSM) ALTERNATIVE

The Transportation Systems Management (TSM) Alternative consists of the future baseline highway network plus improvements to future transit service and facilities. The transit improvements focus on providing bus service that is comparable, to the extent possible, to that afforded by the Mid-Coast LRT Project, Balboa Extension and Nobel Drive Coaster Station Alternative (described in Section 2.4). The TSM transit capital and operating improvements include:

- A change in peak-period headways from 30 to 15 minutes for bus routes 9, 30, and 50,
- Construction of a 113-space park-and-ride lot for bus patrons at Balboa Avenue and Morena Boulevard (see Figure 2.3-1),
- Construction of a 114-space park-and-ride lot for bus patrons at Clairemont Drive and Morena Boulevard (see Figure 2.3-2), and
- Change in the routing for bus lines 27 and 30 to serve the new park-and-ride lot at Balboa Avenue.
MID-COAST LRT PROJECT
BALBOA EXTENSION AND NOBEL DRIVE COASTER STATION
FINAL ENVIRONMENTAL IMPACT STATEMENT

Metropolitan Transit Development Board
San Diego, California

ALTERNATIVES

NO-BUILD ALTERNATIVE:
Regional Express Bus, LRT, and Commuter Rail Routes

Source: BRW, Inc. 4 August 1992
Figure 2.2-3

NO BUILD ALTERNATIVE:
Local Bus Routes
(South Segment)

Metropolitan Transit Development Board
San Diego, California

Source: BRW, Inc. 4 August 1992

ALTERNATIVES
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MID-COAST LRT PROJECT
BALBOA EXTENSION AND NOBEL DRIVE COASTER STATION
FINALENVIRONMENTAL IMPACT STATEMENT

Metropolitan Transit Development Board
San Diego, California

ALTERNATIVES
2-12

Figure 2.2-4
NO BUILD ALTERNATIVE:
Local Bus Routes
(North and Center Segments)

Source: BRW, Inc. 4 August 1992
Figure 2.3-2

Park-and-Ride Lot--Clairemont Drive/Morena Boulevard (1 of 2)
Changes in the peak-period bus headways for bus routes 9, 30, and 50 would require acquisition of six express and two local buses. Except as follows, bus routes for the TSM would be the same as those for the No-Build Alternative as shown in Figures 2.2-2 and 2.2-3:

- Route 27 would be routed into and out of the new park-and-ride lot at Balboa Avenue and Morena Boulevard. It would otherwise travel its current route.
- Route 30 would travel east along Grand Avenue but would then turn one block north and cross I-5 on Balboa Avenue with service to the new park-and-ride lot on Balboa Avenue and Morena Boulevard.

2.3.1 Light Rail Operations Under the TSM Alternative

Under the TSM Alternative, the LRT system routes would operate as in the No-Build Alternative (See Section 2.2.1).

2.3.2 Commuter Rail Operations Under the TSM Alternative

Under the TSM Alternative, the Coaster commuter rail system would operate as in the No-Build Alternative (See Section 2.2.3).

2.4 MID-COAST LRT PROJECT, BALBOA EXTENSION AND NOBEL DRIVE COASTER STATION ALTERNATIVE

This section describes the Balboa LRT Extension and Nobel Coaster Station Alternative, which includes:

- An extension of LRT service from the Old Town Station across the San Diego River and north adjacent to I-5 to a terminal station at Balboa Avenue, with intermediate stations at Tecolote Road and Clairemont Drive; and

- A new Coaster Station at Nobel Drive.

Detailed descriptions of the proposed new LRT alignment, the LRT and commuter rail stations, power facilities, right-of-way requirements, service operating plan, related bus service improvements, and related traffic circulation improvements are provided in the following sections. Potential impacts of these proposed facilities are described in Chapter 5.

2.4.1 LRT Alignment Description

Preliminary Engineering for the Balboa LRT Extension is completed and included an interactive process involving staff from MTDB, the City of San Diego, Caltrans, and the project consultant, Parsons Transportation Group-De Leuw, Cather and Co. Their efforts were aided by a Project Advisory Committee (PAC). The resulting engineering recommendations represent the framework for final design of an extension of the San Diego Trolley system from the Old Town and Mission Valley lines into the Clairemont community.
The Balboa LRT Extension would lie almost entirely within the existing San Diego Northern Railway (SDNR) right-of-way, which is owned by MTDB. The project would begin south of the San Diego River, where the Balboa LRT Extension would diverge from the Mission Valley LRT line. The Mission Valley line curves to the east across the San Diego River at this point. The Balboa LRT Extension would continue north on a new bridge over the San Diego River and Friars Road, running parallel to and on the east side of the existing SDNR tracks.

The Balboa LRT Extension would pass under Tecolote Road, under Clairemont Drive, and over Balboa Avenue (SR 274), where it would terminate. Figures 2.4-1 through 2.4-18 depict the proposed LRT facility alignment and right-of-way requirements for the Mid-Coast LRT Project, Balboa Extension.

2.4.2 LRT Stations

Three stations are proposed for Balboa Extension. Proceeding north from the Old Town Transit Center, LRT stations would be located at Tecolote Road, Clairemont Drive, and Balboa Avenue. Surface parking is proposed at each station, including: 103 spaces at the Tecolote Station, 50 spaces at the Clairemont Station, and 272 spaces at Balboa. Parking structures are not proposed at any location in the Mid-Coast LRT Project, Balboa Extension.

The three LRT stations would have side platforms, i.e., one platform on the outside of each LRT track. Figures 2.4-19 through 2.4-24 provide station plans and station typical cross-section views illustrating the placement of LRT track, LRT station platforms, the freight/commuter rail, and traffic/parking facilities for the three LRT station areas.

LRT station platforms would be approximately 110 meters (360 feet) long to accommodate a four-car LRT train. Typical passenger amenities at stations would include:

- Separation wall between the LRT platform and the SDNR tracks.
- Covered shelter with seating.
- Fare vending machines and ticket validators.
- Telephones (outgoing calls only).
- Landscaping.
- Lighting.
- Drinking fountains.
- Bicycle racks and lockers.
- Information kiosk.
- Easy access for elderly and disabled passengers.
**ALTERNATIVES**

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<th>N. N.</th>
<th>N. D.</th>
<th>N. E.</th>
<th>N. S.</th>
<th>N. W.</th>
<th>S. E.</th>
<th>S. W.</th>
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**MTBD DRAWING SHEET NO.**

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<th>E.</th>
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</tr>
</thead>
</table>

**LRT Plan and Profiles**

<table>
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<tr>
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<th>MDL</th>
<th>NO.</th>
<th>DATE</th>
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**Figure 2.4-1**
ALTERNATIVES
2-22

Figure 2.4-5
LRT Plan and Profiles
Figure 2.4-7
LRT Plan and Profiles
LRT Plan and Profiles

Figure 2.4-12

ALTERNATIVES 2-29
Figure 2.4-17
LRT Plan and Profiles
Figure 2.4-18
LRT Plan and Profiles

ALTERNATIVES
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In locating stations and laying out station access, efforts have been made to minimize acquisition of private property outside the existing MTDB rail right-of-way and to minimize potential impacts on adjacent businesses or residences. Criteria for the design of station layouts included efforts to:

- Achieve the best balance between station frequency and average train speed.
- Minimize commercial displacement/disruption.
- Minimize potential conflicts among different access modes.
- Ensure pathways of access for the disabled.
- Create a pedestrian supporting environment.
- Provide pedestrian and vehicular safety.
- Minimize major environmental issues.

2.4.2.1 Tecolote Station. The proposed Tecolote LRT Station would be located below the Tecolote Road bridge and would include a 103-space parking lot. Street improvements at this station would include driveway access from West Morena Boulevard to the station as well as access to the station from the signalized intersection of West Morena Boulevard and Vega Street via an internal station driveway. Sidewalks would be constructed along the project frontage and on the east side of West Morena Boulevard between Vega Street on the south, and Knoxville Street on the north. Additionally, a pedestrian walkway would be constructed from the stub end of Knoxville Street to West Morena Boulevard. Recessed bus bays would be constructed on both sides of West Morena Boulevard near the LRT station to accommodate a local bus route. Figures 2.4-19 and 2.4-20 show the station typical section and station plan for the Tecolote Station.

2.4.2.2 Clairemont Station. The proposed Clairemont LRT Station would be located on the west side of Morena Boulevard, beginning at Ingulf Street and extending north under the Clairemont Drive bridge. The proposed station would have up to 50 parallel parking spaces located on the west side of Morena Boulevard north of the station. Street improvements would include reconstructing the west side of Morena Boulevard, allowing for a shift of the southbound travel lanes into the median area to provide adequate room for the station platforms. A sidewalk would also be constructed from the station north to approximately 160 meters north of McGraw Street. An elevator and stairs would be located at the north end of the station platform to allow access to the north side of Clairemont Drive for LRT patrons wanting to reach Mission Bay Park or bus routes on Clairemont Drive. To further facilitate this movement, the sidewalk on the north side of Clairemont Drive would be widened to three meters and pedestrian ramps would be constructed at intersections. The Clairemont Drive bridge over the railroad tracks and the adjacent northbound on-ramp to I-5 would also be widened to provide bus bays for express bus routes connecting this LRT station with the Clairemont and Pacific Beach communities. Figures 2.4-21 and 2.4-22 show the station typical section and station plan for the Clairemont Station.

2.4.2.3 Balboa Station. The proposed Balboa Station would be the largest station of the Balboa Extension. It would include station platforms, a 272-space parking lot, and four bus bays on-site. The station would provide a pedestrian walkway on the LRT bridge over Balboa Avenue (SR 274) with ramps to both sides of Balboa Avenue to facilitate pedestrian access to the surrounding community. In addition to sidewalk improvements along the project frontage, the project would also involve modification of the ramps to and from eastbound Balboa Avenue. This would include elimination of the existing southbound on-ramp to Morena Boulevard and widening of the existing northbound loop ramp to accommodate both north and southbound movements. The widened ramp would be signalized at its intersection with Morena Boulevard and would be the primary point of access for the LRT station. Figures 2.4-23 and 2.4-24 show the station typical section and station plan for the Balboa Station.
2.4.3 Freight Spur Tracks, and Track Signaling

Freight spur tracks currently connect with the SDNR railroad and serve some businesses south of the Tecolote Station area and east of the SDNR tracks. The addition of two LRT tracks to the east of the SDNR tracks would make necessary the realignment of portions of spur tracks in the area, and the complete relocation of one existing spur. In addition, specialized track signaling would be required to allow a freight spur track to cross the LRT tracks at-grade south of the Tecolote Station.

Right-of-way requirements for the addition of two LRT tracks east of the SDNR tracks make it necessary to remove the current spur tracks west of the Union Tribune Building at the west end of Anna Avenue. A replacement spur track is proposed to be constructed on Lovelock Street to serve the east rather than the west side of this building. The spur relocation would also require construction of a new loading dock and awning on the east side of the Union Tribune Building.

Spur track curves are proposed to be improved for existing spur tracks on streets north of Lovelock Street. These track curvature changes will require acquisition of some property along the east side of the SDNR right-of-way.

Figures 2.4-25 through 2.4-31 show the proposed new and relocated spur tracks. Use of the new and relocated spur tracks would occur only during non-LRT operating hours, from approximately 1 to 5 AM.

2.4.4 Traction Power

A series of modular, containerized, traction power substations would be required along the right-of-way to feed electricity from the San Diego Gas and Electric power system to the LRT overhead catenary system. The overhead catenary system would consist of steel poles, located between the LRT tracks, supporting overhead copper wires. Five traction power substations are proposed to be located as follows:

- two at the Tecolote Station (Figure 2.4-20),
- one north of the Clairemont Station (Figure 2.4-13),
- one south of the Balboa LRT Station parking (Figure 2.4-17), and
- one just north of Balboa Avenue (Figure 2.4-18).

2.4.5 Structural and Drainage Improvements

2.4.5.1 LRT Bridge Improvements. The Balboa Extension would include three bridges over two water courses and two highways. The southernmost bridge would be 275 meters long and would cross both the San Diego River and Friars Road. This bridge would be a reinforced concrete box girder bridge.
Fig. 2.4-26
Freight Spur Tracks
Figure 2.4-30
Freight Spur Tracks
Figure 2.4-31
Freight Spur Tracks

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Figure 2.4-32 shows an elevation, typical section, and plan for the San Diego River/Friars Road bridge. The second bridge, also a concrete box girder bridge, would be 20 meters long and would span Tecolote Creek. The third bridge would be a 37-meter long concrete box girder bridge over Balboa Avenue (SR 274).

The San Diego River/Friars Road and Tecolote Creek bridges would both be less than nine meters wide to accommodate two LRT tracks, overhead catenary poles, and an emergency walkway as required by the California Public Utilities Commission (CPUC). The Balboa Avenue bridge would be nearly 12 meters wide to allow for a three-meter-wide pedestrian walkway in addition to the two tracks and the catenary poles.

2.4.5.2 Traffic Circulation Improvements. Proposed street improvements would be in the vicinity of the LRT stations. In the Tecolote Station area, street improvements would be limited to typical frontage improvements including sidewalk and bus bays, plus a pedestrian walkway connecting Knoxville Street with West Morena Boulevard.

For the Clairemont Station, the southbound side of Morena Boulevard would be realigned a few meters to the east (as discussed in Section 2.4.2.2), thus reducing the width of the raised median separating the north and southbound lanes on Morena Boulevard. This would provide room for the LRT station platform. To facilitate access to the Clairemont Station, a traffic signal would be installed at the intersection of Morena Boulevard with Gesner Street. The Clairemont Drive bridge over the LRT station would be modified at its intersection with the northbound ramps with Interstate 5. The bridge would be widened to allow for bus bays: (1) on westbound Clairemont Drive just east of the ramp, and (2) on the northbound on-ramp just north of Clairemont Drive.

In the Balboa LRT Station area, the existing ramp from eastbound Balboa Avenue to southbound Morena Boulevard would be eliminated and replaced by a widening of the existing loop ramp that currently serves only northbound Morena Boulevard. A signal would be installed on Morena Boulevard to allow turns from the ramp to both northbound and southbound Morena Boulevards, as well as a through movement into the Balboa Station parking area.

2.4.5.3 Drainage. Some drainage ditches would be earthen while others would be concrete-lined. Where right-of-way would be insufficient to construct drainage ditches, buried storm drain pipes would be installed in easements to avoid acquisition of private property.

2.4.5.4 Retaining Walls. There are more than 1,000 meters (3,280 feet) of retaining wall along the Balboa LRT Extension, ranging in height as shown on Table 2.4-1. The walls would be designed during the project’s final design phase, but are expected to provide for landscaping to minimize graffiti and enhance the project’s aesthetics.
Table 2.4-1
Retaining Walls for the Balboa LRT Extension

<table>
<thead>
<tr>
<th>Wall Number</th>
<th>Maximum Height</th>
<th>Location, Approximate Station</th>
</tr>
</thead>
<tbody>
<tr>
<td>R 14</td>
<td>3.6 m (11.8 ft.)</td>
<td>East Side, N/B 13+02 to 17+00</td>
</tr>
<tr>
<td>R 22A</td>
<td>3.6 m (11.8 ft.)</td>
<td>East Side, N/B 22+71, 9.1 m RT to 22+77</td>
</tr>
<tr>
<td>R 22B</td>
<td>3.6 m (11.8 ft.)</td>
<td>East Side, N/B, 22+97 to 23+10</td>
</tr>
<tr>
<td>R 23A</td>
<td>2.4 m (7.9 ft.)</td>
<td>East Side, N/B 22+97 to 23+10</td>
</tr>
<tr>
<td>R 23B</td>
<td>3.6 m (11.8 ft.)</td>
<td>West Side, N/B 22+97 to 23+10</td>
</tr>
<tr>
<td>R 30</td>
<td>3.6 m (11.8 ft.)</td>
<td>East Side, N/B 29+50 to 31+90</td>
</tr>
<tr>
<td>R 32</td>
<td>1.8 m (5.9 ft.)</td>
<td>East Side, N/B 32+70 to 33+65</td>
</tr>
<tr>
<td>R 42</td>
<td>1.8 m (5.9 ft.)</td>
<td>East Side, N/B 41+60 to 43+20</td>
</tr>
<tr>
<td>R 46</td>
<td>5.5 m (18.0 ft.)</td>
<td>East Side, N/B 45+20 to 55+70</td>
</tr>
<tr>
<td>R 63</td>
<td>3.6 m (11.8 ft.)</td>
<td>West Side, N/B 63+35 to 64+60</td>
</tr>
<tr>
<td>R 64A</td>
<td>3.6 m (11.8 ft.)</td>
<td>East Side, Balboa Station Perimeter</td>
</tr>
<tr>
<td>R 64B</td>
<td>8.5 m (27.9 ft.)</td>
<td>Pedestrian Ramp, south of Balboa Station</td>
</tr>
<tr>
<td>R 64C</td>
<td>9.1 m (29.8 ft.)</td>
<td>Pedestrian Ramp, north of Balboa Station</td>
</tr>
<tr>
<td>R 65</td>
<td>3.0 m (9.8 ft.)</td>
<td>West Side, northbound 65+00 to 65+20</td>
</tr>
</tbody>
</table>

Parsons Transportation Group-De Leuw, Cather & Co., 1998

2.4.6 Commuter Rail Station at Nobel Drive

The Nobel Drive Coaster Station would be located on the south side of Nobel Drive, east of Towne Centre Drive, on a vacant parcel of land currently owned by the City of San Diego. The station would include two side platforms 205 meters (1,000 feet) long. Bus bays would be provided on Nobel Drive. A parking area with 225 parking spaces would be located at street level and would connect, using a combination of stairs, ramps, and elevator, to the station platform approximately 10 meters (33 ft.) below the parking area. The station stairs, ramps, and elevator would also allow access via the station platform to the Rose Canyon Open Space Park, which lies south of the commuter rail tracks. The proposed station stairs, ramps, and elevator would also enable access to the informal bicycle trail that runs parallel to the railroad right-of-way in this area. Figure 2.4-33 shows the plans for the Nobel Drive Station.

2.4.7 Operating Characteristics

2.4.7.1 Light Rail Operations. The No-Build and TSM Alternatives assume three LRT lines: (1) from Old Town Transit Center to San Ysidro (Blue Line), (2) from the Grossmont Center Station to the 12th and Imperial Station via the Mission Valley and Convention Center alignment (Green Line), and (3) from Santee Town Center to the 12th and Imperial Station via the Convention Center alignment (Orange Line.) With the introduction of the Balboa LRT Extension, the LRT Blue Line from San Ysidro would continue north from the Old Town Transit Center and terminate at a new Balboa Avenue LRT station, with two new intermediate stops at the Tecolote and Clairemont Stations. Table 2.4-2 presents year 2015 LRT route length and travel time characteristics.
Table 2.4-2

<table>
<thead>
<tr>
<th>Route</th>
<th>Length (km. / miles)</th>
<th>Travel Time (minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balboa Avenue Station to San Ysidro (Blue Line)</td>
<td>37.2 / 23.1</td>
<td>58</td>
</tr>
<tr>
<td>Grossmont Center to 12th &amp; Imperial Station (Green Line)</td>
<td>26.7 / 16.6</td>
<td>45</td>
</tr>
<tr>
<td>Santee Town Center to 12th &amp; Imperial Station (Orange Line)</td>
<td>34.8 / 21.6</td>
<td>60</td>
</tr>
</tbody>
</table>

Source: SANDAG, MTDB 1998

Weekday headways of 7 1/2 minutes during peak hours (6-9 AM and 3-7 PM) and 15 minutes during off-peak hours are anticipated for the three LRT lines with the Balboa LRT Extension. The peak train length requirement on the three routes is three vehicles.

Based on weekday peak period operating requirements and in accordance with MTDB practice, which requires a 21 percent spare fleet allowance, a peak vehicle fleet size of 214 LRT cars for the Build Alternative was established. Table 2.4-3 summarizes the peak fleet requirements by route and total.

Table 2.4-3

<table>
<thead>
<tr>
<th>Route</th>
<th>Mid-Coast Balboa Avenue to San Ysidro (Blue Line)</th>
<th>Grossmont Center to 12th &amp; Imperial (via Mission Valley) (Green Line)</th>
<th>Santee to 12th &amp; Imperial (Orange Line)</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-way Travel Time (minutes)</td>
<td>58</td>
<td>45</td>
<td>60</td>
</tr>
<tr>
<td>Round-trip Time (minutes)</td>
<td>130</td>
<td>104</td>
<td>134</td>
</tr>
<tr>
<td>LRT Trains Required</td>
<td>18</td>
<td>14</td>
<td>18</td>
</tr>
<tr>
<td>LRT Cars Required</td>
<td>54</td>
<td>42</td>
<td>54</td>
</tr>
<tr>
<td>Total LRT Cars Required</td>
<td>150</td>
<td>154</td>
<td>154</td>
</tr>
</tbody>
</table>

Source: MTDB and PTG-De Leuw, Cather & Co.

2.4.7.2 **Coaster Commuter Rail Services.** For the Mid-Coast LRT Project, Balboa Extension and Nobel Drive Coaster Station Alternative, a new station would be added to the Coaster service near Nobel Drive. Physical features of this station are described in Section 2.4.6. The new station would be located between the Sorrento Valley and Old Town Transit Center Stations and would add approximately three to four minutes of travel time to the service. Other than the added stop, Coaster service is assumed to remain unchanged.
2.4.7.3 **Related Bus Services.** SDTC bus service would be integrated with the new LRT and Coaster Rail service to provide effective feeder and transfer bus connections to the LRT and Coaster stations, with timed transfers to the extent possible. For example, in areas not served by LRT or Coaster, bus service would either continue or be modified to provide connections to the nearest LRT or Coaster station. Bus routes to downtown that would duplicate LRT service in the Mid-Coast Corridor would be eliminated. All proposed bus service changes would be advertised for public notice and comment before they are enacted. For purposes of analysis, the following service changes are assumed for the Build Alternative.

- Route 5 would be rerouted to serve the Tecolote LRT Station,
- Headways for Route 9 would be changed from 30 to 15 minutes,
- Route 27 would be rerouted to serve the Balboa LRT Station,
- Route 30 would be rerouted and would terminate at the Clairemont Station,
- Headways for Route 44 would be changed from 30 to 15 minutes,
- Route 50 would terminate at the Clairemont Station, and
- Route 150 would be rerouted to serve the Nobel Coaster Station. Alternatively, MTDB is considering extending either Routes 34, 301, the Coaster Connection, or the future University City loop shuttle service.

Figures 2.2-2 and 2.2-3 show bus routes for the No-Build Alternative. Changes to these routes assumed for the Build Alternative are described above.

### 2.5 CAPITAL COST SUMMARY

This section presents a summary of capital costs for: (1) the TSM Alternative, and (2) the Balboa LRT Extension/Nobel Drive Coaster Station Alternative. Cost estimates were based on the latest local unit cost information available for the types of construction and procurement items. Costs are presented in 1999 dollars and also escalated to the start of construction at 3.5 percent per year.

#### 2.5.1 Capital Costs of the TSM Alternative

Table 2.5-1 presents capital cost estimates for the principal components of the TSM Alternative: new bus and LRT vehicles; and new facilities' construction, consisting of park-and ride-lots at Clairemont Drive and at Balboa Avenue. Total capital costs for the TSM Alternative are estimated at $9.7 million in 1999 dollars or $10.4 million, escalated to the start of construction in 2001.

#### 2.5.2 Capital Costs of the Mid-Coast LRT Project, Balboa Extension & Nobel Drive Coaster Station Alternative

Table 2.5-2 presents capital costs for the principal components of Balboa LRT Extension and the Nobel Drive Coaster Station. Combined capital costs for the Balboa Extension and Coaster Station (the Build Alternative) are estimated at $104.9 million (1999 $) or $125.7 million when escalated to start of construction, which is estimated to be in 2005 for the Balboa LRT Extension and 2001 for the Nobel Drive Coaster Station.
### Table 2.5-1
Mid-Coast Corridor Project
TSM Alternative Cost Summary by Major Category (1999 $)

<table>
<thead>
<tr>
<th>Category</th>
<th>Estimated Cost</th>
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<tbody>
<tr>
<td>Planning/PE</td>
<td>$128,000</td>
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<tr>
<td>Final Design</td>
<td>$143,000</td>
</tr>
<tr>
<td>Right of Way</td>
<td>$4,590,000</td>
</tr>
<tr>
<td>Major Procurement (including rolling stock)</td>
<td>$2,652,000</td>
</tr>
<tr>
<td>Construction</td>
<td>$1,346,000</td>
</tr>
<tr>
<td>Construction &amp; Project Administration</td>
<td>$469,000</td>
</tr>
<tr>
<td>Start-Up</td>
<td>$41,000</td>
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<tr>
<td>Contingency</td>
<td>$337,000</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>$9,706,000</strong></td>
</tr>
</tbody>
</table>

Source: MTDB, PTG-De Leuw, Cather & Co. March 2000

### Table 2.5-2
Mid-Coast Corridor Project
Capital Cost Summary by Major Category (1999 $)

<table>
<thead>
<tr>
<th>Category</th>
<th>LRT to Balboa</th>
<th>Nobel Drive Station</th>
<th>Total Project</th>
</tr>
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<tr>
<td>Planning/PE</td>
<td>$1,995,000</td>
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<td>$2,388,500</td>
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<td>Final Design</td>
<td>$4,460,000</td>
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<td>$5,256,300</td>
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<td>Right of Way</td>
<td>$15,170,000</td>
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<td>$15,818,100</td>
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<tr>
<td>Major Procurement (including rolling stock)</td>
<td>$19,045,000</td>
<td>$134,300</td>
<td>$19,179,300</td>
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<tr>
<td>Construction</td>
<td>$40,030,000</td>
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<td>$44,618,000</td>
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<td>$1,115,700</td>
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<tr>
<td>Start-Up</td>
<td>$580,000</td>
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<td>$695,700</td>
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<td>Contingency</td>
<td>$8,327,000</td>
<td>$564,800</td>
<td>$8,891,800</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>$96,507,000</strong></td>
<td><strong>$8,356,400</strong></td>
<td><strong>$104,863,400</strong></td>
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</table>

Source: MTDB, PTG-De Leuw, Cather & Co. March 2000
2.6 OPERATING AND MAINTENANCE COST SUMMARY

2.6.1 Current Operating and Maintenance Costs

A review of long-term transit operating cost data reveals several trends. Farebox recovery (the percentage of operating costs recovered through taxes), which was near 100 percent in 1968 and fell to about 30 percent in Fiscal Year (FY) 1977, returned to about 50 percent in 1995. This upward change can be attributed to a 1977 policy commitment by the MTDB to increase farebox recovery. Operating cost per mile grew from $0.80 a mile in 1968 to $4.00 in 1995, an increase of 400 percent, or an annual average of approximately 14.8 percent. However, the Consumer Price Index in San Diego increased at about the same rate (14.2 percent annual average) over this same period. Thus, the increase in operating costs was consistent with the inflation rate for the San Diego area. Passengers per revenue mile ranged from a high of more than 3.0 per mile in FY1974 to a low of 2.1 per mile in FY1993. In 1995, MTDB transit operators carried about 2.5 passengers per revenue mile. Transit-related revenues are estimated to increase as the region recovers from the economic slump of the early nineties.

2.6.2 Operating and Maintenance Costs of the TSM Alternative

Operating and maintenance costs for the TSM Alternative are based upon the service and fleet assumptions described in Section 2.3. In 2015, to maintain the proposed TSM level of LRT and bus service, MTDB’s annual LRT vehicle miles of service would total approximately 3.7 million. Annual bus miles operated would total 27.9 million. Commuter rail miles operated would total 0.4 million. Year 2015 total system-wide transit annual operating and maintenance costs are projected to be $188.716 million (1999 $).

2.6.3 Operating and Maintenance Costs of the Mid-Coast LRT Project, Balboa Extension/Nobel Drive Coaster Station Alternative

Operating and maintenance costs for the Balboa LRT Extension/Nobel Drive Coaster Station Alternative are based upon the service and fleet assumptions described in Section 2.4. In 2015, to maintain the proposed Build Alternative’s level of LRT service, MTDB’s annual LRT vehicle miles of service would total approximately 4.0 million.

Annual bus miles operated would total 27.5 million. Year 2015 total system wide transit annual operating and maintenance costs are projected to be $190.117 million (1999 $). Compared with the No-Build Alternative, the incremental operating and maintenance cost of the Balboa LRT Extension/Nobel Drive Coaster Station Alternative would be $2.1 million (1999 $).

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4 Material for this subsection was obtained from the Mission Valley East Corridor Project, Final Environmental Impact Statement, 1998.
2.7 FINANCING THE ALTERNATIVES

MTDB has identified funding for the Mid-Coast LRT Project, Balboa Extension and Nobel Drive Coaster Rail Station Alternative. The project is proposed to be funded from a combination of federal, state and local funds, as described below. If the Mid-Coast LRT Project, Balboa Extension and Nobel Drive Commuter Rail Station Alternative were not constructed and the TSM Alternative were implemented instead, the TSM Alternative would need to be funded from state and local sources.

2.7.1 Funding for TSM Construction and Operating Costs

Funding for the TSM Alternative would be from local funding sources, including passenger fares, Transportation Development Act (TDA) funds, Transit Capital Improvement (TCI)/State Transit Assistance (STA), the local TransNet Sales Tax, and miscellaneous local funds (e.g., advertising, interest income, and other local jurisdictional support). Chapter 6 of this FEIS discusses these funding sources.

2.7.2 Funding for Balboa LRT Extension/Nobel Coaster Station Construction and Operating Costs

Anticipated funding sources for construction of the Balboa LRT Extension/Nobel Coaster Station Alternative include federal, state, and local sources, as listed in Table 2.7-1. A combination of federal and local funds would make up almost all of the total funding.

<table>
<thead>
<tr>
<th>Proposed Funding Source</th>
<th>Amount (escalated to year of expenditure)</th>
<th>Status</th>
</tr>
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<tbody>
<tr>
<td>Federal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Section 5309 New Starts</td>
<td>$49,164,000</td>
<td>$758,000 appropriated through FY99</td>
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<tr>
<td>Section 5307 funds</td>
<td>$519,000</td>
<td>Appropriated in FY98</td>
</tr>
<tr>
<td>State</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TCI</td>
<td>$35,000</td>
<td>Existing</td>
</tr>
<tr>
<td>Local</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TransNet Tax</td>
<td>$75,073,000</td>
<td>Existing, committed</td>
</tr>
<tr>
<td>Total</td>
<td>$125,740,000</td>
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</tbody>
</table>

Table 2.7-1 Capital Cost Funding Balboa LRT Extension and Nobel Drive Coaster Station

The annual operating and maintenance cost of the alternative is estimated to be $2.1 million (1999 $). Approximately 54 percent of anticipated funding for operation of the Balboa LRT Extension/Nobel Coaster Station Alternative is expected to come from farebox revenues. The remainder of the operating funds are expected to come from the state Transportation Development Act (TDA) and the local TransNet sales tax.
2.8 COMPARISON OF ALTERNATIVES CONSIDERED IN AA/DEIS/DEIR

Six transportation investment alternatives for the Mid-Coast Corridor were evaluated in the AA/DEIS/DEIR. These alternatives included: (1) Baseline (or No-Build), (2) TSM, (3) TSM/Commuter Rail, (4) Commuter Rail, (5) HOV Lanes, (6) LRT/I-5 Alignment, and (7) LRT/Genesee Alignment. These are described below and shown in Figures 2.8-1 through 2.8-4. A detailed discussion of these alternatives and their associated impacts are provided in the AA/DEIS/DEIR.

2.8.1 Description of AA/DEIS/DEIR Alternatives

2.8.1.1 No-Build Alternative. The No-Build Alternative consisted of the transportation system as it existed in 1995, plus all new transportation improvements programmed for construction in the following six years. This included all TransNet projects, funded by the Proposition A local sales tax increase in 1987, and projects identified in the State Transportation Improvement Program (STIP).

2.8.1.2 Transportation Systems Management (TSM) Alternative. The TSM Alternative assumed all projects from the No-Build Alternative, along with the following transportation system improvements: operational improvements to No-Build Alternative bus routes, new express routes, timed-transfers at key transfer locations, the relocation of a major transit center, expansion of two key park-and-ride lots, construction of a new park-and-ride facility, and new shuttle and local bus routes to provide commuter rail feeder bus service in the North University City and Sorrento Valley employment centers.

2.8.1.3 TSM/Commuter Rail Alternative. This alternative assumed the implementation of all projects from the TSM Alternative, as well as the provision of two new commuter rail stations, at Balboa Avenue and Nobel Drive. Parking would be added to the Sorrento Valley Commuter Rail Station constructed as part of the Oceanside to San Diego commuter rail service included in the No-Build Alternative. This alternative also included minor route modifications to facilitate access to all commuter rail stations.

2.8.1.4 Commuter Rail Tunnel Alternative. This alternative assumed the implementation of all projects from the TSM Alternative, as well as the provision of two new commuter rail stations (at Balboa Avenue and University Towne Centre), and a commuter rail tunnel. The tunnel was planned to pass through University City connecting Rose Canyon, on the south, to Sorrento Valley, on the north. This alternative also included additional parking at the Sorrento Valley Commuter Rail Station and minor route modifications to facilitate access to all commuter rail stations.

2.8.1.5 High Occupancy Vehicle (HOV) Lane Alternative. This alternative assumed all projects from the TSM Alternative, plus HOV lanes on I-5 from the Carmel Mountain Road undercrossing to the vicinity of Interstate 8. The HOV lanes would be buffer-separated with limited entry/exit. Additionally, some transit service would be realigned to utilize the HOV lanes.
MID-COAST LRT PROJECT
BALBOA EXTENSION AND NOBEL DRIVE COASTER STATION
FINAL ENVIRONMENTAL IMPACT STATEMENT
Metropolitan Transit Development Board
San Diego, California

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MID-COAST LRT PROJECT
BALBOA EXTENSION AND NOBEL DRIVE COASTER STATION
FINAL ENVIRONMENTAL IMPACT STATEMENT

Metropolitan Transit Development Board
San Diego, California

Figure 2.8-2

ALTERNATIVES CONSIDERED IN AA/DEIS/DEIR
HOV LANE ALTERNATIVE: Route Changes and Capital Improvements (South Segment)

HOV LANE ALTERNATIVE: Route Changes and Capital Improvements (North and Center Sections)

MID-COAST LRT PROJECT
BALBOA EXTENSION AND NOBEL DRIVE COASTER STATION FINAL ENVIRONMENTAL IMPACT STATEMENT

Metropolitan Transit Development Board
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MID-COAST LRT PROJECT
BALBOA EXTENSION AND NOBEL DRIVE COASTER STATION
FINAL ENVIRONMENTAL IMPACT STATEMENT

Metropolitan Transit Development Board
San Diego, California

Figure 2.8-4
ALTERNATIVES
CONSIDERED IN AA/DEIS/DEIR

ALTERNATIVES
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2.8.1.6 **Light Rail Transit (LRT) Alternative.** This alternative assumed a north extension of the Old Town Line of the regional LRT system, beginning where the Mission Valley West line turns east and follows the San Diego River. The AA/DEIS/DEIR identified two LRT Alternative alignment options: the Interstate 5 Alignment Option and the Genesee Avenue Alignment Option. The Alignment Options are shown in Figure 2.8-4 and described below.

**Interstate 5 (I-5) Alignment Option**

The AA/DEIS/DEIR described each alignment option as consisting of a “South Segment” and a “North Segment.” The South Segment of the I-5 Alignment Option began on the south bank of the San Diego River on a new bridge crossing the river and Friars Road. It then continued north within the SDNR rail right-of-way to the Gilman/I-5/La Jolla Colony interchange. The “North Segment” of the Interstate 5 Alignment Option crossed La Jolla Colony Drive at-grade and joined the east side of the I-5 right-of-way. The alignment continued north, crossing to the west side of I-5, then over Nobel Drive and La Jolla Village Drive, then passed under the future Gilman Drive bridge. North of Gilman Drive, the alignment turned east across I-5 through the UCSD East Campus to follow along Miramar Street/Executive Drive, crossing Regents Road, Genesee Avenue, and Towne Center Drive, and terminating east of the future Judicial Drive. This alignment option assumed new LRT stations at the following South Segment locations: Tecolote Road, Clairemont Boulevard, Balboa Avenue, Jutland Avenue, and Gilman Drive. New stations were assumed at the following North Segment locations: Nobel Drive, UCSD, Genesee Avenue, and Judicial Drive.

**Genesee Avenue Alignment Option**

The South Segment of the Genesee Avenue Alignment Option was identical to the South Segment of the I-5 Alignment Option. Where the South Segment ended at the Gilman Drive/I-5 Interchange, the North Segment of the Genesee Avenue Alignment Option remained immediately adjacent to the SDNR railway, curving east away from I-5. Just west of Genesee Avenue, the alignment turned north to enter a tunnel under Genesee Avenue, and continued north under Nobel Drive, passing near the University Towne Centre Regional Shopping Mall. The alignment passed under the Mall entry road and La Jolla Village Drive before rising up to grade within the median of Genesee Avenue and turning east at the Genesee Avenue/Executive Drive intersection. The alignment continued east in turning east at the Genesee Avenue/Executive Drive intersection. The alignment continued east in

2.8.2 **Evaluation of AA/DEIS/DEIR Alternatives**

The Mid-Coast Corridor AA/DEIS/DEIR process was undertaken to evaluate alternative transportation improvements and select a Preferred Investment Strategy/Locally Preferred Alternative (LPA) for the Corridor. The following sections present a brief description of the evaluation criteria used to compare the alternatives considered in the AA/DEIS/DEIR, discuss the tradeoffs among the alternatives, identify the environmentally superior alternative, and describe the rationale for the selection of a LPA. These discussions draw on the background information and analyses presented in chapters one through six of the AA/DEIS/DEIR.

Table 2.8-1 compares key characteristics of the AA/DEIS/DEIR alternatives, based on the measures used to evaluate the attainment of goals and objectives, efficiency and cost effectiveness criteria,
environmental and equity considerations, and the financial feasibility of each alternative.

As shown in Table 2.8-1, the LRT I-5 Alignment performed best in daily transit boardings, transit mode share, and transit travel times to the Centre City analyses. The HOV Lane Alternative performed best in the change in VMT, change in congested VMT, and auto travel times to Centre City analyses. The LRT Genesee Alignment was found to provide the best service accessibility. A brief discussion of the comparative evaluation for each criterion is provided below.

2.8.2.1 Capital and Operating Costs. Capital costs estimated for each alternative included construction, utility relocation, right-of-way acquisition, vehicles, fare collection, communication, and add-on costs. As shown in Table 2.8-1, these costs ranged from $42.5 million (1992 dollars) for the TSM Alternative, to a high of $354.5 million for the LRT Alternative - Genesee Alignment.

The TSM and TSM/Commuter Rail alternatives were the lowest cost alternatives, and the HOV Lane was the third lowest cost. The Commuter Rail and LRT alternatives were each estimated to cost more than $300 million (1992 dollars). These higher cost alternatives would require greater amounts of right-of-way, more extensive construction, the purchase of more vehicles, and other significant capital expenditures.

Operating costs did not vary greatly among the alternatives (other than the No-Build). The lowest annual operating cost was for the TSM/Commuter Rail Alternative, at $168.1 million, and the highest was for the LRT I-5 Alignment, at $171.7 million.

2.8.2.2 Cost Effectiveness. The cost effectiveness analysis evaluated the extent to which the alternatives would return benefits in relation to their costs, as compared with lower-capital-cost options. The TSM Alternative, which represented the lower-cost transit solution, served as the base against which the benefits and costs of the proposed alternatives were compared. The AA/DEIS/DEIR employed a New Trip Index analysis to calculate the alternatives’ cost effectiveness.

The New Trip Index is a ratio of the incremental cost of constructing and operating an alternative (less the value of travel time benefits to existing users) to the projected number of new transit riders generated by that alternative. As shown in Table 2.8-1, the HOV Lane Alternative (when annual savings for both transit and HOV trips were included) performed best in terms of this analysis, with $2.79 per new transit/HOV trip. Based on this analysis, the second most cost-effective alternative was the TSM/Commuter Rail Alternative ($5.96 per new transit rider).

2.8.2.3 Attainment of Goals and Objectives. Goals and objectives identified for the Mid-Coast Corridor AA/DEIS/DEIR, as described in Section 1.8 of that document, included increasing the use of public transportation, increasing the quality and quantity of public transportation, compatibility with local and regional plans, and cost effectiveness.
<table>
<thead>
<tr>
<th>Category</th>
<th>Baseline (No-Build)</th>
<th>TSM</th>
<th>TSM/Commuter Rail</th>
<th>Commuter Rail Tunnel</th>
<th>HOV</th>
<th>LRT 1-5</th>
<th>LRT Genesee</th>
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<tr>
<td><strong>COSTS</strong></td>
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<tr>
<td>Capital Costs (millions of 1992 dollars)</td>
<td>NA</td>
<td>$42.5</td>
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<td>Annualized Capital Costs (millions of 1992 dollars)</td>
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<tr>
<td>Cost Effectiveness Ratio - New Trip Index ($/New rider; compared to TSM)</td>
<td>NA</td>
<td>NA</td>
<td>$5.96</td>
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<td>Trips</td>
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<td><strong>TRANSPORTATION EFFECTIVENESS</strong></td>
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<td>Daily Transit Boardings (change to TSM)</td>
<td>NA</td>
<td>387,200</td>
<td>+670</td>
<td>+900</td>
<td>+5,300</td>
<td>+14,630</td>
<td>+12,010</td>
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<tr>
<td>Transit Mode Share - Daily linked trips (change to TSM)</td>
<td>NA</td>
<td>178,180</td>
<td>+550</td>
<td>+740</td>
<td>+750</td>
<td>+3,180</td>
<td>+2,590</td>
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<tr>
<td>Auto VMT in Corridor (SOV &amp; HOV) - change to No-Build</td>
<td>13,491,730</td>
<td>(36,600)</td>
<td>(37,130)</td>
<td>(39,930)</td>
<td>(65,610)</td>
<td>(57,910)</td>
<td>(54,720)</td>
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<td>Congested VMT (LOS E or worse) - change to No-Build</td>
<td>4,143,000</td>
<td>(57,000)</td>
<td>(58,000)</td>
<td>(58,500)</td>
<td>(95,000)</td>
<td>(70,000)</td>
<td>(67,000)</td>
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<td>Auto Travel Times to Centre City (avg. minutes) - change to No-Build</td>
<td>28.3</td>
<td>(0.2)</td>
<td>(0.2)</td>
<td>(0.2)</td>
<td>(1.0)</td>
<td>(0.3)</td>
<td>(0.2)</td>
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<td>Transit Travel Times to Centre City (avg. minutes) - change to No-Build</td>
<td>77.9</td>
<td>(2.8)</td>
<td>(3.8)</td>
<td>(4.8)</td>
<td>(7.2)</td>
<td>(12.0)</td>
<td>(11.0)</td>
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</table>

**ALTERNATIVES**

2-68
<table>
<thead>
<tr>
<th>Category</th>
<th>Baseline (No-Build)</th>
<th>TSM</th>
<th>TSM/Commuter Rail</th>
<th>Commuter Rail Tunnel</th>
<th>HOV</th>
<th>LRT I-5</th>
<th>LRT Genesee</th>
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<tbody>
<tr>
<td>Service Accessibility (No. of people within walking distance of bus stops and commuter rail/ LRT stations)</td>
<td>247,850</td>
<td>+9,700</td>
<td>+10,500</td>
<td>+11,570</td>
<td>+9,700</td>
<td>+14,750</td>
<td>+19,450</td>
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<td>Population Employment</td>
<td>257,600</td>
<td>+18,200</td>
<td>+18,500</td>
<td>+18,740</td>
<td>+18,200</td>
<td>+24,550</td>
<td>+24,950</td>
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</tbody>
</table>

**ENVIRONMENTAL**

**LAND USE**

- Compatibility to Adjacent Uses, Zoning, and Neighborhoods: Good
- Right-of-Way Takes (area is expressed in hectares/ acres): 4.9/12.2
- Residential Displacements: 0
- Non-residential Displacements: 0

**ECONOMIC DEVELOPMENT**

- Economic Development Potential Created by Alternative: Low
- Construction Employment: Number of Person Years (Direct/ Indirect): 0
- Operations Employment: Number of Full Time Employees (Direct/ Indirect): 0

**SAFETY AND SECURITY**

- Safety (pedestrian/vehicular) and Security (crime prevention): Fair

**VISUAL AND AESTHETIC**

- Potential Visual and Aesthetic Impact: No
- Number of Sound Barriers Needed: 0
- Linear Meters/Feet of Sound Barriers: 0

**ALTERNATIVES**

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<table>
<thead>
<tr>
<th>Category</th>
<th>Baseline (No-Build)</th>
<th>TSM</th>
<th>TSM/Commuter Rail</th>
<th>Commuter Rail Tunnel</th>
<th>HOV</th>
<th>LRT I-5</th>
<th>LRT Genesee</th>
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<tr>
<td><strong>AIR QUALITY - Change in Daily VMT - as compared to No-Build</strong></td>
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<tr>
<td>- Auto/Truck</td>
<td>0</td>
<td>(81,550)</td>
<td>(81,550)</td>
<td>(81,550)</td>
<td>(405,630)</td>
<td>(124,350)</td>
<td>(166,530)</td>
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<td>- Bus</td>
<td>0</td>
<td>9,410</td>
<td>9,410</td>
<td>9,410</td>
<td>11,880</td>
<td>8,050</td>
<td>7,200</td>
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<td><strong>NOISE AND VIBRATION</strong></td>
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<td>Noise-Sensitive Receptors: Increased Noise w/o Mitigation</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
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<td>Vibration-Sensitive Receptors Affected w/o Mitigation</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Possible</td>
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<td><strong>ECOSYSTEMS/ WATER</strong></td>
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<td>Compatibility with Ecological Resources: Floodplains, Wetlands, Soils, Wildlife, Endangered Species</td>
<td>Good</td>
<td>Good</td>
<td>Fair</td>
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<td>Fair</td>
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<td>Affected Habitat Area (hectares/ acres)</td>
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<td>0</td>
<td>3.0/7.5</td>
<td>Option A: 2.94/7.3</td>
<td>0.8/2.1</td>
<td>1.2/3.08</td>
<td>4.9/12.0</td>
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<td>Affected Wetland Area (hectares/ acres)</td>
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<td>0</td>
<td>0.5/1.3</td>
<td>Option A: 1.24/3.1</td>
<td>0.8/2.1</td>
<td>0.15/0.38</td>
<td>0.16/0.41</td>
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<td>Number of FEMA defined Floodway encroachments</td>
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<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
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<td><strong>CULTURAL RESOURCES</strong></td>
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<td>Cultural Resources on or near Alignment</td>
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<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Number of Sites affected</td>
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<td>1</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>11</td>
<td>12</td>
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<td><strong>PARKLANDS</strong></td>
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<td>Potential 4(f) Impacts</td>
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**ALTERNATIVES**

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### Table 2.8-1
Comparisons of Key Characteristics of the Mid-Coast Corridor AA/DEIS/DEIR Alternatives

<table>
<thead>
<tr>
<th>Category</th>
<th>Baseline (No-Build)</th>
<th>TSM</th>
<th>TSM/Commuter Rail</th>
<th>Commuter Rail Tunnel</th>
<th>HOV</th>
<th>LRT I-5</th>
<th>LRT Genesee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affected Area (hectares/ acres)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>+0.1/0.3</td>
<td>&lt;0.08/0.2</td>
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#### CONSTRUCTION IMPACTS

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<tr>
<th>Accessibility During Construction: Pedestrian and vehicle access points affected</th>
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<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
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#### EQUITY

<table>
<thead>
<tr>
<th>Transit Travel Time from Low Income Areas (percent improvement compared to No-Build)</th>
<th>National City</th>
<th>South/Central San Diego</th>
</tr>
</thead>
<tbody>
<tr>
<td>90 mins</td>
<td>-6%</td>
<td>-6%</td>
</tr>
<tr>
<td>90 mins</td>
<td>-6%</td>
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<tr>
<td>90 mins</td>
<td>-6%</td>
<td>-6%</td>
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</tbody>
</table>

Source: Mid-Coast Corridor AA/DEIS/DEIR, 1995.
The AA/DEIS/DEIR used the following transportation effectiveness measures to assess the alternatives' attainment of transportation goals and objectives: change in total transit riders (daily transit boardings), change in transit mode share (percentage of travelers who use transit, as opposed to other modes of travel), change in vehicle miles traveled (VMT), change in congested miles of roadway (congested VMT), change in auto and transit travel times to the Centre City (downtown), and service accessibility (population within walking distance of public transit).

2.8.2.4 Environmental Impact Issues. Environmental objectives used to evaluate the alternatives were aimed at minimizing displacement of homes, businesses and employees; minimizing impacts on visual resources, parklands and historical/cultural resources; minimizing air quality, noise and vibration impacts, and protection/preservation of biological resources including plants, animals, and wetlands. Comparative results related to each objective from the AA/DEIS/DEIR are shown in Table 2.8-1.

Acquisition/Displacements. None of the alternatives required the relocation of homes. The HOV Lane Alternative was the only alternative that would displace an existing non-residential land use. That alternative would require a 0.1 hectare (0.3 acres) land acquisition in Mission Bay Park. The No-Build Alternative was the only alternative that required no land acquisitions. Of the remaining alternatives, the TSM required the least amount of land acquisition (4.9 hectares, or 12.2 acres) and the LRT I-5 Alignment required the greatest (13.8 hectares, or 34.0 acres).

Visual and Aesthetic. All alternatives were found to result in impacts to visual resources. The TSM, TSM/Commuter Rail and the Commuter Rail Tunnel Alternatives showed the fewest significant impacts. The LRT alignments showed the greatest number of potential impacts.

Cultural Resources/Parklands. The three TSM alternatives (TSM, TSM/Commuter Rail, and Commuter Rail Tunnel) were found to have no impact on cultural resources. The other alternatives each affected cultural resource sites that would require monitoring during construction, with the LRT Genesee Alignment Option including the most such sites. The TSM and the Commuter Rail Tunnel alternatives were found to result in no impact to parklands. Of the other alternatives, the HOV Lane would affect the greatest area of parklands.

Air Quality. A slight reduction in regional auto/truck and bus travel-related emissions was expected for all alternatives. The HOV Lane Alternative showed the greatest reduction in regional emissions, due to the reduction in vehicle miles traveled (VMT). The three TSM alternatives showed the least reduction in regional emissions.

Noise/Vibration. The TSM Alternatives showed no significant noise impacts. The other alternatives each showed some significant noise impact, with the LRT I-5 Alignment Option affecting the most sensitive receptors and the HOV Lane Alternative affecting the fewest. The TSM, TSM/Commuter Rail, and HOV Lane alternatives showed no potential vibration impacts. Potential vibration impacts of the remaining alternatives were found to be minor.

Biological Resources. The TSM Alternative showed no impact on habitat or wetland areas. The other alternatives would result in some impacts, with the HOV Lane showing the least impact and the LRT Genesee Alignment Option the greatest. All alternatives required encroachment into FEMA defined floodways, with the TSM and TSM/Commuter Rail alternatives requiring one encroachment, and the other alternatives each requiring two.
2.8.3 Community Acceptance and Support

During the Alternatives Analysis, which was conducted to identify the region's preference among alternative Mid-Coast transportation solutions, MTDB worked closely with the residents, business leaders, religious organizations, community associations, and neighborhood groups that make up the Mid-Coast community. A Project Advisory Committee (PAC) was formed, consisting of local agency staff, community leaders, and members of the public. The PAC met 12 times over the course of the study to provide comments and guidance regarding technical issues, including LRT alignment options, as key decisions were made. Nearly 200 community coordination activities were undertaken as part of the study, as described in Chapter 7 of this FEIS. These activities included the public scoping meeting, MTD Board meetings, general public meetings, presentations to planning and community groups, and bus tours of the alternative alignments and stations for Board members and the general public.

Public comment on the AA/DEIS/DEIR was received at an April 27, 1995, public hearing. Written and telephone comments on the AA/DEIS/DEIR were also received and are included in Volume II, Comments and Responses, of this FEIS. Public comments on the proposed Preferred Investment Strategy/Locally Preferred Alternative were heard at the October 26, 1995, MTD Board meeting prior to Board action on the LPA. Numerous members of the community indicated a preference for the LRT alternatives, and some recommended that the LPA consist of a combination of the LRT and other AA/DEIS/DEIR alternatives (as the MTDB ultimately recommended). However, there were some members of the community who expressed concerns regarding potential impacts of the LRT alternatives. These concerns are addressed in Volume II, Comments and Responses.

Upon evaluating the community response and the results of the AA/DEIS/DEIR, the MTDB Board selected the Preferred Investment Strategy/Locally Preferred Alternative for the Mid-Coast Corridor, as described in Section 2.1.1. This action was supported by similar resolutions adopted by the San Diego City Council and the University City Community Planning Group. The San Diego Association of Governments (SANDAG) has included the Mid-Coast LRT Project, Balboa Extension and Nobel Drive Coaster Station Project in the Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (RTIP).

2.9 SELECTION OF LOCALLY PREFERRED ALTERNATIVE AND PROJECT PHASING

On the basis of the ridership, cost, cost-effectiveness evaluation, and environmental impact data developed during the AA/DEIS/DEIR phase; the recommendation of the PAC; the results of the community outreach process conducted throughout the studies; the comments on the circulated AA/DEIS/DEIR received at the public hearing and during the public comment period; and the resolutions of support from the City of San Diego, the University Community Planning Group, and SANDAG, (see Section 2.8.3 and Chapter 7 of this document), in October 1995, the MTDB Board selected the Locally Preferred Alternative (now, Preferred Investment Strategy) described in Section 2.1.1.

As noted in Section 2.1.1, the Board also adopted a portion of the Preferred Investment Strategy as the first phase. This action was in response to the Board’s recognition of capital, operations, and funding constraints for implementation of the full Strategy. The Board action will enable MTDB to maximize use of the available state and local capital and operating funds. The first phase of the
project, designated as the Mid-Coast LRT Project, Balboa Extension and Nobel Drive Coaster Station, is the extent of rail alignment, LRT and commuter rail stations, and related facilities that MTDB projects it can construct and continue to operate with identified funding. This first phase is defined and described in Section 2.4 in detail.

The MTDB Board officially adopted the Balboa LRT Extension and Nobel Drive Coaster Station project as the first phase of the Mid-Coast Corridor Project by resolution in October 1995. It would be necessary for MTDB to complete additional environmental and engineering work, to obtain additional funding for construction, and to identify and secure a source of operating funds before it could extend LRT beyond the Balboa Extension.

2.10 COMPLIANCE WITH FEDERAL MAJOR INVESTMENT STUDY GUIDELINES

In accordance with the guidelines implementing 23 CFR Section, 450 (the October 1993 Joint Federal Transit Administration/Federal Highway Administration (FTA/FHWA) State and Metropolitan Planning Regulations), MTDB conducted the equivalent of a Major Investment Study (MIS) via its Alternative Analysis and its AA/DEIS/DEIR for the Mid-Coast Corridor.

MTDB coordinated with Caltrans, the City of San Diego, San Diego County, SANDAG, and a Project Advisory Committee comprising residents, business leaders, churches, community associations, and neighborhood organizations that make up the Mid-Coast Corridor, in defining and evaluating alternatives to identify a preference for a transportation improvement solution to address Mid-Coast Corridor travel needs. Through this process, it was determined that the Mid-Coast LRT Project, HOV lanes on Interstate 5, a Coaster Station at Nobel Drive, and additional parking at the Sorrento Valley Coaster Station constitute the Locally Preferred Alternative for a major transportation investment in this corridor. Via consultation with the FHWA, FTA, Caltrans, and SANDAG, it was formally determined that the MIS was part of the Alternatives Analysis performed by MTDB and that this process was consistent with the overall goals and technical specifics of the Metropolitan Planning Regulations for “pipeline” projects (projects which were underway prior to the new joint rule).
CHAPTER 3
Affected Environment
CHAPTER 3: AFFECTED ENVIRONMENT

This chapter describes the existing conditions in the study corridor that could be affected by the implementation of the Balboa LRT Extension/Nobel Drive Coaster Station Alternative and establishes the baseline conditions for Chapter 4, Transportation Impacts, and for Chapter 5, Environmental Consequences. Discussion is focused on the Balboa LRT Extension and Nobel Drive Coaster Station areas, but it includes descriptions of the full corridor to North University City, as contained in the Mid-Coast Corridor Alternatives Analysis/Draft Environmental Impact Statement/Draft Environmental Impact Report (AA/DEIS/DEIR). Where future conditions are likely to be different than existing conditions, some estimate or projection of future conditions is provided. Throughout this chapter, the project setting, or “affected environment,” is defined as including the area immediately surrounding the improvements proposed under the alternatives considered in this FEIS and the general vicinity. This area consists of the I-5 corridor generally bounded by the San Diego River on the south and Balboa Avenue on the north, as well as the area east of the Nobel Drive - Towne Centre Drive intersection. The terms “region” and “Mid-Coast Corridor” are used in context of the various environmental impact categories, to refer to the northwestern San Diego area, the Interstate 5 (I-5) corridor, and the communities of Mission Bay, Linda Vista, Clairemont, Pacific Beach, La Jolla, University City, and Del Mar.

More detailed background information may be found in the supporting environmental technical reports that were prepared for the AA/DEIS/DEIR, and which are available for review at MTDB’s offices, 1255 Imperial Avenue, 10th Floor, San Diego, California. Some of the technical reports have been updated to reflect more detailed or refined information developed since the AA/DEIS/DEIR was circulated and a Preferred Investment Strategy/Locally Preferred Alternative selected. All of the technical reports are listed in Appendix E (References/Bibliography), and are hereby incorporated by reference into this FEIS. Summaries of these technical reports are provided in the relevant sections of this FEIS (e.g., the Noise and Vibration Section provides a summary of the Noise and Vibration Technical Report). This chapter was developed in compliance with all appropriate federal and state laws and regulations.

3.1 LAND USE AND NEIGHBORHOODS

The land use and neighborhood descriptions provided in this section are based on Census data for Community Planning Areas, and supplemented by field analysis and interviews with City of San Diego Planning Department staff. The City of San Diego Planning Department has defined Community Planning Areas throughout the City of San Diego, based on Census tract boundaries. Each Community Planning Area consists of a number of Census tracts and can be divided into smaller sub-areas, also based on Census tract boundaries.

The improvements proposed under the TSM Alternative and the Balboa LRT Extension/Nobel Drive Coaster Station Alternative are generally located within three Community Planning Areas: Linda Vista, Clairemont, and University City. Within each Community Planning Area, special attention is placed on sub-areas adjacent to the proposed stations of the Balboa LRT Extension/Nobel Drive
Coaster Station Alternative. These sub-areas include “sphere of influence” zones, which generally encompass a one-half kilometer (one-third mile) radius around each proposed station site. The three Community Planning Areas in the vicinity of the improvements under the TSM and the Balboa LRT Extension/Nobel Drive Coaster Station Alternatives, and their respective sub-area Census tracts are shown on Figures 3.1-1 and 3.1-2 and listed below:

- Linda Vista Community Planning Area (sub-area Census tract 91.0501);
- Clairemont Mesa Community Planning Area (sub-area Census tracts 85.0300, 91.0100, 91.0301, 91.0401, and 91.0502); and
- University City Community Planning Area (sub-area Census tract 83.1701).

3.1.1 Land Uses, Goals and Policies

The City of San Diego has adopted various long-range planning guidelines and policies, on both a citywide and a Community Planning Area level. The City has demonstrated support for mixed use, transit-supportive development through approval of Transit-Oriented Development Guidelines (August 4, 1992). Application of these guidelines is intended to help the City improve the land use mix and design of developments, and their orientation to transit.

The City has adopted planning guidelines and policies for each of the three Community Planning Areas in the vicinity of improvements under the alternatives considered in this FEIS. These planning areas each have their own distinctive character and set of land use policy issues, as described below. A summary of land use and neighborhood data is provided in Table 3.1-1.

3.1.1.1 Linda Vista Community Planning Area. The Linda Vista Community Planning Area is bounded by Friars Road on the south, Tecolote Road on the north, and I-5 on the west. It contains a mixture of residential, commercial, and industrial land uses, as well as several parks and schools. At the southwest edge of this Community Planning Area is an industrial area known as the Tecolote Gateway, a portion of which is located in the Clairemont Mesa Community Planning Area. The area adjacent to the LRT Balboa Extension is located within the Morena Revitalization Area and zoned for industrial and commercial uses. Current policies in Linda Vista seek to promote the Morena Revitalization Area and Tecolote Gateway as a center for business.

3.1.1.2 Clairemont Mesa Community Planning Area. The Clairemont Mesa Community Planning Area extends from Tecolote Road on the south to State Route 52 on the north, with I-5 as its western boundary. This Community Planning Area is largely residential, with commercial shopping areas scattered among the neighborhoods and unique vistas and access to parks and recreation areas. Light industrial uses are located at the northwestern edge along I-5 and the San Diego Northern Railway (SDNR) in Rose Canyon. At the southwest edge, along Tecolote Road, is the Tecolote Gateway, described in the Linda Vista Community Planning Area description, above. The area adjacent to the proposed LRT Balboa Extension is zoned primarily for industrial and commercial uses. The planning area is largely built out, and land use policy issues in this area concern the screening of unaesthetic land uses and the preservation of vistas.
MID-COAST LRT PROJECT
BALBOA EXTENSION AND NOBEL DRIVE COASTER STATION
FINAL ENVIRONMENTAL IMPACT STATEMENT

Metropolitan Transit Development Board
San Diego, California

Figure 3.1-1
Community Planning Areas
Sub-Area Census Tract Neighborhood Study Areas

Figure 3.1-2

MID-COAST LRT PROJECT
BALBOA EXTENSION AND NOBEL DRIVE COASTER STATION FINAL ENVIRONMENTAL IMPACT STATEMENT

Metropolitan Transit Development Board
San Diego, California

AFFECTED ENVIRONMENT

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Source: BRW, Inc., December 1994
### Table 3.1-1
Affected Community Planning Area Summary

<table>
<thead>
<tr>
<th>Community Planning Area</th>
<th>Vicinity Land Use</th>
<th>Goals and Policies</th>
<th>Public Facilities</th>
<th>Population</th>
<th>Housing Units</th>
<th>Unique Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linda Vista</td>
<td>Industrial/Residential</td>
<td>• Promote as center for business&lt;br&gt;• Improve physical organization</td>
<td>University of San Diego&lt;br&gt;Western Division Police Station</td>
<td>31,170 (T)&lt;br&gt;6,679 (SA)</td>
<td>1,155 (MF)&lt;br&gt;1,356 (SF)&lt;br&gt;2,511 (SA)</td>
<td>• Older warehouses&lt;br&gt;• Excellent highway access</td>
</tr>
<tr>
<td>Clairemont</td>
<td>Residential/Commercial</td>
<td>• Screen unaesthetic land uses&lt;br&gt;• Preserve vistas</td>
<td>• Tecolote Canyon&lt;br&gt;• Marian Bear Memorial Park&lt;br&gt;• William P. Toler Elementary&lt;br&gt; School&lt;br&gt;• Fire Station</td>
<td>78,212 (T)&lt;br&gt;23,410 (SA)</td>
<td>3,181 (MF)&lt;br&gt;7,029 (SF)&lt;br&gt;10,110 (SA)</td>
<td>• Unique mixture of land uses&lt;br&gt;• Access point to Rose Canyon, Mission Bay</td>
</tr>
<tr>
<td>University</td>
<td>High Density, master planned Residential/Commercial major urban node</td>
<td>• LRT intensity bonus&lt;br&gt;• Protect SF areas&lt;br&gt;• Preserve open spaces&lt;br&gt;• Promote alternative transportation modes</td>
<td>• Rose Canyon Open Space Park&lt;br&gt;• San Clemente Canyon&lt;br&gt;• Mandell/Weiss-Eastgate Park&lt;br&gt;• Doyle Elementary School&lt;br&gt;• La Jolla Country Day School&lt;br&gt;• University City HS&lt;br&gt;• UCSD&lt;br&gt;• M.L.L. Jewish Community Center&lt;br&gt;• North Branch Fire and Police Station</td>
<td>44,314 (T)&lt;br&gt;4,043 (SA)</td>
<td>1,397 (MF)&lt;br&gt;774 (SF)&lt;br&gt;2,171 (SA)</td>
<td>• Detailed Community Plan&lt;br&gt;• Highest trip generator outside CBD&lt;br&gt;• Clearly defined pedestrian/ bicycle networks&lt;br&gt;• Clear effort to establish uniform urban design theme</td>
</tr>
</tbody>
</table>

Notes: T = Total, SA = Study Area, SF = Single Family, MF = Multifamily

Source: ICF Kaiser Engineers, Inc., 1995
3.1.1.3 University City Community Planning Area. The University City Community Planning Area is bounded by State Route 52 to the south, Sorrento Valley Road to the north, I-5 to the west, and the SDNR tracks to the east. This planning area is a major urban node with a detailed community plan. It contains a regional shopping center (University Towne Centre), high rise office developments, research facilities, and corporate headquarters. The area surrounding the proposed Nobel Drive Coaster Station consists of single-family homes, multi-family residential developments, and parkland. Policy issues in this Community Planning Area concern the preservation of single family homes, preservation of open space, and promotion of alternative transportation modes.

3.1.2 Public Facilities and Sphere of Influence

Sub-area Census tracts, delineated in Figure 3.1-2, are the Census tracts adjacent to improvements proposed as part of the alternatives evaluated in this FEIS. Public facilities within sub-area Census tracts are identified in Table 3.1-1, for sub-area Census tracts located in located within the Linda Vista, Clairemont, and University Community Planning Areas. Public facilities listed in Table 3.1-1 include parks, libraries, schools, and public offices. Both the Balboa LRT Extension/Nobel Drive Coaster Station Alternative and the TSM Alternative would increase accessibility to these facilities.

Proposed LRT station locations within the Census tract sub-areas are also shown on Figure 3.1-2. Sphere of influence zones were identified around the proposed LRT stations, as documented in the Neighborhoods Environmental Technical Report (1994), which is incorporated into this FEIS by reference. A sphere of influence zone, which generally encompasses a one-half kilometer (one-third mile) radius around a transit station, is the area within which a transit station is most likely to influence new or higher-intensity development. The Neighborhoods Environmental Technical Report documents existing land uses and zoning in the sphere of influence zones surrounding the proposed transit stations, as summarized below.

The Tecolote Station sphere of influence zone includes portions of the Morena Revitalization Area and the Tecolote Gateway area and is zoned for industrial and commercial uses. The Clairemont Station and Balboa Station sphere of influence zones each include areas zoned for commercial and residential uses. The Nobel Drive Coaster Station sphere of influence zone includes residential and open space uses.

3.1.3 Coastal Zone

The California Coastal Act of 1976 established a comprehensive planning and regulatory program to manage conservation and development of resources along California’s 1,770-kilometer (1,100-mile) coastline. The Coastal Zone encompasses some 607,000 hectares (1.5 million acres) of land and reaches from 4.8 kilometers (three miles) at sea to an inland boundary that varies from a few blocks in more urbanized areas to about eight kilometers (five miles) in less developed regions. Some improvements under the alternatives considered in this Final EIS would be located in the Coastal Zone, and therefore the project is subject to a special review and permitting process administered by the California Coastal Commission for all development proposed within its boundaries. The Coastal Commission also provides “federal consistency review” of all federal
activities that affect coastal resources, to ensure their consistency with the Coastal Zone Management Program. The Coastal Zone boundary is shown in Figure 3.1-3.

Both the TSM Alternative and the Balboa LRT Extension/Nobel Drive Coaster Station Alternative include development within the Coastal Zone and would require federal consistency review. These proposed improvements are in the Mission Bay area of the Coastal Zone area. The City of San Diego is preparing a Local Coastal Plan for the Mission Bay area; however, until an LCP is completed and approved, the Coastal Commission continues to have jurisdiction in this area. Proposed project features within the Coastal Zone under the TSM and Build Alternatives are described in Chapter 5, Environmental Consequences. Administration of a Coastal Development Permit for construction of improvements in the Coastal Zone would be based on a project review by the Coastal Commission or the City of San Diego, depending on the jurisdiction boundaries at the time of permit application.

3.2 TRANSPORTATION

This section discusses existing and future transportation conditions in the region and the Mid-Coast Corridor study area. Transportation needs that would be addressed by the transit improvements being evaluated in this study are discussed in Chapter 1.0, “Purpose and Need.” This section reviews modes of travel, public transit services, street and highway systems including intersection level of service, mobility, parking, bicycle facilities, and rail freight services. Figure 3.2-1 illustrates the transportation study area defined for the transportation analysis. To capture possible traffic impacts from the transit improvements evaluated in the present study, the study area or zone defined for the Mid-Coast transportation analysis extends from the I-5/I-805 split through Old Town.

3.2.1 Mode Choice

Table 3.2-1 gives an overview of mode choice, trip length, and automobile occupancy information for the San Diego Region as a whole for 1975, 1995, and 2015. The table shows that there is almost no change in the travelers’ past or projected choice of modes over the 40 years. The percentage using automobiles is projected to remain almost constant at 94.1 to 94.3 percent. Transit use is projected to increase slightly by the year 2015 in comparison to the earlier years. Both automobile and transit trip lengths are expected to increase somewhat over this period, while auto occupancy is expected to decrease slightly.

Table 3.2-2 illustrates more detailed mode choice data for the Mid-Coast Corridor as produced by the SANDAG travel forecasting model by time of day for work, non-work, and total trips. Table 3.2-2 also illustrates trips within the transportation study area and between the transportation study area and the rest of the San Diego Region under 1990 baseline and 2015 No-Build conditions. Peak-period auto use is projected to decline somewhat, to 92 percent of work trips in 2015 compared with 94 percent of work trips in 1990. Peak-period transit use is projected to increase by half over this period, from 3.6 percent to 5.4 percent of work trips. A corresponding but smaller decrease in auto use for all work trips is projected to occur. Auto use for all trip purposes is projected to remain nearly constant between 1990 and 2015, with a slight increase in transit use.
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Coastal Zone Boundary in Mid-Coast Corridor
* Coastal zone boundary extends to eastern edge of railroad R.O.W. between I-8 and Balboa Ave.

Source: City Of San Diego Planning Department
Figure 3.2-1
Transportation Study Area

MID-COAST LRT PROJECT
BALBOA EXTENSION AND NOBEL DRIVE COASTER STATION
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Metropolitan Transit Development Board
San Diego, California

Source: SANDAG, 1990

AFFECTED ENVIRONMENT
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### Table 3.2-1
Mode Choice and Other Travel Characteristics for the San Diego Region

<table>
<thead>
<tr>
<th></th>
<th>1975</th>
<th>1995</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mode Choice</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automobile</td>
<td>94.1%</td>
<td>94.3%</td>
<td>94.1%</td>
</tr>
<tr>
<td>Transit</td>
<td>1.5%</td>
<td>1.4%</td>
<td>1.7%</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trip Length (miles)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automobile</td>
<td>4.4%</td>
<td>4.3%</td>
<td>4.2%</td>
</tr>
<tr>
<td>Transit</td>
<td>5.4</td>
<td>5.6</td>
<td>5.8</td>
</tr>
<tr>
<td>Other</td>
<td>5.6</td>
<td>6.8</td>
<td>7.7</td>
</tr>
<tr>
<td>Automobile Occupancy (persons)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peak Periods</td>
<td>1.24</td>
<td>1.20</td>
<td>1.20</td>
</tr>
<tr>
<td>Total Trips</td>
<td>1.30</td>
<td>1.26</td>
<td>1.26</td>
</tr>
</tbody>
</table>

Source: SANDAG, 1998

### 3.2.2 Public Transit Services and Ridership

The Mid-Coast Corridor is currently served by a number of local and express bus routes, intercity rail, and commuter rail. Light rail transit (LRT) is also available through the San Diego Trolley at the Old Town Transit Center. The bus routes are operated by San Diego Transit Corporation (SDTC) and North County Transit District (NCTD). Amtrak provides intercity rail passenger service between San Diego and Los Angeles. NCTD provides commuter rail service on the Coaster between Oceanside and the Santa Fe Depot in Centre City San Diego. The Coaster system currently has stations at Sorrento Valley and Old Town in the study area.

### San Diego Trolley

San Diego’s light rail transit (LRT) service, known as the San Diego Trolley, was initiated in 1981. The system consists of the Blue Line (North-South) and the Orange Line (East-West) as shown on Figure 3.2-2. The Blue Line, Route 510, serves destinations between Mission San Diego and San Ysidro, including Qualcomm Stadium at Jack Murphy Field, Mission/Fashion Valley Shopping Centers, Old Town, Centre City attractions and the International Border. The Orange Line, Route 520, connects Centre City with the East County communities of Encanto, Lemon Grove, La Mesa, El Cajon and Santee.

Trolley revenue service is provided seven days a week. On weekdays, Blue Line revenue trips available for passenger boarding begin at approximately 4:00 AM (first departure) and terminate at 1:00 AM (last departure). Saturday service begins at approximately 4:30 AM, while Sunday and holiday service begins at 4:00 AM. Weekend service terminates at 1:00 AM as on weekdays. Train headways – the elapsed time between consecutive train movements in the same direction – are 7 ½ minutes during peak periods (approximately 6 - 9 AM and 3 - 7 PM), weekdays, and 15 minutes for remaining periods, except for late evening hours.

Revenue trips available for passenger boarding on the Orange Line begin at 4:15 AM and terminate at 12:45 AM. Weekend service begins at approximately 4:45 AM and terminates at 1:15 AM. Train headways are 15 minutes, except for weekdays after 7:00 PM and weekends between 4:45 AM and 9:45 AM, and 6:20 PM and 1:15 AM, when headways are 30 minutes.
## Table 3.2-2

### Mid-Coast Corridor Mode Choice - Person Trips within Transportation Study Area and between Transportation Study Area and Rest of Region

<table>
<thead>
<tr>
<th>Trip Purpose and Period</th>
<th>Mode</th>
<th>Drive Alone</th>
<th>Carpool / Vanpool</th>
<th>LRT</th>
<th>Bus</th>
<th>Other</th>
<th>Total**</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1990 Baseline Data</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Peak Hour</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work*</td>
<td>148,566</td>
<td>23,004</td>
<td>383</td>
<td>6,211</td>
<td></td>
<td>4,595</td>
<td>182,759</td>
</tr>
<tr>
<td>%</td>
<td>81.3%</td>
<td>12.6%</td>
<td>0.2%</td>
<td>3.4%</td>
<td></td>
<td>2.5%</td>
<td>100%</td>
</tr>
<tr>
<td>Non-Work</td>
<td>368,879</td>
<td>323,759</td>
<td>245</td>
<td>5,234</td>
<td></td>
<td>75,458</td>
<td>773,575</td>
</tr>
<tr>
<td>%</td>
<td>47.7%</td>
<td>41.9%</td>
<td>0.03%</td>
<td>0.7%</td>
<td></td>
<td>9.8%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>517,445</td>
<td>346,763</td>
<td>628</td>
<td>11,445</td>
<td></td>
<td>80,053</td>
<td>956,334</td>
</tr>
<tr>
<td>%</td>
<td>54.1%</td>
<td>36.3%</td>
<td>0.1%</td>
<td>1.2%</td>
<td></td>
<td>8.4%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Weekday</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work*</td>
<td>243,594</td>
<td>38,418</td>
<td>572</td>
<td>9,973</td>
<td></td>
<td>7,704</td>
<td>300,261</td>
</tr>
<tr>
<td>%</td>
<td>81.1%</td>
<td>12.8%</td>
<td>0.2%</td>
<td>3.3%</td>
<td></td>
<td>2.6%</td>
<td>100%</td>
</tr>
<tr>
<td>Non-Work</td>
<td>976,069</td>
<td>886,576</td>
<td>570</td>
<td>12,513</td>
<td></td>
<td>179,419</td>
<td>2,055,147</td>
</tr>
<tr>
<td>%</td>
<td>47.5%</td>
<td>43.1%</td>
<td>0.03%</td>
<td>0.6%</td>
<td></td>
<td>8.7%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,219,663</td>
<td>924,994</td>
<td>1,142</td>
<td>22,486</td>
<td></td>
<td>187,123</td>
<td>2,355,408</td>
</tr>
<tr>
<td>%</td>
<td>51.8%</td>
<td>39.3%</td>
<td>0.05%</td>
<td>1.0%</td>
<td></td>
<td>7.9%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>2015 - No-Build Alternative</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Peak Hour</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work*</td>
<td>149,336</td>
<td>23,499</td>
<td>3,744</td>
<td>6,441</td>
<td></td>
<td>4,395</td>
<td>187,415</td>
</tr>
<tr>
<td>%</td>
<td>79.7%</td>
<td>12.5%</td>
<td>2.0%</td>
<td>3.4%</td>
<td></td>
<td>2.3%</td>
<td>100%</td>
</tr>
<tr>
<td>Non-Work</td>
<td>450,141</td>
<td>394,909</td>
<td>3,004</td>
<td>4,766</td>
<td></td>
<td>88,391</td>
<td>941,211</td>
</tr>
<tr>
<td>%</td>
<td>47.8%</td>
<td>42.0%</td>
<td>0.3%</td>
<td>0.5%</td>
<td></td>
<td>9.4%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>599,477</td>
<td>418,408</td>
<td>6,748</td>
<td>11,207</td>
<td></td>
<td>92,786</td>
<td>1,128,626</td>
</tr>
<tr>
<td>%</td>
<td>53.1%</td>
<td>37.1%</td>
<td>0.6%</td>
<td>1.0%</td>
<td></td>
<td>8.2%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Weekday</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work*</td>
<td>244,841</td>
<td>38,854</td>
<td>5,085</td>
<td>10,038</td>
<td></td>
<td>7,334</td>
<td>306,152</td>
</tr>
<tr>
<td>%</td>
<td>80.0%</td>
<td>12.7%</td>
<td>1.7%</td>
<td>3.3%</td>
<td></td>
<td>2.4%</td>
<td>100%</td>
</tr>
<tr>
<td>Non-Work</td>
<td>1,195,770</td>
<td>1,084,621</td>
<td>6,210</td>
<td>10,674</td>
<td></td>
<td>211,383</td>
<td>2,508,658</td>
</tr>
<tr>
<td>%</td>
<td>47.7%</td>
<td>43.2%</td>
<td>0.2%</td>
<td>0.4%</td>
<td></td>
<td>8.4%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,440,611</td>
<td>1,123,475</td>
<td>11,295</td>
<td>20,712</td>
<td></td>
<td>218,717</td>
<td>2,814,810</td>
</tr>
<tr>
<td>%</td>
<td>51.2%</td>
<td>39.9%</td>
<td>0.4%</td>
<td>0.7%</td>
<td></td>
<td>7.8%</td>
<td>100%</td>
</tr>
</tbody>
</table>

*Includes home to college.

**Percentages may not add up to 100 due to rounding.

Source: SANDAG Travel Model, May 1998

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**AFFECTED ENVIRONMENT**

3-11
The current peak fleet requirement is 27 trains and 83 light rail vehicles. The total Trolley fleet is 123 vehicles, which includes 22 spare vehicles. In fiscal year 1994 (ending June 30, 1994), Trolley operations included 4.2 million revenue vehicle miles and 220,322 revenue vehicle hours of service. The San Diego Trolley had approximately 42,560 weekday passenger boardings according to the 1994 National Transit Database Report. Current daily ridership (1998) is 72,000 total boardings per day. By 2015, total daily ridership is projected to be 140,100 boardings (under the No-Build Alternative). Within the Mid-Coast Corridor, 5,100 daily Trolley boardings are projected at Old Town in 2015 (under the No-Build Alternative).

**Bus Transit**

San Diego Transit Corporation (SDTC) operates three express routes between downtown San Diego and the Mid-Coast Corridor via I-5. Route 30 operates on I-5 from downtown to north Mission Bay, and then serves Pacific Beach, La Jolla, and the University Towne Centre (UTC) Transit Center. Route 30 continues east from UTC along Miramar Road, Camino Ruiz, and Mira Mesa Boulevard to United States International University (USIU). This is the only route linking the Mid-Coast Corridor with the Mira Mesa and Scripps Ranch areas to the east. On the weekend, the UTC-to-USIU portion of the route is served by Route 31. Routes 50 and 150 travel I-5 from Centre City to the Clairemont area, UTC, and La Jolla Village Square. SDTC also operates seven local routes in the southern portion of the Corridor, in both north-south and east-west directions.

Table 3.2-3 shows the frequency of each SDTC route during peak hours, midday, and evenings. With the exception of the combined 34/34A routes, 30-minute headways predominate on local routes throughout the day, with headways on some routes increasing to 60 minutes on evenings and weekends. Overlapping service on paired routes permits 15-minute or 30-minutes headways for most of the combined 34/34A and 5/5A routes, respectively. The express routes (30/31 and 50/150) offer off-peak service, but Routes 30, 50, and 150 do not operate during weekends.

NCTD also operates transit service within the Mid-Coast Corridor. NCTD Route 301, a local route, links the UTC Transit Center with Del Mar and other North County coastal points up to Oceanside. Route 310, an express route, links the UTC Transit Center with several I-5 park-and-ride lots and Oceanside during both peak and off-peak periods.

Table 3.2-3 summarizes the actual 1995 and projected 2015 ridership for all of the bus lines serving the Mid-Coast Corridor (under the No-Build Alternative). Daily ridership on all Mid-Coast routes is expected to grow from 19,833 boardings in 1995 to 26,796 boardings in 2015, a growth rate of 1.5 percent per year.

**Dial-a-Ride Service**

The region is organized into Americans with Disabilities Act (ADA) complementary paratransit service areas to provide demand responsive transit service to all senior and disabled individuals. The Mid-Coast Corridor is included in Zone I of the MTDB ADA Service Area. There are no general public dial-a-ride systems in the Mid-Coast Corridor.
Table 3.2-3
1997 San Diego Transit Corporation Bus Routes Serving the Transportation Study Area

| Bus Route | Type | Service Headways (Minutes) | Weekday Passengers | | | |
|-----------|------|-----------------------------|--------------------|--------|--------|
|           |      | Weekday | Saturday | Sunday |
|           |      | Peak | Midday | Evening |        | 1995 | 2015 |
| 5         | Local | 60  | 60     | 60      | 60     | 60    | 3,998 | 3,467 |
| 5A        | Local | 60  | 60     | -       | -      | -     | -     | -     |
| 9         | Local | 30  | 30     | 30      | 30     | 30    | 1,846 | 1,312 |
| 27        | Local | 30  | 30     | 30      | 60     | 60    | 1,862 | 2,243 |
| 30        | Express | 30 | 30     | 30      | Weekdays Only | 3,283 | 8,024 |
| 31        | Express | Weekends/Holidays Only | 45 | 45 | | |
| 34        | Local | 30  | 30     | 30      | 30     | 30    | 7,048 | 6,724 |
| 34A       | Local | 30  | 30     | -       | 30     | 30    | N/A   | 1,976 |
| 44        | Local | 30  | 30     | 30      | 30     | 30    | N/A   | 1,976 |
| 50        | Express | 30 | 30     | 30      | Weekdays Only | 1,796 | 3,050 |
| 150       | Express | 30 | Peak AM/PM Only | Weekdays Only | | | |
|           | Total | | | | | 19,833 | 26,796 |

Notes:
- Route pairs 5/5A, 34/34A, and 50/150 overlap service, effectively cutting the headways by half for portions of the routes for daytime or peak periods only.
- Routes include those with service that extends beyond the Mid-Coast Corridor.
- Passenger totals are unlinked trips and equivalent to total boardings on that route. Some routes also serve other parts of San Diego County and may include trips made on line segments outside the Mid-Coast area.

Sources: SANDAG, 1998

InterCity Rail Passenger Service

Passenger rail service through the Mid-Coast Corridor has been in operation for over 100 years, connecting San Diego and Los Angeles. With support from Caltrans, Amtrak operates eight daily round trips on the San Diegan. Three round trips continue on to Santa Barbara, and one continues on to San Luis Obispo. Annual riders on the service totaled about 1.5 million in 1995.

Commuter Rail Passenger Service

The North San Diego County Transit Development Board (NSDCTDB) operates the Coast Express Rail (Coaster) service between Oceanside and Centre City San Diego. Currently the Coaster has eight stations and a daily 1997 ridership of 3,316 riders or boardings per day (Table 3.2-4). The line is approximately 66 kilometers (41 miles) long and primarily serves commute trips between bedroom communities north of San Diego to jobs in Sorrento Valley, Old Town, and downtown San Diego. There is limited reverse commuting, mostly from Old Town and San Diego to jobs in Sorrento Valley. There are nine weekday trains each way, plus two additional trains on Friday night. The Old Town and downtown San Diego Stations are well served by conventional transit, including the San Diego Trolley. The Sorrento Valley Station is served by employer and “Coaster Connection” shuttles, giving it the second highest station boardings (after downtown) in the system. Although
there is some local transit service at many suburban stations, the primary home-end mode of access for residents commuting to jobs is by auto, either through driving and parking or by being dropped off.

<table>
<thead>
<tr>
<th>Station</th>
<th>Daily Balanced Boardings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oceanside</td>
<td>370</td>
</tr>
<tr>
<td>Carlsbad Village</td>
<td>426</td>
</tr>
<tr>
<td>Carlsbad Poinsettia</td>
<td>230</td>
</tr>
<tr>
<td>Encinitas</td>
<td>393</td>
</tr>
<tr>
<td>Solana Beach</td>
<td>188</td>
</tr>
<tr>
<td>Sorrento Valley</td>
<td>526</td>
</tr>
<tr>
<td>Old Town</td>
<td>304</td>
</tr>
<tr>
<td>San Diego</td>
<td>878</td>
</tr>
<tr>
<td><strong>Total System</strong></td>
<td><strong>3,316</strong></td>
</tr>
</tbody>
</table>

Notes:
1. Numbers may not add to total because of rounding.
2. Daily Balanced Boardings = (Ons + Offs)/2


Planned Future Bus and Rail Services

The Long-Range Transit Plan includes expansion of the LRT network and continuing improvements to the bus system in metropolitan San Diego. In the Mid-Coast Corridor, however, the existing bus routes and headways described above are expected to remain the same through 2015. In the near term, LRT extensions are under development or in planning in two corridors. Besides the proposed project extension up the Mid-Coast Corridor (as described and reviewed in this FEIS), the Mission Valley (Green) Line will be extended from the Mission San Diego Station to Grossmont Center.

Following the future extension of the Trolley from Mission San Diego to connect with the Orange Line at Grossmont Center, the operation of the lines will be changed. The Blue Line (Route 510) will operate from San Ysidro to the Old Town Transit Center. The Orange Line (Route 520) will remain unchanged, operating between 12th and Imperial and Santee. A new line (Green Line -- Route 530), will operate between 12th and Imperial and Grossmont Center via Mission Valley. As demand permits, 15 minute headways will be increased to 7.5 minutes during peak periods.

Transit Ridership Characteristics

As a measure of service to the Mid-Coast Corridor, the SANDAG travel model was used to project mode of access for weekday transit trips within, to and from the Mid-Coast Corridor. Table 3.2-5 presents these projected statistics for the Mid-Coast Corridor and the San Diego region for 1990 and 2015. The model also projected transfer rates for transit trips made within the region.
Table 3.2-5 shows that walking was the primary mode of access to transit in 1990, constituting 89 percent of the access trips to transit in the transportation study area. By 2015, walk access is expected to fall to 79 percent because of more driving to transit, under the No-Build Alternative. Based on the data in Table 3.2-2, this increase in driving also corresponds with an increase in rail transit trips, indicating that proportionately more transit users are projected to drive to train transit stations than bus lines. For the entire region, walk access to transit was projected to be 84 percent in 1990 and 76 percent in 2015. This indicates that, despite the projected decline in walk access, the transportation study area will continue to have slightly higher walk access to transit than the region.

Higher transfer rates in the year 2015 compared to 1990 appear to reflect expanded use of feeder transit by commuters gaining access to mainline rail and express bus services. Although data on transfer rates are not available for Mid-Coast only services, rates and growth trends are anticipated to be similar to the region over this period.

3.2.3 Street and Highway System

Traffic

Average daily traffic (ADT) volumes on key arterial roadways in the Mid-Coast Corridor are summarized for 1997 and 2015 in Table 3.2-6. Daily arterial traffic volumes in 1997 ranged from approximately 8,000 to 103,000 ADT. The heaviest volumes occur on the east-west arterials of La Jolla Village Drive in the northern portion of the Corridor and Balboa Avenue in the south. Traffic growth in the corridor is projected to be uneven, increasing an average of 39 percent at 14 locations on the arterials and decreasing an average of 30 percent at eight locations. Most of the decreases are projected to be on east-west arterials that are east of I-5 in the northern part of the study.
area, while the highest of the increases are projected to be mostly on the north-south arterials in the southern end of the study area, i.e., south of Balboa Avenue.

<table>
<thead>
<tr>
<th>Facility</th>
<th>Location</th>
<th>1997</th>
<th>2015 No-Build</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ardath Road/SR 52</td>
<td>West of I-5</td>
<td>52,900</td>
<td>53,800</td>
<td>1.7%</td>
</tr>
<tr>
<td>Ardath Road/SR 52</td>
<td>East of I-5</td>
<td>103,000</td>
<td>94,400</td>
<td>-8.4%</td>
</tr>
<tr>
<td>Balboa Avenue/Garnet</td>
<td>West of I-5</td>
<td>61,800</td>
<td>65,600</td>
<td>6.1%</td>
</tr>
<tr>
<td>Balboa Avenue/Garnet</td>
<td>East of I-5</td>
<td>56,600</td>
<td>31,500</td>
<td>-44.3%</td>
</tr>
<tr>
<td>Clairemont Drive</td>
<td>East of I-5</td>
<td>34,800</td>
<td>30,900</td>
<td>-11.2%</td>
</tr>
<tr>
<td>Genesee Avenue</td>
<td>North of La Jolla Village Dr.</td>
<td>28,000</td>
<td>14,500</td>
<td>-48.2%</td>
</tr>
<tr>
<td>Genesee Avenue</td>
<td>South of La Jolla Village Dr.</td>
<td>26,800</td>
<td>17,100</td>
<td>-36.2%</td>
</tr>
<tr>
<td>Genesee Avenue</td>
<td>North of SR 52</td>
<td>27,700</td>
<td>32,600</td>
<td>17.7%</td>
</tr>
<tr>
<td>La Jolla Colony Drive</td>
<td>East of I-5</td>
<td>8,400</td>
<td>10,300</td>
<td>22.6%</td>
</tr>
<tr>
<td>La Jolla Village Drive</td>
<td>West of I-5</td>
<td>56,700</td>
<td>39,100</td>
<td>-31.0%</td>
</tr>
<tr>
<td>La Jolla Village Drive</td>
<td>East of I-5</td>
<td>47,500</td>
<td>51,700</td>
<td>8.8%</td>
</tr>
<tr>
<td>La Jolla Village Drive</td>
<td>East of I-5</td>
<td>67,200</td>
<td>32,700</td>
<td>-51.3%</td>
</tr>
<tr>
<td>Miramar Road</td>
<td>East of I-805</td>
<td>19,300</td>
<td>23,200</td>
<td>20.2%</td>
</tr>
<tr>
<td>Morena Boulevard</td>
<td>North of Balboa Avenue</td>
<td>11,100</td>
<td>17,300</td>
<td>55.9%</td>
</tr>
<tr>
<td>Morena Boulevard</td>
<td>South of Balboa Avenue</td>
<td>10,500</td>
<td>16,600</td>
<td>58.1%</td>
</tr>
<tr>
<td>Morena Boulevard</td>
<td>North of Clairemont</td>
<td>16,200</td>
<td>21,700</td>
<td>34.0%</td>
</tr>
<tr>
<td>Morena Boulevard</td>
<td>South of Clairemont</td>
<td>23,400</td>
<td>21,100</td>
<td>-9.8%</td>
</tr>
<tr>
<td>Nobel Drive</td>
<td>East of I-5</td>
<td>6,800</td>
<td>17,500</td>
<td>157.4%</td>
</tr>
<tr>
<td>Pacific Highway</td>
<td>North of Friars Road</td>
<td>42,200</td>
<td>55,100</td>
<td>30.6%</td>
</tr>
<tr>
<td>Sea World Drive</td>
<td>West of I-5</td>
<td>25,400</td>
<td>39,100</td>
<td>53.9%</td>
</tr>
<tr>
<td>Tecolote Road</td>
<td>East of I-5</td>
<td>11,300</td>
<td>17,200</td>
<td>52.2%</td>
</tr>
<tr>
<td>West Morena Boulevard</td>
<td>North of Tecolote Road</td>
<td>11,300</td>
<td>14,200</td>
<td>25.7%</td>
</tr>
<tr>
<td>West Morena Boulevard</td>
<td>South of Tecolote Road</td>
<td>11,300</td>
<td>14,200</td>
<td>25.7%</td>
</tr>
</tbody>
</table>

Table 3.2-7 displays average daily traffic at key freeway locations through the Mid-Coast Corridor. Daily traffic volumes in 1997 ranged from approximately 123,000 to 198,000 and are forecast to increase by 14 to 55 percent by 2015. On average, freeway traffic volumes are expected to increase about 30 percent by 2015.

**Planned Future Roadway Improvements**

The major planned roadway improvements in the Mid-Coast Corridor and related region that are expected to be in place by 2015 (i.e., the No-Build 2015 condition) include:

- Extending Nobel Drive to the East and constructing a Nobel Drive/I-805 interchange.
- Widening of I-5 (north of the Mid-Coast Corridor) and I-805 with HOV lanes.
- Completion of SR 56 as a freeway connecting I-5 at Carmel Valley with I-15.

A complete list of the planned major highway projects is included in Appendix G.
Table 3.2-7
Average Daily Freeway Traffic Volumes (1997 and 2015)

<table>
<thead>
<tr>
<th>Facility</th>
<th>Location</th>
<th>1997</th>
<th>No-Build (2015)</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-5</td>
<td>I-805/I-5-La Jolla Village</td>
<td>136,000</td>
<td>211,100</td>
<td>55.2%</td>
</tr>
<tr>
<td>I-5</td>
<td>La Jolla Village-Nobel</td>
<td>123,000</td>
<td>183,400</td>
<td>49.1%</td>
</tr>
<tr>
<td>I-5</td>
<td>Nobel-Gilman</td>
<td>145,000</td>
<td>182,200</td>
<td>25.7%</td>
</tr>
<tr>
<td>I-5</td>
<td>Gilman-Ardath</td>
<td>166,000</td>
<td>213,500</td>
<td>28.6%</td>
</tr>
<tr>
<td>I-5</td>
<td>SR 52-Balboa</td>
<td>181,000</td>
<td>234,400</td>
<td>29.5%</td>
</tr>
<tr>
<td>I-5</td>
<td>Balboa-Clairemont/Mission Bay</td>
<td>196,000</td>
<td>265,500</td>
<td>35.5%</td>
</tr>
<tr>
<td>I-5</td>
<td>Clairemont/Mission Bay-Sea World Drive</td>
<td>198,000</td>
<td>264,500</td>
<td>33.6%</td>
</tr>
<tr>
<td>I-5</td>
<td>Sea World Drive-I-8</td>
<td>194,000</td>
<td>239,300</td>
<td>23.4%</td>
</tr>
<tr>
<td>I-805</td>
<td>1-5/I-805 Junction-La Jolla Village Drive</td>
<td>172,000</td>
<td>196,000</td>
<td>14.0%</td>
</tr>
<tr>
<td>I-805</td>
<td>La Jolla Village Drive-SR52</td>
<td>177,000</td>
<td>210,000</td>
<td>18.6%</td>
</tr>
</tbody>
</table>

Source: Caltrans 1997 ADT Freeway Volumes

Level of Service

Numerous intersections are formed at the at-grade crossings of freeways, arterials, and local streets within the study area. Intersections tend to be the critical capacity constraints in the non-freeway roadway network, and their performance is often indicative of the overall local traffic conditions within the network. Eleven intersections were selected to represent local traffic effects and were analyzed for existing (1998) and year 2015 No-Build level of service. The intersections are in the immediate vicinity of proposed project improvements (TSM and Build alternative) and are the most likely to experience the effects of changing traffic should the proposed improvements be implemented. Ten of the intersections are signalized and one is unsignalized. Figures 3.2-3 (a and b) show the location of the intersections.

Traffic for the base year was derived from counts, where available. Where count data were collected prior to 1998, growth factors based upon population and employment trends in the area were used to factor volumes upwards to that reference year. Future year volumes were estimated using SANDAG model forecasts, which provided annual growth rates for study area traffic. The 1998 intersection volumes were factored to 2015 based upon forecast growth on approach roadways.

Level of service for signalized intersections was evaluated using the Signal94 analysis program, which follows procedures consistent with Chapter 9, Signalized Intersections, of the Highway Capacity Manual, Special Report 209, Third Edition, Transportation Research Board, 1994 (HCM). Level of service for unsignalized intersections was evaluated using the Highway Capacity Software, Release 2.1f, analysis program, which is consistent with procedures outlined in Chapter 10 of the HCM.
INTERSECTIONS INCLUDED IN ANALYSIS

3. Balboa-Garnet Ave./Mission Bay Dr.
4. Balboa Ave.-Morena Blvd. Ramps North
5. Balboa Ave.-Morena Blvd. Ramps South
7. Paul Jones Ave.-Morena Blvd.
8. Clairemont Dr./I-5 NB Ramps
9. Ingulf St./Morena Blvd.
10. Clairemont Dr./Denver St.
11. Morena Blvd./W. Morena Blvd.
12. Vega St./W. Morena Blvd.

Figure 3.2-3b
Study Intersections for Level of Service Analysis (South)
Both level of service measures (for signalized and unsignalized intersections) are based upon stopped time delay to vehicles proceeding through the intersection during the analysis period. There is, however, a slight difference in the definition of delay, and therefore level of service, reflecting type of traffic control.

For signalized intersections, level of service is defined by the average stopped delay in seconds per vehicle passing through the intersection during a 15-minute interval. Level of service ranges from A (LOS A) to F (LOS F), with LOS A representing traffic operations with little or no delay and LOS F representing operations with significant delay resulting from extreme congestion.

<table>
<thead>
<tr>
<th>Level of Service</th>
<th>Stopped Delay per Vehicle (Sec.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>≤ 5</td>
</tr>
<tr>
<td>B</td>
<td>&gt; 5 and ≤ 15</td>
</tr>
<tr>
<td>C</td>
<td>&gt; 15 and ≤ 25</td>
</tr>
<tr>
<td>D</td>
<td>&gt; 25 and ≤ 40</td>
</tr>
<tr>
<td>E</td>
<td>&gt; 40 and ≤ 60</td>
</tr>
<tr>
<td>F</td>
<td>&gt; 60</td>
</tr>
</tbody>
</table>

For unsignalized intersections, level of service is defined by the average total delay in seconds for a vehicle passing through the intersection in a 15-minute period, as follows:

<table>
<thead>
<tr>
<th>Level of Service</th>
<th>Avg. Total Delay per Vehicle (Sec.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>≤ 5</td>
</tr>
<tr>
<td>B</td>
<td>&gt; 5 and ≤ 10</td>
</tr>
<tr>
<td>C</td>
<td>&gt; 10 and ≤ 20</td>
</tr>
<tr>
<td>D</td>
<td>&gt; 20 and ≤ 30</td>
</tr>
<tr>
<td>E</td>
<td>&gt; 30 and ≤ 45</td>
</tr>
<tr>
<td>F</td>
<td>&gt; 45</td>
</tr>
</tbody>
</table>

At an intersection with both stop-sign controlled and continuous through movements, the delay applies to the approach(es) under stop controls.

Table 3.2-8 summarizes the level of service calculations for the selected intersections. The analysis is for the PM peak hour (or peak 15-minutes, derived from the PM peak-hour volume), which tends to exhibit the higher volumes—and therefore is the worse case—of the two peak periods on the typical weekday. The proposed LRT or Coaster station (see Section 2) that would be served by traffic passing through the intersection is indicated. The ratio of volume-to-capacity and the level of service value are listed. Volume-to-capacity is an indicator of intersection capacity utilized. Intersection capacity is based on the number of lanes, turn allowances, and general intersection layout, including lane widths, curb conditions, parking, and related factors. As traffic volumes and congestion increase, V/C ratios trend in the same direction as level of service delay measures, but they are not the same. Intersection delay incorporates additional parameters, including traffic signal timing and other non-geometric factors that influence traffic movements.
Table 3.2-8
Intersection Level of Service, PM Peak Hour, 1998 and 2015

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Station Served</th>
<th>1998</th>
<th>2015 No-Build</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Delay (sec) [1]</td>
<td>LOS</td>
</tr>
<tr>
<td>Nobel Dr./Genesee Ave.</td>
<td>Nobel Coaster</td>
<td>14.2</td>
<td>B</td>
</tr>
<tr>
<td>Nobel Dr./Towne Centre Dr.</td>
<td>Nobel Coaster</td>
<td>7.3</td>
<td>B</td>
</tr>
<tr>
<td>Balboa-Garnet Ave./</td>
<td>Balboa LRT</td>
<td>72.6</td>
<td>F</td>
</tr>
<tr>
<td>Mission Bay Dr.</td>
<td>Balboa LRT</td>
<td>[3]</td>
<td>[3]</td>
</tr>
<tr>
<td>Paul Jones Ave./Morena Blvd. [2]</td>
<td>Balboa LRT</td>
<td>23.5</td>
<td>C</td>
</tr>
<tr>
<td>Clairemont Dr./I-5 NB Ramps</td>
<td>Clairemont LRT</td>
<td>7.5</td>
<td>B</td>
</tr>
<tr>
<td>Inglis St./Morena Blvd.</td>
<td>Clairemont LRT</td>
<td>13.5</td>
<td>B</td>
</tr>
<tr>
<td>Clairemont Dr./Denver St.</td>
<td>Tecolote LRT</td>
<td>7.7</td>
<td>B</td>
</tr>
<tr>
<td>Morena Blvd/W. Morena Blvd.</td>
<td>Tecolote LRT</td>
<td>9.1</td>
<td>B</td>
</tr>
</tbody>
</table>

Notes:
[1] Delay for signalized intersections is stopped delay; delay for unsignalized intersections is average total delay
[4] Intersection under traffic control only under 2015 Build Alternative.

Source: Traffic projections by SANDAG; LOS evaluation by PTG-De Leuw, Cather & Company; 1998

Most of the listed intersections currently perform well, at level of service of C or above. One location, Balboa-Garnet Avenue at Mission Bay Drive, currently experiences severe delays during the PM peak hour and operates at LOS F. All 11 intersections are within the boundaries of the City of San Diego. Operation at LOS D or above is acceptable according to City criteria, and therefore only the Balboa-Garnet Avenue location would be considered a problem location at this time.

In 2015, some degradation in intersection level of service is projected for the 11 intersections. LOS F conditions at Balboa-Garnet at Mission Bay Drive are expected to continue. The Nobel Drive at Towne Centre Drive intersection and the Clairemont Drive at I-5 northbound ramps intersection are expected to operate poorly, each experiencing LOS E conditions during the PM peak hour. The other intersections would continue to operate at LOS C or better. Thus, three out of the eleven intersections analyzed would operate unacceptably under future No-Build conditions.

Vehicle Miles Traveled

Table 3.2-9 compares projected regional vehicle miles traveled (VMT) for non-transit vehicles in 1990 and 2015. Over that period, VMT is expected to increase between 42 and 58 percent, with the
higher increases on arterials and other streets and the lower increases on freeways. The compound annual rate of increase is between 1.4 and 1.8 percent per year.

<table>
<thead>
<tr>
<th>AM Peak Period</th>
<th>VMT in Thousands</th>
<th>Percent Change from 1990</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freeway</td>
<td>6,677.4</td>
<td>9,489.8</td>
</tr>
<tr>
<td>Arterials/Other</td>
<td>5,973.4</td>
<td>9,211.2</td>
</tr>
<tr>
<td>AM Total</td>
<td>12,650.8</td>
<td>18,701.0</td>
</tr>
<tr>
<td>PM Peak Period</td>
<td>VMT in Thousands</td>
<td>Percent Change from 1990</td>
</tr>
<tr>
<td>PM Total</td>
<td>16,102.9</td>
<td>24,306.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Daily</th>
<th>VMT in Thousands</th>
<th>Percent Change from 1990</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freeways</td>
<td>32,974.6</td>
<td>48,852.6</td>
</tr>
<tr>
<td>Arterials/Other</td>
<td>32,577.2</td>
<td>30,604.2</td>
</tr>
<tr>
<td>Daily Total</td>
<td>65,551.8</td>
<td>99,456.8</td>
</tr>
</tbody>
</table>

Source: San Diego Association of Governments, 1998

3.2.4 Mobility

Table 3.2-10 lists projected AM peak period travel times between four locations in the corridor and downtown (12th and Imperial) and Grossmont (Grossmont Transit Center) for the baseline conditions in 1990 and 2015. Times are shown for travel by single occupant vehicle (SOV), high occupancy vehicle (HOV), and transit with walk access on the home end. The table also shows the ratio of the transit travel time to SOV and HOV travel time.

While traffic and congestion between many major activity centers in metropolitan San Diego are expected to increase in the future, auto travel times from the Mid-Coast area are projected to remain relatively constant. The biggest change is a two- to three-minute decrease for SOV and HOV times from Towne Centre Drive/Nobel Drive to Grossmont, probably reflecting the extension of Nobel Drive to I-805. Transit travel times between 1990 and 2015 are projected to decrease between the corridor and Grossmont and to be about the same between the corridor and downtown, with the exception of five-minute improvement from Morena Boulevard/Dorcas Street to downtown. The transit travel time improvements reflect the extension of LRT service in the Mission Valley Corridor.

The ratios of the transit travel times to SOV and HOV travel times range from 1.9 to 3.6. Although these comparisons assume use of express buses in the corridor (primarily Route 50 for these trips), the projected transit times are typically much higher than auto times because of walk time, wait time (including wait time for one or more transfers), and, at times, less direct travel routes. Comparing the 1990 and 2015 projections, some of the ratios are projected to improve by 10 to 20 percent, reflecting the transit improvements noted above.

AFFECTED ENVIRONMENT
3-23
### Table 3.2-10
Travel Times (in Minutes) by Mode by Alternative for Selected Origins and Destinations, 1990 and 2015 AM Peak Period

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Single Occupant Vehicle</th>
<th>High Occupancy Vehicle</th>
<th>Transit with Walk Access</th>
<th>Ratio of Transit to</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1990</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Towne Centre Dr./ Nobel Dr. (Nobel Station)</td>
<td>Grossmont</td>
<td>29</td>
<td>28</td>
<td>99</td>
<td>3.4</td>
</tr>
<tr>
<td></td>
<td>Centre City San Diego</td>
<td></td>
<td></td>
<td></td>
<td>3.5</td>
</tr>
<tr>
<td>Balboa Ave./Moraga Ave. (Balboa Station)</td>
<td>Grossmont</td>
<td>24</td>
<td>23</td>
<td>63</td>
<td>2.6</td>
</tr>
<tr>
<td></td>
<td>Centre City San Diego</td>
<td></td>
<td></td>
<td></td>
<td>2.7</td>
</tr>
<tr>
<td>Morena Blvd./ Ingulf St. (Clairemont Station)</td>
<td>Grossmont</td>
<td>30</td>
<td>29</td>
<td>89</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td>Centre City San Diego</td>
<td></td>
<td></td>
<td></td>
<td>3.1</td>
</tr>
<tr>
<td>Morena Blvd./ Dorcus St. (Tecolote Station)</td>
<td>Grossmont</td>
<td>19</td>
<td>19</td>
<td>51</td>
<td>2.7</td>
</tr>
<tr>
<td></td>
<td>Centre City San Diego</td>
<td></td>
<td></td>
<td></td>
<td>2.7</td>
</tr>
<tr>
<td></td>
<td>2015</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Towne Centre Dr./ Nobel Dr. (Nobel Station)</td>
<td>Grossmont</td>
<td>26</td>
<td>26</td>
<td>92</td>
<td>3.5</td>
</tr>
<tr>
<td></td>
<td>Centre City San Diego</td>
<td></td>
<td></td>
<td></td>
<td>3.5</td>
</tr>
<tr>
<td>Balboa Ave./Moraga Ave. (Balboa Station)</td>
<td>Grossmont</td>
<td>23</td>
<td>22</td>
<td>63</td>
<td>2.7</td>
</tr>
<tr>
<td></td>
<td>Centre City San Diego</td>
<td></td>
<td></td>
<td></td>
<td>2.7</td>
</tr>
<tr>
<td>Morena Blvd./ Ingulf St. (Clairemont Station)</td>
<td>Grossmont</td>
<td>30</td>
<td>29</td>
<td>81</td>
<td>2.7</td>
</tr>
<tr>
<td></td>
<td>Centre City San Diego</td>
<td></td>
<td></td>
<td></td>
<td>2.8</td>
</tr>
<tr>
<td>Morena Blvd./ Dorcus St. (Tecolote Station)</td>
<td>Grossmont</td>
<td>20</td>
<td>19</td>
<td>52</td>
<td>2.6</td>
</tr>
<tr>
<td></td>
<td>Centre City San Diego</td>
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<td></td>
<td>2.8</td>
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<tr>
<td></td>
<td>14</td>
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<td></td>
<td>25</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>43</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 3.2.5 Parking

Parking is readily available at activity centers and employment sites throughout the Mid-Coast Corridor for little or no cost. The availability and relatively low cost of parking in the Corridor is the result of several factors, including the greater availability of land and lower intensities of development. Currently, parking fees are charged only on the UCSD campus and adjacent hospitals, at some University City office buildings, and in downtown La Jolla, 3.2 kilometers (two miles) west of I-5. Parking facilities for retail and employment areas have grown steadily in University City but are severely constrained at other points. The five existing Mid-Coast Corridor park-and-ride lots have a total capacity of approximately 125 cars, and are well used Monday through Friday. Table 3.2-11 lists major parking facilities in the Mid-Coast Corridor. No fee is charged at the park-and-ride lots.

This situation in the Mid-Coast Corridor contrasts sharply with the parking availability in downtown San Diego, where the average number of parking spaces per employee remains low at a ratio of one space for every 3.5 employees. As a result, the cost of parking in the downtown has risen an average of approximately seven percent per year. The rising cost of parking downtown compared with free
parking at the park-and-ride lots encourages commuters to park at the lots and utilize the connecting bus service to downtown San Diego.

| Major Parking Facilities in the Mid-Coast Corridor |
|------------------|------------------|
| Location | User Type |
| Mission Bay Park | Recreation |
| Pacific Beach Park-and-Ride (near I-5 and Balboa) | Commuter - car pool |
| Gilman Drive Park-and-Ride (near I-5) | Commuter - car pool |
| Governor Drive Park-and-Ride (near I-805) | Commuter - car pool |
| University City | Employee / patron |
| Torrey Mesa (west of Sorrento Valley) | Employee |
| Sorrento Valley | Employee |
| Carmel Valley Park-and-Ride | Car pool |
| Genesee/SR-52 Park-and-Ride | Car pool, recreation |
| University of California, San Diego | Student, employee, visitor |

Source: Mid-Coast AA/DEIS/DEIR, 1995

3.2.6 Bicycle Facilities

The Caltrans Highway Design Manual (July 1995), defines the three types of bicycle facilities, as follows:

1. Class I Bikeway (Bike Path). Provides a completely separated right-of-way for the exclusive use of bicycles and pedestrians with crossflow minimized.

2. Class II Bikeway (Bike Lane). Provides a striped lane for one-way bike travel on a street or highway.

3. Class III (Bike Route). Provides for shared use with pedestrian or motor vehicle travel.

Figure 3.2-4 shows the existing bikeways and bicycle facilities in the Mid-Coast Corridor. The University Community Plan also identifies a planned Class I bicycle path which will serve as part of the proposed Coastal Rail Trail along the SDNR right-of-way between downtown San Diego and Oceanside. Other facilities available for bicyclists include bicycle parking racks, and lockers at park-and-ride lots. Additionally, all SDTC and MTS 900-series bus routes, and all North County Transit buses are equipped to carry bicycles.

3.2.7 Rail Freight Services

Under an agreement made as part of the purchase of 132 kilometers (82 miles) of Burlington Northern Santa Fe (BNSF) right-of-way by MTDB, BNSF maintains a freight easement allowing it to provide Mid-Coast Corridor customers with freight service. The railroad would share right-of-way (but not tracks) with the proposed LRT project and continue to serve several industrial facility customers in the south segment through a series of freight spurs. The railroad trackage used by BNSF is shared with the Coaster commuter rail service.
3.3 SOCIOECONOMICS/DEMOGRAPHICS

This section provides information regarding existing socioeconomic conditions and growth trends in the San Diego region and the vicinity of the improvements proposed under the alternatives considered in the FEIS, and includes a discussion of environmental justice considerations. Key population, housing, and employment indices are based on SANDAG Series 8 Regional Growth forecasts and 1990 Census data. Forecasts have been updated since the AA/DEIS/DEIR was published to provide the most recent approved forecasts for the San Diego County area at the time of the development of this FEIS. These forecasts serve as base inputs to the travel demand modeling efforts. According to SANDAG, the Series 8 forecast tends to over predict growth. Since the environmental impacts reported in this document reflect this over prediction, the impact evaluation tends to be conservative.

3.3.1 Demographic Conditions

The San Diego region continues to experience strong population and economic growth. Based on SANDAG Series 8 Regional Growth forecasts, the region’s population is projected to increase by over one million between 1990 and 2015. The projected incremental increase is shown in Table 3.3-1. The economy of the San Diego region contains little heavy industry and manufacturing; most employment is concentrated in light industrial and service-related industries. Employment is forecast to increase by an estimated 30 percent by 2015.

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
<th>Incremental Increase</th>
<th>Percent Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>2,498,016</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>2000</td>
<td>3,004,434</td>
<td>506,418</td>
<td>20%</td>
</tr>
<tr>
<td>2005</td>
<td>3,267,254</td>
<td>262,820</td>
<td>9%</td>
</tr>
<tr>
<td>2015</td>
<td>3,763,253</td>
<td>495,999</td>
<td>15%</td>
</tr>
</tbody>
</table>

Table 3.3-1 shows the growth trends of key population, housing, and employment indices in San Diego County from SANDAG Series 8 Regional Growth forecasts.

Table 3.3-2 summarizes existing and projected population and employment figures for the City of San Diego and the two subregional areas (SRAs) in which improvements under the FEIS alternatives are proposed: the University SRA and the Kearny Mesa SRA. SRA boundaries are shown on Figure 3.3-1. As shown below, the population and employment projections indicate continued growth in residential and commercial land uses in these areas.
| Table 3.3-2  
Demographics and Economic Data for San Diego Region, 1990 - 2015  
(Series B Growth Forecasts) |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Demographic Forecasts</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Population</td>
<td>2,498,016</td>
<td>3,004,434</td>
<td>3,267,254</td>
<td>3,763,253</td>
<td>1,265,237</td>
<td>50.6%</td>
<td>1.7%</td>
</tr>
<tr>
<td>Household</td>
<td>2,389,651</td>
<td>2,897,277</td>
<td>3,154,696</td>
<td>3,639,835</td>
<td>1,250,184</td>
<td>52.3%</td>
<td>1.7%</td>
</tr>
<tr>
<td>Group Qtrs.</td>
<td>108,365</td>
<td>107,157</td>
<td>112,558</td>
<td>123,418</td>
<td>15,053</td>
<td>3.9%</td>
<td>0.5%</td>
</tr>
<tr>
<td><strong>Household Forecasts</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Housing Stock</td>
<td>946,240</td>
<td>1,054,734</td>
<td>1,158,559</td>
<td>1,371,971</td>
<td>425,731</td>
<td>45.0%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Single Family</td>
<td>554,821</td>
<td>610,191</td>
<td>668,075</td>
<td>785,103</td>
<td>230,282</td>
<td>41.5%</td>
<td>1.4%</td>
</tr>
<tr>
<td>Multiple Family</td>
<td>335,480</td>
<td>388,245</td>
<td>434,834</td>
<td>534,899</td>
<td>199,419</td>
<td>59.4%</td>
<td>1.9%</td>
</tr>
<tr>
<td>Mobile Homes</td>
<td>45,992</td>
<td>46,351</td>
<td>45,703</td>
<td>42,022</td>
<td>-3,681</td>
<td>-8.6%</td>
<td>-0.4%</td>
</tr>
<tr>
<td>Other Units</td>
<td>9,947</td>
<td>9,847</td>
<td>9,947</td>
<td>9,947</td>
<td>0</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Occupied Housing Units</td>
<td>887,403</td>
<td>1,013,127</td>
<td>1,115,944</td>
<td>1,324,011</td>
<td>436,608</td>
<td>49.2%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Vacancy Rate</td>
<td>6.2%</td>
<td>3.9%</td>
<td>3.7%</td>
<td>3.5%</td>
<td>-2.7%</td>
<td>-43.8%</td>
<td>-2.3%</td>
</tr>
<tr>
<td>Persons per Household</td>
<td>2.65</td>
<td>2.86</td>
<td>2.83</td>
<td>2.75</td>
<td>0.06</td>
<td>2.1%</td>
<td>0.1%</td>
</tr>
<tr>
<td><strong>Labor Force and Employment Forecasts</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Labor Force*</td>
<td>1,198,265</td>
<td>1,251,962</td>
<td>1,380,067</td>
<td>1,561,394</td>
<td>363,129</td>
<td>30.3%</td>
<td>1.1%</td>
</tr>
<tr>
<td>Civilian</td>
<td>1,087,254</td>
<td>1,140,951</td>
<td>1,269,056</td>
<td>1,450,383</td>
<td>363,129</td>
<td>33.4%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Agricultural &amp; Mining</td>
<td>18,903</td>
<td>17,829</td>
<td>17,746</td>
<td>17,468</td>
<td>-1,435</td>
<td>-7.6%</td>
<td>-0.3%</td>
</tr>
<tr>
<td>Construction</td>
<td>65,235</td>
<td>61,140</td>
<td>76,154</td>
<td>87,448</td>
<td>22,113</td>
<td>33.8%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>141,338</td>
<td>143,443</td>
<td>154,795</td>
<td>157,948</td>
<td>16,610</td>
<td>11.8%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Transportation, Communication, Utility</td>
<td>39,398</td>
<td>41,565</td>
<td>46,278</td>
<td>53,973</td>
<td>14,575</td>
<td>37.0%</td>
<td>1.3%</td>
</tr>
<tr>
<td>Wholesale Trade</td>
<td>48,237</td>
<td>49,567</td>
<td>65,025</td>
<td>63,025</td>
<td>14,788</td>
<td>30.7%</td>
<td>1.1%</td>
</tr>
<tr>
<td>Retail Trade</td>
<td>208,515</td>
<td>217,402</td>
<td>244,034</td>
<td>295,039</td>
<td>86,524</td>
<td>41.5%</td>
<td>1.4%</td>
</tr>
<tr>
<td>Finance, Insurance, Real Estate</td>
<td>75,901</td>
<td>80,774</td>
<td>91,661</td>
<td>109,796</td>
<td>33,895</td>
<td>44.7%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Service</td>
<td>312,623</td>
<td>346,386</td>
<td>383,327</td>
<td>448,979</td>
<td>136,356</td>
<td>43.6%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Government</td>
<td>177,004</td>
<td>182,454</td>
<td>199,664</td>
<td>216,707</td>
<td>39,703</td>
<td>22.4%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Uniformed Military</td>
<td>111,011</td>
<td>111,011</td>
<td>111,011</td>
<td>111,011</td>
<td>0</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Total Acres</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Acres</td>
<td>2,726,975</td>
<td>2,726,975</td>
<td>2,726,975</td>
<td>2,726,975</td>
<td>0</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Developable Acres</td>
<td>927,560</td>
<td>959,547</td>
<td>998,151</td>
<td>1,121,030</td>
<td>193,470</td>
<td>20.9%</td>
<td>0.8%</td>
</tr>
<tr>
<td>Low Density Res.</td>
<td>55,070</td>
<td>66,497</td>
<td>80,368</td>
<td>159,373</td>
<td>104,903</td>
<td>189.4%</td>
<td>4.3%</td>
</tr>
<tr>
<td>Single Family</td>
<td>143,713</td>
<td>156,938</td>
<td>174,309</td>
<td>208,701</td>
<td>64,382</td>
<td>43.1%</td>
<td>1.4%</td>
</tr>
<tr>
<td>Multiple Family</td>
<td>24,484</td>
<td>27,284</td>
<td>29,541</td>
<td>33,813</td>
<td>9,272</td>
<td>38.9%</td>
<td>1.3%</td>
</tr>
<tr>
<td>Mobile Homes</td>
<td>5,481</td>
<td>5,481</td>
<td>5,370</td>
<td>4,953</td>
<td>-529</td>
<td>-9.6%</td>
<td>-0.4%</td>
</tr>
<tr>
<td>Other Residential</td>
<td>1,096</td>
<td>1,096</td>
<td>1,096</td>
<td>1,096</td>
<td>0</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Indust., TCU/Wholesale</td>
<td>35,664</td>
<td>37,140</td>
<td>39,568</td>
<td>42,604</td>
<td>6,941</td>
<td>0.0%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Retail</td>
<td>25,237</td>
<td>26,359</td>
<td>27,428</td>
<td>29,273</td>
<td>3,999</td>
<td>19.5%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Office</td>
<td>2,613</td>
<td>2,765</td>
<td>3,027</td>
<td>3,395</td>
<td>782</td>
<td>15.8%</td>
<td>1.1%</td>
</tr>
<tr>
<td>Schools</td>
<td>10,370</td>
<td>10,751</td>
<td>11,095</td>
<td>11,441</td>
<td>1,072</td>
<td>29.9%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Agric., &amp; Extractive</td>
<td>3,980</td>
<td>3,981</td>
<td>3,981</td>
<td>3,981</td>
<td>0</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Parks</td>
<td>607,559</td>
<td>607,559</td>
<td>607,559</td>
<td>607,559</td>
<td>0</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Roads &amp; Freeways</td>
<td>12,257</td>
<td>13,694</td>
<td>14,810</td>
<td>17,841</td>
<td>5,584</td>
<td>45.6%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Vacant Developable Acres</td>
<td>688,087</td>
<td>656,100</td>
<td>617,496</td>
<td>494,617</td>
<td>-193,470</td>
<td>-28.1%</td>
<td>-1.3%</td>
</tr>
<tr>
<td>Low Density Residential</td>
<td>592,044</td>
<td>560,813</td>
<td>546,943</td>
<td>467,938</td>
<td>-124,106</td>
<td>-21.0%</td>
<td>-0.9%</td>
</tr>
<tr>
<td>Single Family</td>
<td>51</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Specifically refers to the age 15 to 64 population segment.

Source: San Diego Association of Governments, January, 1997
Tourism plays a role in the activity patterns of the Mid-Coast Corridor. Over 8,000 hotel rooms are located within the Corridor along with several key attractions such as Sea World (3.84 million annual visits). Other major retail, educational, and service facilities within the Corridor include:

- The University of California at San Diego;
- The University of San Diego;
- University Towne Centre Mall;
- La Jolla Village Square;
- Veterans Administration Hospital;
- Scripps Hospital (Genesee Avenue); and
- Mission Bay Park.

1990 Census information on mean household income is summarized in Table 3.3-4 for the City of San Diego and for the region.
MID-COAST LRT PROJECT
BALBOA EXTENSION AND NOBEL DRIVE COASTER STATION
FINAL ENVIRONMENTAL IMPACT STATEMENT

Location of SRAs and MRAs in San Diego County

Metropolitan Transit Development Board
San Diego, California

AFFECTED ENVIRONMENT

Source: SANDAG, 1989
3.3.2 Environmental Justice

Executive Order 12898 (EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations), dated February 11, 1994, calls on Federal agencies to identify and address disproportionately high and adverse human health or environmental effects of Federal programs, policies, and activities on minority populations and low-income populations. The U.S. Department of Transportation (DOT) has published a Final DOT Order to establish procedures for use in complying with EO 12898 for its operating administrations, including FTA. The Final Order defines key terms and provides guidance for identifying and addressing disproportionately high and adverse impacts to low income and minority populations. If disproportionately high and adverse impacts would result from the proposed action, mitigation measures or alternatives must be developed to avoid or reduce the impacts, unless the agency finds that such measures are not practicable.

The Final DOT Order defines low-income persons as those with an income below the federal poverty threshold, which is $15,500 for a family of four. The median income in 1990 for the Census tracts in the Mid-Coast Corridor Census tracts ranged from approximately $32,000 to $43,000. Median incomes for the City of San Diego and the San Diego region were comparable, approximately $34,000 and $35,000, respectively. The area surrounding the improvements proposed under the FEIS alternatives has a low minority population (16 percent), compared with the City of San Diego (41 percent) or the San Diego Region (35 percent), according to 1990 Census data. At the Census tract level, the minority population in the vicinity of the FEIS alternatives ranges from 11 to 21 percent. Based on the statistics provided above, the population in the vicinity of transportation improvements proposed under the FEIS alternatives does not reflect disproportionate numbers of low income or minority persons. For this reason, no additional analysis pursuant to EO 12898 is required.

3.4 VISUAL AND AESTHETIC RESOURCES

This section discusses the visual and aesthetic setting of the Mid-Coast Corridor study area, focusing on conditions in the vicinity of improvements proposed under alternatives considered in this FEIS.

3.4.1 Regional Location and Description

The AA/DEIS/DEIR described a project study area, referred to as the Middle Central Coast Region. This area is generally defined as to the north of Mission Valley up to the City of Del Mar. The region extends from the coast to the inland foothills east of Interstate 15 (I-15). It is defined by coastal hilly terrain with large valleys and canyons west of I-5 and flat top mesas with deeply cut canyons to the east of I-5. The region is generally urban in nature with concentrated pockets of development interspersed with open space and hillsides. Vegetative cover in open space areas is generally native with a high level of disturbance and intrusion from exotic invasive species. Landscape treatments throughout the urban areas are extensive and consistent. For the purposes of describing the visual environment affected by alternatives under consideration in this FEIS, this section focuses on sub-regions in the south and central portions of the Middle Central Coast Region.
The Mid-Coast Canyon, Mission Bay, and Golden Triangle sub-regions represent valuable regional visual resources along the I-5 corridor. San Clemente Canyon is a natural canyon bottomland (designated as Marian Bear Memorial Park), with a highly visible riparian zone and mature oak trees along the northern slopes. Its appearance is very natural and represents an important visual asset to this region. The Rose Canyon landscape unit is also regionally important. However, the level of disturbance of the southernmost portions of Rose Canyon and the existence of industrial areas lowers the visual quality and sensitivity of this landscape unit. In addition, the residential developments along the northern ridge line of North Rose Canyon between Gilman Drive and Genesee Avenue also lowers the visual quality and sensitivity of this area. The Mission Bay sub-region is an important regional visual resource, primarily due to a combination of high quality parkland and the predominance of water and water edge environments. The Golden Triangle sub-region contains a variety of natural features that contribute to the overall visual quality of the area. These features include Torrey Pines State Park, Torrey Pines Mesa, Los Penasquitos Lagoon, Los Penasquitos Canyon, and Sorrento Hills. Native plants, rock formations, and interesting soil textures and colors accentuate the rolling hills that predominate the area.

The I-5 corridor itself is also visually valuable. I-5 carries approximately 200,000 vehicles (Average Daily Traffic, or ADT) and serves as one of the gateways to the City of San Diego. It is also eligible for designation as a California Scenic Highway. Past changes proposed to the I-5 corridor have created strong public interest to maintain the unique quality of the area, and to minimize disruption to the center median planting areas.

3.4.2 Landscape Units

The AA/DEIS/DEIR defined landscape units throughout the Mid-Coast Corridor for the purposes of conducting visual analysis of distinct geographical areas. The FEIS includes descriptions and analysis of those landscape units located in the vicinity of improvements proposed under the alternatives considered in this FEIS. These landscape units are shown on Figures 3.4-1 and 3.4-2 and described below. Each landscape unit is described and qualitatively analyzed by its visual character, visual quality, and visual sensitivity (Table 3.4-1). Below is a brief description of the visual character of each of the landscape units in the vicinity of the FEIS alternatives. Each description includes a summary of the visual quality and visual sensitivity. The Visual Impact Assessment, Technical Report, April 1994, includes more detail and photographs depicting the visual quality of each landscape unit.

Morena - Unit 1. The Morena landscape unit is composed typically of one- and two-story tilt-up industrial and warehouse buildings and strip commercial developments. This area is located north of Mission Valley and east of I-5. The southern boundary adjoins the San Diego River, a positive visual asset with a moderate visual quality. However, the majority of the Morena landscape unit is industrial in nature, resulting in a low visual quality and low sensitivity to change.
Figure 3.4-2
Landscape Units: Nobel Drive Station Area

LANDSCAPE UNIT DESCRIPTIONS
Landscape Units Directly Affected (Black Numbers)
9. La Jolla Colony
10. La Jolla Village
11. Central UC
12. UCSD Housing

Adjoining Landscape Units not directly affected (White Numbers)
4. La Jolla
5. South University City
6. UCSD Campus

VIEWSHED DESCRIPTIONS
- Viewshed of LRT Only
- Viewshed of HOV Only
- Combined Viewshed
- Portix Highway Views of LRT
- Full Highway Views of LRT
- No Line Indicates No LRT View
- Positive Visual Assets
- Negative Visual Liabilities
- Candidate Key Views

MID-COAST LRT PROJECT
BALBOA EXTENSION AND NOBEL DRIVE COASTER STATION FINAL ENVIRONMENTAL IMPACT STATEMENT
Metropolitan Transit Development Board
San Diego, California
# Table 3.4-1
## Landscape Unit Summary

<table>
<thead>
<tr>
<th>Landscape Units</th>
<th>Unit #</th>
<th>Sub-Region</th>
<th>Quality</th>
<th>Sensitivity</th>
<th>Primary Viewers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morena</td>
<td>1</td>
<td>Central Mesa</td>
<td>1</td>
<td>C</td>
<td>0 L</td>
</tr>
<tr>
<td>Bay Park</td>
<td>2</td>
<td>Central Mesa</td>
<td>17</td>
<td>B</td>
<td>8 L</td>
</tr>
<tr>
<td>Mission Bay</td>
<td>3</td>
<td>Mission Bay</td>
<td>24</td>
<td>A</td>
<td>21 H</td>
</tr>
<tr>
<td>Pacific Beach Commercial</td>
<td>4</td>
<td>Mid-Coast</td>
<td>7</td>
<td>C</td>
<td>0 L</td>
</tr>
<tr>
<td>South Rose Canyon</td>
<td>5</td>
<td>Mid-Coast Canyon</td>
<td>14</td>
<td>B</td>
<td>11 H</td>
</tr>
<tr>
<td>South Rose Canyon Slopes</td>
<td>6</td>
<td>Mid-Coast Canyon</td>
<td>22</td>
<td>A</td>
<td>22 H</td>
</tr>
<tr>
<td>North Rose Canyon</td>
<td>7</td>
<td>Mid-Coast Canyon</td>
<td>20</td>
<td>A</td>
<td>18 M</td>
</tr>
<tr>
<td>La Jolla Colony</td>
<td>9</td>
<td>University City</td>
<td>19</td>
<td>B</td>
<td>18 M</td>
</tr>
<tr>
<td>Central UTC</td>
<td>11</td>
<td>University City</td>
<td>13</td>
<td>B</td>
<td>14 M</td>
</tr>
</tbody>
</table>

**Legend:**
- **Viewer Groups**
  - Highway Drivers: A
  - Major Arterial Drivers: B
  - Recreational Users: C
  - Single Family Residents: D
  - Multi-Family Residents: E
  - Office Worker Viewers: F
  - Commercial District Viewers: G
  - Industrial District Viewers: H

- **Quality Category**
  - High A = 19+
  - Medium B = 12-18
  - Low C = 11 or less

- **Sensitivity Level**
  - High H = 19+
  - Moderate M = 12-18
  - Low L = 11 or less


---

**Bay Park - Unit 2.** The Bay Park landscape unit is composed mostly of low density, one- and two-story single family residences on slopes overlooking Mission Bay, a positive visual element, as well as I-5 and the SDNR tracks, which are negative visual elements. One- and two-story commercial developments are located along Morena Boulevard, the primary arterial north-south thoroughfare in this community. Clairemont Drive bisects this landscape unit and provides sweeping views of Mission Bay as it descends from the Clairemont community west to I-5. The visual quality is moderate and the sensitivity to change is low.

**Mission Bay - Unit 3.** The majority of Mission Bay is dedicated to public recreational uses, including City of San Diego maintained parkland, water sports, hotels, a golf course, Sea World, and minimally improved beaches on Fiesta Island. Mission Bay Park attracts hundreds of thousands of visitors per year. Traffic often stacks up on summer weekends and during special events at the Tecolote/Sea World Drive exit on both north and southbound I-5. Mission Bay is a positive visual asset for the community and, therefore, the visual quality of Mission Bay Park is generally high, and the sensitivity to proposed improvements also is high.

**Pacific Beach Commercial - Unit 4.** The eastern portion of Pacific Beach adjacent to I-5 is dedicated to low- to moderate-scale commercial developments, including buildings such as the Mission Bay Hospital and the Travelodge Motel. The open spaces of Rose Canyon Creek constitute one of the few visual assets of the area. One of the busiest intersections in San Diego, the Balboa Avenue/Mission Bay Drive intersection, is also located in this area. Due to the scale of development...
in this area, the existing freeway overcrossing and heavy surface street traffic, a negative visual liability is created, resulting in both a low visual quality and low sensitivity to change.

South Rose Canyon - Unit 5. The South Rose Canyon landscape unit generally consists of one- and two-story tilt-up industrial and commercial buildings and warehouses along Morena Boulevard, a negative visual element. A major traffic generator in this area is the Costco. Residential uses in this landscape unit include the Santa Fe mobile home park, located along Santa Fe Street just east of I-5. South Rose Canyon has a moderate visual quality, due in part to the Rose Creek riparian area, and a low sensitivity to change.

South Rose Canyon Slopes - Unit 6. The South Rose Canyon slopes serve as a transition area from the industrial warehouse uses in South Rose Canyon to the natural areas of San Clemente Canyon to the north. The slopes are typically covered with naturalized chaparral, a positive visual element. The upper edges of the slopes are defined by single family houses in the Central Mesa sub-region, and the slopes descend toward the freeway. Due to the relatively natural appearance of this area, both the visual quality and sensitivity to change are high. The only negative visual element in this area is the graded but undeveloped area on the west side of I-5.

North Rose Canyon - Unit 8. North Rose Canyon runs parallel to I-5 on the east, and then turns to the east, separating the residential areas of University City and La Jolla Colony. North Rose Canyon is predominantly native chaparral along the canyon slope, with residential development located on both the north and south ridge lines of the canyon. Both Genesee Avenue and Interstate Route 805 (I-805) cross this landscape unit from north to south, and the SDNR railroad tracks travel east-west through the canyon before turning north through the Marine Air Corps Station (MACS) Miramar property. The canyon floor south of the railroad tracks is relatively undisturbed. As with the open space areas of San Clemente Canyon, North Rose Canyon has a high scenic quality. However, because of the presence of the existing railroad tracks and the existing above-grade utility poles and lines adjacent to the railroad tracks and I-805, the sensitivity to change along this corridor is moderate.

La Jolla Colony - Unit 9. The La Jolla Colony landscape unit is a relatively new planned community consisting of single family detached and multi-family dwelling units and neighborhood commercial facilities. The various housing units are grouped into distinct neighborhoods, and many of them are inwardly oriented towards common facilities and screened from the major roadways by walls, fences, plant materials, and slopes. This landscape unit is bounded by I-5 in the west and North Rose Canyon on the south. The visual quality of the La Jolla Colony landscape unit is moderate due to the planned open spaces within the community, the significant use of plant materials, and the unified architectural theme. The sensitivity to change is moderate because of the proximity of a large number of residential units to the proposed improvements.

3.5 AIR QUALITY

The following presents the existing conditions and regulatory requirements relative to air quality within the Mid-Coast Corridor.
3.5.1 Air Quality Compliance of the San Diego Air Basin

The following summary of the air quality compliance status of the San Diego Air Basin (the Basin) was compiled largely from San Diego Air Pollution Control District (APCD) documents, including the 1996 Annual Report and 1991 Regional Air Quality Control Strategy. Data reflect conditions through 1996, the most current year for which summary information is available.

The six primary pollutants of concern within the San Diego Air Basin for which standards have been established are ozone, carbon monoxide (CO), nitrogen oxides (NOx), particulate matter (PM<sub>10</sub>), sulfur dioxide (SO<sub>2</sub>), and lead. National ambient air quality standards (NAAQS) were promulgated by the U.S. Environmental Protection Agency (USEPA) in 1971. Due to unique air quality problems in California, and as provided by federal law, the California Air Resources Board (CARB) has developed additional, more strict standards. Applicable state and federal standards are presented in Table 3.5-1.

According to the most recent information, the San Diego Basin is classified by the CARB as a nonattainment area for ozone and PM<sub>10</sub>. The USEPA has classified it as a nonattainment area for ozone and carbon monoxide. In 1996, the San Diego Air Basin exceeded California air quality standards for ozone and PM<sub>10</sub>, and exceeded federal air quality standards only for ozone. Violations and attainment status for each pollutant are discussed in greater detail in the following sections.

**Ozone.** The San Diego Basin is classified as a nonattainment area for ozone by both the CARB and the USEPA. In 1995, the USEPA reclassified the Basin from “severe” to a “serious” nonattainment area, in recognition of reductions of this contaminant in the area. In 1996, the federal one-hour ozone standard was exceeded on two days, while the more stringent state standard was exceeded on 51 days. There has been a downward trend in the number of annual exceedences of state and federal ozone standards since 1988. Transportation of ozone into the San Diego Air Basin from the Los Angeles area continues to contribute to ozone exceedences in the San Diego region, although the importance of transport is less now than in the past. In 1996, local pollution was responsible for 45 percent of the days San Diego exceeded the state standard; in 1980, it was responsible for only 32 percent.

**Carbon Monoxide.** In 1995, the Basin was re-classified by the state as an attainment area for carbon monoxide. The Basin is classified as a moderate nonattainment area by the USEPA. There were no violations of state or federal carbon monoxide standards in 1996.

**Oxides of Nitrogen.** The Basin is designated by both the USEPA and the CARB as in attainment of nitrogen dioxide standards. The federal nitrogen dioxide standard (0.05 ppm annual average) has not been exceeded since 1977.

**Particulates.** The Basin is designated a nonattainment area for PM<sub>10</sub> by the state and is unclassified by the USEPA. Insufficient monitoring data have been collected to allow a federal classification.

**Sulfur Dioxide and Lead.** The Basin is designated as in attainment of state and federal standards for sulfur dioxide and lead. The sulfur dioxide standards have never been exceeded. The state and federal lead standards have not been exceeded since 1980.
<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Averaging Time</th>
<th>California Standards</th>
<th>National Standards</th>
<th>Method</th>
<th>Primary (^{3,4})</th>
<th>Secondary (^{3,4})</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ozone</td>
<td>one-hour</td>
<td>0.09 ppm (180 mg/m³)</td>
<td>Same as Primary Std.</td>
<td>Ethylene Chemiluminescence</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carbon Monoxide</td>
<td>eight-hour</td>
<td>9.0 ppm (10 mg/m³)</td>
<td>Non-dispersive infrared Spectroscopy (NDIR)</td>
<td>9 ppm (10 mg/m³)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>one-hour</td>
<td>20 ppm (23 mg/m³)</td>
<td>Non-dispersive infrared Spectroscopy (NDIR)</td>
<td>35 ppm (40 mg/m³)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nitrogen Dioxide</td>
<td>Annual Average</td>
<td>24 ppm (470 mg/m³)</td>
<td>Same as Primary Std.</td>
<td>Gas Phase Chemiluminescence</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>one-hour</td>
<td>0.053 ppm (100 mg/m³)</td>
<td>Same as Primary Std.</td>
<td>Gas Phase Chemiluminescence</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sulfur Dioxide</td>
<td>Annual Average</td>
<td>80 ug/m³ (0.03 ppm)</td>
<td>Pararosaniline</td>
<td>Ultraviolet Florescence</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>24-hour</td>
<td>365 ug/m³ (0.14 ppm)</td>
<td>Inertial Separation and Gravimetric Analysis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3-hour</td>
<td>1300 ug/m³ (0.5 ppm)</td>
<td>Inertial Separation and Gravimetric Analysis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>one-hour</td>
<td>0.25 ppm (655 mg/m³)</td>
<td>Inertial Separation and Gravimetric Analysis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suspended Particulate Matter (PM(_{10}))</td>
<td>Annual Geometric Mean</td>
<td>30 ug/m³</td>
<td>Same as Primary Standard</td>
<td>150 ug/m³</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>24-hour</td>
<td>50 ug/m³</td>
<td></td>
<td>Size Selective Inlet High Volume Sampler and Gravimetric Analysis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Annual Arithmetic Mean</td>
<td>50 ug/m³</td>
<td>Same as Primary Standard</td>
<td>50 ug/m³</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sulfates</td>
<td>24-hour</td>
<td>25 ug/m³</td>
<td>Same as Primary Standard</td>
<td>Turbidimetric Barium Sulfate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lead</td>
<td>30 day Average</td>
<td>1.5 ug/m³</td>
<td>Atomic Absorption</td>
<td>1.5 ug/m³</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrogen Sulfide</td>
<td>one-hour</td>
<td>0.03 ppm (42 mg/m³)</td>
<td>Same as Primary Std.</td>
<td>Atomic Absorption</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vinyl Chloride (chloroethene)</td>
<td>24-hour</td>
<td>0.010 ppm (26 mg/m³)</td>
<td>Same as Primary Std.</td>
<td>Atomic Absorption</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visibility Reducing Particles(^{5})</td>
<td>eight-hour (10 AM to 6 PM, PST)</td>
<td>Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70 percent. Measurement is in accordance with AR Method V.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulphur dioxide (one-hour and 24-hour), nitrogen dioxide, suspended particulate matter - PM\(_{10}\), and visibility reducing particles, are values that are not to be exceeded. The standards for sulphates, Lake Tahoe carbon monoxide, lead hydrogend sulfide, and vinyl chloride are not to be equaled or exceeded.
2. National standards, other than ozone and those based on annual averages or annual arithmetic means, are not to be exceeded more than once a year. The ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than one.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parenthesis are based upon a reference temperature of 25 °C and a reference pressure of 760 mm of mercury. All measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 mm of mercury (1,013.2 millbar); ppm in this table refers to ppm by volume or micromoles of pollutant per mole of gas.
4. Any equivalent method which can be shown to the satisfaction of the Air Resources Board to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary with an adequate margin of safety to protect the public health. Each state must attain the primary standards no later than three years after the state's implementation plan approved by the Environmental Protection Agency.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. Each state must attain the secondary standards within a "reasonable time" after the implementation plan approved by the EPA.
7. Reference method as described by the EPA. An "equivalent method" of measurement may be used must have a "consistent relationship to the reference method" and must be approved by the EPA.
8. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze, and is equivalent to a 16.1-kilometer (10-mile) nominal visual range when relative humidity is less than 70 percent.
9. This standard is equivalent to a 48.3-kilometer (30-mile) nominal visual range when relative humidity is less than 70 percent.

Source: California Air Resources Board Fact Sheet 39; Revised November 1991

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3-38
3.5.2 Existing Conditions in the Project Vicinity

The Oceanside monitoring station was identified as the station where observed pollutant concentrations could be expected to compare most closely to those characteristic of the Mid-Coast Corridor. The Del Mar monitoring station, an obvious choice based on its proximity to the Mid-Coast Corridor, was not selected because it does not collect carbon monoxide data. The downtown San Diego station was not selected because the carbon monoxide concentrations recorded there, typically the highest of any in the Basin, were not judged by the APCD to typify the Mid-Coast Corridor as a whole.

Ozone. As shown in Table 3.5-2, daily maximum ozone concentrations in excess of both the state and federal standards have occurred at the Oceanside monitoring station each of the last five years. Despite continued exceedences, the magnitude of the concentrations and the number of days in which state and federal standards were exceeded have fallen steadily since 1988.

The regional trend in the Basin for over a decade has been a decrease in the number of days with high levels of ozone. In 1980, there were 87 days over the federal standard and eight ozone alerts; in 1990, there were 39 days and one ozone alert. In 1996, there were only two days over the federal standard and no ozone alerts. APCD also reports a decrease in the number of days in which the more stringent state standard is exceeded. In the 1980s, the state standard was exceeded an average of 147 days per year; from 1990 to 1996 it was exceeded an average of 94 times per year.

The two major factors identified by the APCD which most contribute to the continuing failure to meet ozone standards are motor vehicle emissions and growth, especially growth (1991 Regional Air Quality Strategy, San Diego Air Pollution Control District, June 1991). APCD cites the continued underestimation of the extent of regional growth as the single greatest cause of the ineffectiveness of the Regional Air Quality Strategy to eliminate ozone exceedences.

Carbon Monoxide. Table 3.5-2 shows that daily maximum one-hour and eight-hour CO concentrations at the Oceanside station have remained well below both state and federal standards since 1992. The federal standard has not been violated since 1990, and the decreases in carbon monoxide have resulted in the USEPA's re-classification of the Basin as a federal attainment area for carbon monoxide, as discussed above.

Oxides of Nitrogen. Daily maximum one-hour and annual nitrogen dioxide concentrations at the Oceanside monitoring station have dropped relatively steadily since 1988, and have not exceeded state or federal standards since that time. The state one-hour standard for nitrogen dioxide has been exceeded on only three days since 1978, one day each in 1981, 1987, and 1988. However, APCD forecasts indicate that, in the absence of new emissions controls, decreases in reactive organic gases and oxides of nitrogen emissions will level off and begin to increase due to growth by 2000.

Particulates. Daily maximum concentrations of PM$_{10}$ at the Oceanside station do not exhibit a clear trend over the years 1992 through 1996, although the daily maximum concentration had decreased substantially in 1992 relative to previous years. Like most air basins in California, the San Diego Air Basin violates state daily and annual PM$_{10}$ standards most years.
### Table 3.5-2
Ambient Air Quality Summary - Oceanside Monitoring Station

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Average Time</th>
<th>California Air Quality Standards</th>
<th>Federal Primary Standards</th>
<th>Annual Maximum Concentration</th>
<th>Exceedences of State Standard</th>
<th>Exceedences of Federal Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ozone</td>
<td>1 hour</td>
<td>9 ppmh</td>
<td></td>
<td>11</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Carbon Monoxide</td>
<td>1 hour</td>
<td>20 ppmh</td>
<td>35.0 ppmh</td>
<td>4.0</td>
<td>4.4</td>
<td>5.2</td>
</tr>
<tr>
<td></td>
<td>8 hour</td>
<td>9.0 ppmh</td>
<td>9.0 ppmh</td>
<td>2.6</td>
<td>3.1</td>
<td>3.9</td>
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<tr>
<td>Nitrogen Dioxide</td>
<td>1 hour</td>
<td>25 ppmh</td>
<td>N/A</td>
<td>10.6</td>
<td>13.9</td>
<td>12.3</td>
</tr>
<tr>
<td></td>
<td>Annual Average</td>
<td>5 ppmh (100 µg/m³)</td>
<td></td>
<td>1.7*</td>
<td>1.9*</td>
<td>2.0*</td>
</tr>
<tr>
<td>Sulfur Dioxide(6)</td>
<td>1 hour</td>
<td>25 ppmh</td>
<td>N/A</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>3 hours</td>
<td>N/A</td>
<td>50 ppmh</td>
<td>**</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td></td>
<td>24 hours</td>
<td>5 ppmh</td>
<td>14 ppmh</td>
<td>**</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td></td>
<td>Annual Average</td>
<td>N/A</td>
<td>3 ppmh (80 µg/m³)</td>
<td>0.3*</td>
<td>0.3*</td>
<td>0.3*</td>
</tr>
<tr>
<td>Particulate Matter (PM-10)</td>
<td>24 hours</td>
<td>50 (µg/m³)</td>
<td>150(µg/m³)</td>
<td>62</td>
<td>83</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>Annual Average</td>
<td>50 (µg/m³)</td>
<td></td>
<td>26°</td>
<td>30°</td>
<td>29°</td>
</tr>
<tr>
<td></td>
<td>Annual Average</td>
<td>30 (µg/m³)</td>
<td></td>
<td>24(6)</td>
<td>27(6)</td>
<td>25(6)</td>
</tr>
</tbody>
</table>

Notes:
(a) Maximum concentration units for ozone, carbon monoxide, nitrogen dioxide, and sulfur dioxide are in parts per hundred million (pphm), or parts per million (ppm). Concentration units for particulate matter (PM-10) are in micrograms per cubic meter (µg/m³).
(b) Data from downtown San Diego are reported; these data were not collected at Oceanside.
(c) Indicates annual arithmetic mean, rather than annual maximum concentration.
(d) Indicates annual geometric mean, rather than annual maximum concentration.
* Indicates annual average, rather than annual maximum concentration.
** Information not reported in 5 Year Summary.

Source: San Diego Air Pollution Control District 1992-96 5 Year Summary, May 1997
Sulfur Dioxide and Lead. Sulfur dioxide concentrations at the Oceanside monitoring station have been well below state and federal standards over the period 1992 through 1996. As noted above, lead standards have not been exceeded since 1980.

3.6 NOISE AND VIBRATION

This section describes the existing noise environment within the Mid-Coast Corridor, with particular emphasis on the areas surrounding improvements proposed under alternatives considered in this FEIS. The noise and vibration monitoring results presented in this section were obtained from studies conducted during the preparation of the AA/DEIS/DEIR and more recent studies conducted for this FEIS. FTA has revised its noise and vibration impact thresholds since the publication of the AA/DEIS/DEIR, as discussed below.

3.6.1 Criteria

The following discussion outlines the commonly accepted criteria for assessing the impacts of noise and vibration of transportation projects.

3.6.1.1 Noise. Given that one of the AA/DEIS/DEIR alternatives included highway improvements, both FTA and FHWA noise criteria were used in the AA/DEIS/DEIR analysis. Since highway improvements are not under consideration in this FEIS, FHWA noise criteria have not been used. An explanation of the FTA noise impact criteria is presented below.

New FTA Criteria - In 1996, FTA published new Noise Impact Criteria, which group noise sensitive land uses into the following categories:

- Category 1: Buildings or parks where quiet is an essential element of their purpose,
- Category 2: Residences and buildings where people normally sleep (such as hospitals and hotels), and
- Category 3: Institutional land uses with primarily daytime and evening use (such as schools, libraries, and churches).

Two levels of noise effects are addressed by the criteria: “Impact” and “Severe Impact.” Both are determined by the change in noise attributed to the project (i.e., the absolute change in noise when considered in the context of the existing noise exposure). This is demonstrated in Tables 3.6-1 and 3.6-2, which summarize FTA’s noise impact criteria.

When the AA/DEIS/DEIR was prepared (in 1995), a draft of the new FTA criteria was available, and the AA/DEIS/DEIR discussed the basic provisions of the proposed criteria. As the AA/DEIS/DEIR observed, the new criteria basically consist of a sliding scale where the amount that a transit project is allowed to increase overall noise levels depends on existing levels. The allowed change decreases as background noise increases.
<table>
<thead>
<tr>
<th>Existing Noise Exposure $L_{eq}$ or $L_{dn}$</th>
<th>Project Noise Exposure Impact Threshold, $L_{dn}$ or $L_{eq}$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Category 1 or 2 Sites</td>
</tr>
<tr>
<td></td>
<td>Impact</td>
</tr>
<tr>
<td>$&lt;43$</td>
<td></td>
</tr>
<tr>
<td>43-44</td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>52</td>
</tr>
<tr>
<td>46-47</td>
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<td>66</td>
</tr>
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<td>$&gt;77$</td>
<td>66</td>
</tr>
</tbody>
</table>

Note:
(1) $L_{dn}$ is used for land uses where nighttime sensitivity is a factor; Daytime leq is used for land use involving only daytime activities.

Category Definitions:

Category 1: Buildings or parks where quiet is an essential element of their purpose.

Category 2: Residences and buildings where people normally sleep. This includes residences, hospitals, and hotels where nighttime sensitivity is assumed to be of utmost importance.

Category 3: Institutional land uses with primarily daytime and evening use. This category includes schools, libraries, and churches.

Source: Harris Miller Miller & Hanson Inc., February 1996

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3-42
<table>
<thead>
<tr>
<th>Existing Ambient Noise Level $L_{eq}$ or $L_{dn}$</th>
<th>Allowable Cumulative Noise Level Increases, $L_{eq}$ or $L_{dn}$</th>
<th>Impact</th>
<th>Severe Impact</th>
<th>Impact</th>
<th>Severe Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Category 1 or 2 Sites</td>
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<td>Category 3 Sites</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Impact</td>
<td>Severe Impact</td>
<td>Impact</td>
<td>Severe Impact</td>
</tr>
<tr>
<td>45</td>
<td>8</td>
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<td>73</td>
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<tr>
<td>75</td>
<td>0.4</td>
<td>2</td>
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</tbody>
</table>

Note: $L_{dn}$ is used for land uses where nighttime sensitivity is a factor. Maximum one-hour $L_{eq}$ is used for land use involving only daytime activities.

Category Definitions:

Category 1: Buildings or parks where quiet is an essential element of their purpose.

Category 2: Residences and buildings where people normally sleep. This includes residences, hospitals, and hotels where nighttime sensitivity is assumed to be of utmost importance.

Category 3: Institutional land uses with primarily daytime and evening use. This category includes schools, libraries, and churches.

Source: Harris Miller Miller & Hanson Inc., April 1996
FTA selected the impact levels for the new criteria to be reasonably consistent with the pre-1996 FTA criteria, as well as noise impact criteria used by other federal agencies. For areas with primarily daytime use that are not more sensitive to nighttime noise, such as schools, impacts are evaluated based on changes in energy equivalent levels \((L_{eq})\). \(L_{eq}\) measures the relative average noise level over a certain period (usually one hour). Noise in residential areas is characterized by measuring changes in day-night sound level \((L_{dn})\). \(L_{dn}\) measures the relative average noise level over a certain period (usually 24 hours); however, a weighting of 10 dB is applied to those noises occurring during nighttime (10 PM to 7 AM).

Pre-1996 - Prior to the 1996 publication of the new FTA noise criteria, FTA criteria were defined in UMTA Circular C 5620.1, Guidelines for Preparing Environmental Assessments, Department of Transportation, Urban Mass Transportation Administration, October 16, 1979. The noise analysis conducted for the AA/DEIS/DEIR used these criteria, which were based on \(L_{eq}\). The former FTA criteria stated that the impact was “generally not significant” if the project would result in a change in \(L_{eq}\) of 3 dBA (decibels on the A-weighted scale) or less. These criteria were often also applied to changes in day-night sound level \((L_{dn})\) or in community noise equivalent levels (CNEL). Like \(L_{dn}\), CNEL measures the relative average noise level over a noise equivalent level over a certain period (usually 24 hours). CNEL also applies a weighting of 10 dB to nighttime noises, and it adds a weighting of 5 dB for noises occurring during the evening hours (7 PM to 10 PM). California is the only state that uses the CNEL noise descriptor.

### 3.6.1.2 Vibration

Ground-borne vibration from transit trains is characterized in terms of root-mean-square amplitude (rms). The threshold of vibration perception for most humans is about 65 VdB (dB with a reference quantity of 1 microinches/second). VdB is used here in place of dB to avoid confusion of vibration decibels with sound decibels. Levels in the 70 to 75 VdB range are often noticeable but acceptable, and levels in excess of 80 VdB are often considered unacceptable. For rail transit, limits for acceptable levels of residential ground-borne vibration are usually between 70 and 75 VdB.

In 1996, the FTA published new vibration criteria, based upon the three categories of land use. These categories and their respective vibration limits for frequent events are shown below.

- **Category 1**: (buildings where low ambient vibration is essential for interior operations): 65 VdB;
- **Category 2**: (residences and buildings where people normally sleep): 72 VdB;
- **Category 3**: (institutional land uses with primarily daytime use): 75 VdB

The impact limit used to evaluate vibration impacts for the AA/DEIS/DEIR was 72 VdB, which was the impact limit in the FTA Draft Guidance Manual. Under the new vibration impact criteria, 72 VdB remains the impact limit for residences and buildings where people normally sleep.

### 3.6.2 Existing Noise

Measurement of existing noise and projection of future noise conditions was conducted in 1993, in preparation of the AA/DEIS/DEIR. In 1995, supplemental noise measurements were taken in the...
vicinity of the proposed Clairemont Station. Table 3.6-3 presents existing noise levels at the measurement sites in the vicinity of improvements under the FEIS alternatives, including 1995 supplemental noise measurement sites, which are identified as 2S and 4S. Measurement sites are identified in Figures 3.6-1 through 3.6-3. Also shown in Table 3.6-3 are projected noise levels from the existing passenger (AMTRAK) and freight train (SDNR) traffic. At several locations, the projected $L_{dn}$ from train noise is higher than the estimated $L_{dn}$ based on the noise measurements. This is an indication that train noise is an important element of the existing noise environment.

### Table 3.6-3
Existing Noise Levels
(Based on short/long term noise measurements and projections of train noise)

<table>
<thead>
<tr>
<th>Location</th>
<th>Peak Hour $L_{eq}$ (est.)</th>
<th>Existing $L_{dn}$ (dBA)</th>
<th>Projected Amtrak</th>
<th>Projected SDNR</th>
<th>Projected Comb.</th>
<th>Existing $L_{max}$ (dBA)</th>
<th>Projected Amtrak</th>
<th>Projected SDNR</th>
<th>Projected Comb.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Littlefield and Morena (250' from I-5)</td>
<td>71</td>
<td>70</td>
<td>52</td>
<td>52</td>
<td>70</td>
<td>84</td>
<td>74</td>
<td>78</td>
<td>84</td>
</tr>
<tr>
<td>2. McGraw south of Baker</td>
<td>71</td>
<td>70</td>
<td>56</td>
<td>56</td>
<td>70</td>
<td>84</td>
<td>81</td>
<td>84</td>
<td>84</td>
</tr>
<tr>
<td>2S. 2438 Denver Street (south of Clairemont Dr.) [1]</td>
<td>58</td>
<td>56</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>73</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>3. Toler Elementary School</td>
<td>62</td>
<td>63</td>
<td>55</td>
<td>55</td>
<td>63</td>
<td>82</td>
<td>78</td>
<td>82</td>
<td>82</td>
</tr>
<tr>
<td>4. Intersection Paul Jones/Brandywine (400' from I-5)</td>
<td>63</td>
<td>63</td>
<td>56</td>
<td>56</td>
<td>64</td>
<td>86</td>
<td>81</td>
<td>84</td>
<td>86</td>
</tr>
<tr>
<td>4S. Paul Jones (north of Bunker Hill St.) - East Side [1]</td>
<td>64</td>
<td>65</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>79</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>4S. Paul Jones (north of Bunker Hill St.) - East Side [1]</td>
<td>69</td>
<td>70</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>84</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Note: All noise levels are expressed as dBA (A-weighted decibels)

$L_{dn}$ = changes in day/night sound levels

$L_{eq}$ = energy equivalent level

$L_{max}$ = maximum noise level (e.g., train passby)

[1] These supplemental measurements were conducted/estimated in 1995 by Harris Miller Miller & Hanson. All other measurements/estimates were done in 1993 and included in the AA/DEIS/DEIR.

[2] 24 Hour Measurements

Sources: Harris Miller Miller & Hanson, Inc., 1993 and 1995.; ICF Kaiser Engineers, 1992
Figure 3.6-2
Noise Level Monitoring Locations

Monitor Location
1. Behind residences on McGraw St., south of Baker St.
2. William P. Toler Elementary School
3. Intersection of Paul Jones Ave./Bunker Hill St.
4. Behind residence on Denver Street, South of Jellett Street
5. In front yard of residence on Paul Jones Avenue, north of Bunker Hill Street
Figure 3.6.3
Noise Level Monitoring Locations

Monitor Location
1. In front of student housing, along Thomas Rd.*
2. In front of tennis courts in City Estates Park, along Executive Dr.
3. In front of Townhomes west of Towne Center Dr., along Executive Dr.
4. In Rose Canyon behind Valencia homes.*
5. Foot of Regents Rd., near Valencia homes.*
6. Along Genesse, south of Nobel Dr., adjacent to Townhomes.
7. North of A.T.
8. North of A.T.
10. Behind La Jolla Point Apartments, 7924 Avenida Navidad.
11. At the Towne Center Racquet Club Apartments, 300 feet north of the Tracks

*24 Hour Measurement

AFFECTED ENVIRONMENT
3-48
Additional noise measurements were taken in 1998 near the proposed Nobel Drive Coaster Station, at noise measurement site 19S. The results of these measurements are shown in Table 3.6-4, and compared with noise measurements taken in 1993 at site 19. The noise event information and sound level time history at Site 19S were used to separate the noise from Amtrak passenger trains and Coaster commuter trains from other ambient noise. The approximate contributions to L_{dn} of Amtrak, Coaster and freight trains are included in Table 3.6-4. The data in Table 3.6-4 indicate that even though there is a low volume of freight trains on this line, because they are substantially longer than the commuter and passenger trains and often pass during the nighttime hours, they add more to L_{dn} than the commuter and passenger trains. Other important noise sources at both measurement sites are a relatively constant background noise from traffic on the nearby freeways, particularly I-805, and busy local streets.

<table>
<thead>
<tr>
<th>Site</th>
<th>Date</th>
<th>Day-Night Sound Level, Ldn (dBA)</th>
<th>Contributions to Ldn</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Measured</td>
<td>Amtrak</td>
</tr>
<tr>
<td>19. La Jolla Point Apartments</td>
<td>5/17-18/93</td>
<td>64.5</td>
<td>50*</td>
</tr>
<tr>
<td>19S. Towne Centre Racquet Club</td>
<td>11/12-13/98</td>
<td>62.0</td>
<td>51.4</td>
</tr>
</tbody>
</table>

Notes:
* Amtrak noise estimated based on Site 2 measurements.
** Coaster commuter rail trains were not operating during May 1993 measurements.

Source: Harris Miller Miller and Hanson Inc., 1998

### 3.7 NATURAL RESOURCES

This section summarizes regulations that protect wetlands, wildlife, and vegetation, and documents the presence of these natural resources within the vicinity of improvements proposed under the TSM and the Build Alternatives.

#### 3.7.1 Regulatory Context

**Section 404 of the Clean Water Act.** The U.S. Army Corps of Engineers (ACOE) has jurisdiction over wetlands and other waters of the United States, through Section 404 of the Clean Water Act. Hydrophytic vegetation, wetland hydrology and hydric soils all must be present to qualify a site as an ACOE jurisdictional wetland (Environmental Laboratory 1987) as defined in Section 404 of the Clean Water Act. The ACOE requires that: (1) impacts to wetlands be avoided; (2) unavoidable impacts be minimized to the maximum extent practicable; and (3) when unavoidable, impacts be mitigated to achieve no-net-loss of wetland functions and values.

A Memorandum of Understanding among the western states establishes a multi-agency NEPA/404 integration process to be followed when projects would require an individual ACOE permit or affect special aquatic sites. Based on the refined assessment of impacts for the build alternatives presented in Section 5.7 of this Final EIS/EIR, it appears that this project will not require an individual ACOE
permit. The Final EIS/EIR, biology report, and conceptual mitigation plan will be provided to the ACOE and other NEPA/404 agencies for their review.

**Executive Order 11990 - Protection of Wetlands.** Executive Order 11990 requires that federal agencies implement the following procedures for any federal action that involves wetlands: (1) provide an opportunity for early public involvement; (2) consider alternatives that would avoid wetlands, and if avoidance is not possible, measures to minimize harm to wetlands must be included in the action; (3) prepare a “Wetlands Only Practicable Alternative Finding” for actions that require an EIS.

**Federal Endangered Species Act.** The Federal Endangered Species Act (ESA) of 1973, (16 U.S.C. 1531-1543) provides a means to conserve the ecosystems upon which endangered species and threatened species depend. It also provides a program for the conservation of such endangered and threatened species. Section 7 requires each federal agency, in consultation with and with the assistance of the Secretary of the Interior, USFWS, to ensure that actions authorized, funded, or carried out by the agency do not jeopardize the continued existence of any endangered or threatened species, or result in the destruction or adverse modification of habitat of such species, unless the agency has been granted an exemption for the proposed action. Consistent with this requirement an updated listing of rare, threatened and endangered species that may occur in the vicinity of the proposed FEIS alternatives was requested from the USFWS. Results are reported in Section 3.7.3.

**California Streambed Alteration Agreement.** The California Department of Fish and Game (CDFG) focuses on minimizing and otherwise mitigating adverse effects on wetland communities that provide wildlife habitat through section 1600, et seq., of the State Fish and Game Code (Streambed Alteration Agreement). All ACOE wetlands are CDFG wetlands; however, CDFG wetlands also include habitat with hydrophytic vegetation regardless of whether the habitat meets the hydrology or hydric soils criteria. CDFG’s requirements regarding avoidance and mitigation of impacts are identical to the ACOE requirements listed above.

**California Endangered Species Act.** The California Endangered Species Act, (Fish and Game Code, Section 2050, et seq.) declares that it is the policy of the state to conserve, protect, restore, and enhance any endangered species or any threatened species and its habitat. It requires state lead agencies to adopt reasonable and prudent alternatives or modifications to a project when the Department of Fish and Game finds that the project would jeopardize the continued existence of such species or result in the destruction or adverse modification of habitat essential to the continued existence of such species.

**California Native Plant Protection Act.** The California Native Plant Protection Act, (Fish and Game Code 1900-1913) requires all state agencies to utilize their authority to carry out programs to conserve endangered and rare native plants.

**San Diego Multiple Species Conservation Program.** The City of San Diego, USFWS, and CDFG have recently signed an implementing agreement based on the City’s recently adopted Multiple Species Conservation Program (MSCP). The implementing agreement addresses impacts to upland plant and animal species in the City of San Diego and provides a 10(a) take permit to the City for
impacts to species covered by the ESA. The MSCP Plan establishes a preserve system designed to conserve large blocks of interconnected habitat having high biological value that are delineated in multiple habitat planning areas (MHPA). This plan encourages private and public landowners to mitigate for new project impacts by acquiring land within the MHPA and encourages new development to locate on lands outside the MHPA. This is accomplished through a schedule of mitigation ratios that varies depending on where a project is located with relation to the MHPA and whether the mitigation will occur inside or outside of the MHPA. The MSCP Plan also ranks habitat values by rarity and sensitivity. The most sensitive habitats are Tier I, and the least sensitive are Tier IV. The varying mitigation ratios and requirements that mitigation be either in-tier or in-kind are based on the sensitivity of the habitat being affected. MTDB is a “third party beneficiary” under the implementing agreement, and will provide mitigation for Mid-Coast LRT Project impacts on special status species in accordance with the City’s 10(a) permit and the MSCP.

3.7.2 Methodology

3.7.2.1 Data, Research and Resources. The AA/DEIS/DEIR provided information regarding wetlands and other natural habitats, vegetation, and wildlife within the Mid-Coast Corridor, based on biological studies documented in the technical report, Biological Resources Report: Mid-Coast Corridor AA/DEIS/DEIR (January 1994). In its January, 1995 comments on the AA/DEIS/DEIR, the USFWS transmitted a listing of species whose status had changed since the 1991 listing on which the AA/DEIS/DEIR biology work was done.

Additional biological studies have been conducted for this FEIS. Data sources consulted for these studies included: the California Natural Diversity Database (CNDDB) for sensitive species reported in the project vicinity; the California Native Plant Society (CNPS) list; updated habitat maps; and a 1998 listing of endangered, threatened and candidate species and species of concern requested from the USFWS. The research and methodology for the biological studies conducted in preparation of this FEIS are detailed in the technical report, Updated Biology Report Technical Report (December 1998), which is incorporated by reference into this FEIS and summarized in the following sections.

3.7.2.2 Natural Resources Study Area. The natural resources study area (study area) is the area immediately surrounding the improvements proposed under the alternatives evaluated in this FEIS, as shown in Figures H-1 through H-16 in Appendix H. To simplify the collection and presentation of data, the Updated Biology Report Technical Report (December 1998), divided the study area into the following three sections:

- The San Diego River crossing - as shown on Figure H-1, including the southern section of the Balboa LRT Extension alignment to a point just north of the San Diego River;
- The Balboa LRT Extension area - as shown on Figures H-2 through H-13, including the remainder of the Balboa LRT Extension alignment and proposed station/park-and-ride areas; and
- The Nobel Drive Coaster Station area - as shown on Figures H-14 through H-16.

3.7.2.3 Field Surveys. In 1991, Ecological Research Associates (ERA) conducted biological field surveys along the proposed I-5 LRT alignment and in Rose Canyon. Additional surveys in the Nobel Drive Coaster Station area were conducted in 1993 by Dudek and Associates.
Associates conducted additional field surveys in 1998 to respond to USFWS comments on the AA/DEIS/DEIR and in preparation of this FEIS. Delineation of potential jurisdictional wetlands and other waters of the U.S. was performed in April, and focused habitat/species surveys in the Balboa LRT Extension and Nobel Drive Station areas were conducted in March and April. Additional delineation of potential jurisdictional wetlands was performed in the proposed Nobel Drive Station area in June.

3.7.2.4 **Consultations with Resource Agencies.** The delineation of potential jurisdictional wetlands and other waters of the U.S. in the study area was submitted to the ACOE on December 2, 1998, for their jurisdictional determination; a copy of their concurrence letter dated February 24, 2000 is included in Appendix I of this FEIS. The delineation of jurisdictional wetlands and other waters of the U.S. is included in Appendix H. At MTDB's request, the USFWS provided an updated listing of endangered, threatened and candidate species and species of special concern on July 31, 1998. This listing is included in Appendix I.

3.7.3 **Natural Resources in the Study Area**

3.7.3.1 **Vegetative Communities and Wildlife.** Habitats that occur in the study area are identified below. For each habitat, the section(s) of the study area (as described above) in which it occurs is indicated.

**Southern Cottonwood-Willow Riparian Forest (Riparian Habitat).** Southern cottonwood-willow riparian forest (riparian habitat) is the dominant native habitat within the San Diego River floodplain. Representing the climax community in the riparian systems of larger coastal southern California drainages, it is dominated by dense growth of arroyo willow (Salix lasiolepis) and black willow (Salix gooddingii). The remainder of the native overstory species consists of sandbar willow (Salixindsayana), red willow (Salix laevigata), Fremont cottonwood (Populus fremontii), yellow willow (Salix lasiandra), and western sycamore (Platanus racemosa). This wetland habitat occurs in the San Diego River crossing (0.23 hectare/0.58 acre) and in the Nobel Drive Coaster Station Area (0.028 hectare/0.07 acre). A number of exotic species have become naturalized throughout the San Diego River, including giant reed (Arundo donax), common reed (Phragmites communis) castor bean (Ricinus communis), salt cedar (Tamarix spp.), canary island palm (Phoenix canariensis), and eucalyptus (Eucalyptus spp.). These species have little value to riparian wildlife species and often compete aggressively with native riparian plant species.

**Southern Sycamore-Alder Riparian Woodland.** This habitat occurs along streams and is dominated by sycamores (Platanus racemosa) or alders (Alnus rhombifolia). It is a tall, open, winter-deciduous habitat that seldom forms a closed canopy. Other species associated with this habitat include poison oak (Toxicodendron radicans), coast live oak (Quercus agrifolia), Mexican elderberry (Sambucus mexicana), and Douglas mugwort (Artemisia douglasiana). Southern sycamore-alder riparian woodland occurs within the Nobel Drive project area (0.018 hectare/0.045 acre) on the south side of the SDNR tracks. Mature sycamores occur in this area and are over 7.6 meters (25 feet) tall. No alders occur on-site within this habitat, however, all of the other above-mentioned associate species occur within the project site or in adjacent similar habitat.
Coastal Brackish Marsh. Coastal brackish marsh typically occurs where fresh and saline waters mix, producing vegetation that is intermediate between and representative of coastal salt marsh and coastal freshwater marsh. Generally perennial emergent herbaceous monocots up to two meters (6.5 feet) tall dominate. An area best described as disturbed coastal brackish marsh occurs immediately south of Tecolote Road, north of Vega Street on the east side of the SDNR railroad tracks, in an area where stormwater runoff ponds. Plant species of this habitat include pickleweed (Salicornia virginica), and Desert salt-grass (Distichlis spicata). Coastal brackish marsh is considered as wetlands with high biological value and protected status at the federal, state and local levels. It occurs in the Balboa LRT Extension area (0.016 hectare/0.04 acre).

Freshwater Marsh. Perennial monocots 4-5 meters (12 - 15 feet) tall, including bulrushes (Scirpus sp.), sedges (Cyperus sp.) or cat-tails (Typha sp.), typically dominate freshwater marsh. This vegetation occurs in areas with prolonged saturation of the soils. Freshwater marsh occurs immediately south of Tecolote Road, north of Vega Street on the east side of the SDNR tracks adjacent and in the vicinity of the coastal brackish marsh. Freshwater marsh species within the study area include: prairie bulrush (Scirpus Robustus); soft flag (Typha latifolia); curly dock (Rumex crispus); Italian rye grass (Lolium multiflorum); rabbitfoot beargrass (Polypogon monspeliensis); bermuda grass (Cynodon dactylon); pampas grass (Cortaderia selloana); and fan palm (Washingtonia filifera). Freshwater marsh is considered as wetlands with high biological value and protected status at the federal, state and local levels. It occurs within the Balboa LRT Extension area (0.006 hectare/0.014 acre) and the Nobel Drive Coaster Station area (0.002 hectare/0.005 acre). Due to its small area and the lack of connectivity to any similar habitat nearby, the freshwater marsh within the Balboa LRT Extension area has a low habitat value.

Coastal Sage Scrub. Various drought deciduous native plant species characterize coastal sage scrub, including coastal sagebrush (Artemisia californica), several species of sage (Salvia sp.), and flat-top buckwheat (Eriogonum fasciculatum). The understory vegetation in undisturbed habitat consists primarily of lichens, mosses and ferns. Over 75 percent of historical coastal sage scrub habitat has been lost to urban and agricultural development. It is home to the California gnatcatcher, a bird species federally listed as threatened, and listed as a Tier II habitat in the MSCP Plan. A narrow band of coastal sage scrub occurs on the east and west sides of the railroad tracks just north of McGraw Street (in the Balboa LRT Extension area). This highly disturbed sage scrub community is dominated by garland chrysanthemum, tocalote (Centaurea melitensis), laurel sumac (Malosma laurina), and California sunflower (Encelia californica). Only a small remnant of disturbed coastal sage scrub (0.117 hectare/0.29 acre) exists in the Balboa LRT Extension area. Coastal sage scrub also occurs in the Nobel Drive Coaster Station area (1.04 hectares/2.57 acres). Surveys in that area detected California gnatcatchers, as described in Section 3.7.3.3.

Non-native Grassland. Non-native grasslands generally have a dense to sparse cover of annual grasses that germinate during late fall rains; growth, flowering, and seed set occur from winter through spring. Oats (Avena spp.) and bromes (Bromus spp.) dominate this habitat on-site. Although the dominant species are exotic, non-native grasslands provide important raptor foraging habitat. This habitat, which occurs within the Nobel Drive Coaster Station area (0.356 hectare/0.88 acre), is designated a Tier III habitat under the MSCP Plan.
Ruderal/Horticultural. The majority of the Balboa LRT Extension area consists of ruderal/horticultural habitat, in which industrial uses and railroad construction and maintenance have disturbed most of the flora. Vegetation is dominated alternately by such invasive species as Russian thistle (Salsola australis), slender oats (Avena barbata), foxtail cheat (Bromus rubens), castor bean (Ricinus communis), fountain grass (Pennisetum setaceum), giant reed (Arundo donax), telegraph weed (Heterotheca grandiflora), garland chrysanthemum (Chrysanthemum coronarium), and virgin wreathe plant (Stephanomeria virgata virgata). The horticultural plantings are primarily eucalyptus trees and oleander (Nerium oleander) that occur throughout the study area. Ruderal/horticultural habitat occurs in the Balboa LRT Extension area and the Nobel Drive Coaster Station area.

Nobel Drive Coaster Station Mitigation Area. The proposed site of the Nobel Drive Coaster Station and parking lot is on property originally deeded as open space to the City of San Diego by the Lake at La Jolla Village Project or proposed for deeding as part of Five Creeks (now, the Renaissance La Jolla) project, located north of Nobel Drive. The deeded land was disturbed by the construction of Nobel Drive; however, 0.22 hectare (0.55 acre) of riparian woodland with mature sycamores (Platanus racemosa) remains in the southwest corner of the area.

In 1987, restoration of the site proposed for the Nobel Drive Station as wetland/coastal sage scrub was approved as mitigation for the Renaissance La Jolla project, and restoration activities were conducted on 1.21 hectare (three acres) at this site. In addition, the project builder hydroseeded and planted 3.48 hectares (8.6 acres) that were disturbed during construction of Nobel Drive (i.e., fill slopes) with a native coastal sage scrub plant mix. Restoration of both habitats required a three-year monitoring period, and the City released the project's performance bond in February 1993. The current condition of the wetland mitigation site shows continued problems with hydrology. In addition, an abundance of the exotic, invasive plant pampas grass (Cortaderia selloana) occurs throughout the mitigation area and at the base of the coastal sage scrub area, forming a monoculture in many places.

### 3.7.3.2 Wetlands and Other Waters of the U.S. Wetland habitats are highly productive and valuable for plant and wildlife communities. The structural complexity of the vegetation (particularly willow scrub and riparian forest) provides nesting and foraging opportunities for numerous species of birds. The available water and associated vegetative cover represent resources for several species of amphibians and mammals and for numerous species of aquatic and sub-aquatic insects. Many types of wetlands provide important or requisite habitat for endangered species of plants and wildlife. Linear riparian habitats are likely to play a role in animal dispersal. In recognition of the value of wetland resources, the ACOE has a goal of “no net loss” of wetlands. Wetlands were identified for the Mid-Coast LRT Project, Balboa LRT Extension and Nobel Drive Station during April, 1998 in accordance with the ACOE routine on-site method (1987 ACOE manual).

Waters of the U.S. Waters of the U.S. are areas where wetland hydrology and hydric soils are present, but vegetation is absent. This condition generally occurs where water flow is consistently too rapid to allow the establishment of plant species. Waters of the U.S. occur in the San Diego River crossing and the Balboa LRT Extension area (Tecolote Creek). The delineation of wetlands and other waters of the U.S. within each of the three sections of the study area is described below.
San Diego River Crossing. MTDB has agreed with the regulatory agencies to consider the San Diego River as wetland riparian habitat from bank to bank, therefore, a wetland delineation of the San Diego River crossing was not conducted.

Balboa LRT Extension Area. Wetlands (coastal brackish marsh and freshwater marsh as described in Section 3.7.3.1) were delineated south of Tecolote Road and north of Vega Street, on the east side of the SDNR tracks adjacent to Morena Plaza. Waters of the U.S. (Tecolote Creek) were also identified in this section of the study area. These areas are shown on Figure H-18 in Appendix H.

Nobel Drive Coaster Station Area. Although 0.22 hectare (0.55) acre of riparian habitat historically existed at the proposed Nobel Drive Station and parking area site (north of the SDNR tracks), the remainder of the basin habitat was created through restoration. Using ACOE methods to evaluate soils on restoration sites is often problematic because it may take dozens of years for the soil to attain properties associated with hydric soil, even if hydrology is present. As reported in the Updated Biology Technical Report (December 1998), special procedures were used to account for these site conditions. If vegetation was hydrophytic and hydrology was present, the site was considered jurisdictional, regardless of negative results for hydric soil, based on the assumption that the soil of a restored site eventually would exhibit hydric properties. Of the 16 locations evaluated north of the SDNR tracks, 14 (totaling 0.028 hectare/0.07 acre) are considered to be ACOE and CDFG jurisdictional wetlands. Other wetlands (southern sycamore-alder riparian woodland) are also present south of the SDNR tracks. Nobel Drive Station area wetlands are shown on Figures H-19 through H-21 in Appendix H.

Consultation with the ACOE. The 1998 preliminary delineation of wetlands performed for the Mid-Coast LRT Project, Balboa Extension and Nobel Drive Coaster Station was submitted for a jurisdictional determination by the ACOE. Wetland impacts reported in Chapter 5 of this document are based on the ACOE jurisdictional determination and suggested mitigation measures reflect ACOE ratios and other requirements as determined through consultation with the ACOE. Further information regarding agency consultation is provided in Sections 5.7.3 and 7.3.1 of this FEIS.

3.7.3.3 Special Status Species. Table 3.7-1 reviews species of plants and animals that have special status species for one or more of the following reasons: (1) they are listed as threatened or endangered by USFWS or CDFG; (2) they are candidates for such listing; (3) they are a species of special concern by USFWS or CDFG; or (4) they are identified through the MSCP process as a narrow endemic species.

Based on a review of previous studies, as well as the July 1998 USFWS listing, and field studies conducted for this FEIS in 1998, the plant and animal species listed below have some potential for occurrence within the three sections of the study area. Detail regarding the biological studies is provided in the Updated Biology Technical Report (December 1998).
### Table 3.7-1
Special Status Species in the Natural Resources Study Area

<table>
<thead>
<tr>
<th>Species</th>
<th>Status</th>
<th>Habitat Present</th>
<th>Habitat Not Present</th>
</tr>
</thead>
<tbody>
<tr>
<td>California Least Tern</td>
<td>Federal and state endangered</td>
<td>Not expected in the study area.</td>
<td></td>
</tr>
<tr>
<td>Least Bell’s Vireo</td>
<td>Federal and state endangered</td>
<td>Not expected in the study area, due to high levels of urbanization and ambient noise.</td>
<td></td>
</tr>
<tr>
<td>Light Footed Clapper Rail</td>
<td>Federal and state endangered</td>
<td>Surveys detected no clapper rails in study area.</td>
<td></td>
</tr>
<tr>
<td>Willow Flycatcher</td>
<td>Federal endangered, state first-priority species of special concern</td>
<td>No evidence of this species was observed during site visits.</td>
<td></td>
</tr>
<tr>
<td>Quino Checkerspot Butterfly</td>
<td>Federal endangered</td>
<td>Focused surveys detected no evidence of plant species that serve as larval host (dwarf plantain) or nectar source (owl’s clover) for this butterfly.</td>
<td></td>
</tr>
<tr>
<td>California Gnatcatcher</td>
<td>Federal threatened</td>
<td>This species was detected in the Nobel Station area.</td>
<td>The small remnant of disturbed coastal sage scrub in the Balboa LRT Extension area is not sufficient to support the California gnatcatcher; therefore, surveys to determine the presence of the species were not conducted in this area.</td>
</tr>
<tr>
<td>San Diego Black-tailed Jack Rabbit</td>
<td>Federal and state species of special concern</td>
<td>This species was detected in the Nobel Station area.</td>
<td></td>
</tr>
<tr>
<td>San Diego Marsh Elder</td>
<td>Federal species of special concern</td>
<td>No evidence of this species during site visits.</td>
<td></td>
</tr>
<tr>
<td>Southwestern Pond Turtle</td>
<td>Federal species of special concern</td>
<td>Not expected in the study area, due to degraded water quality.</td>
<td></td>
</tr>
<tr>
<td>Two-Striped Garter Snake</td>
<td>Federal species of special concern</td>
<td>Not expected in the study area, due to degree of urbanization.</td>
<td></td>
</tr>
<tr>
<td>Yellow-Breasted Chat</td>
<td>State species of special concern</td>
<td>No evidence of this species was observed during site visits.</td>
<td></td>
</tr>
<tr>
<td>Yellow Warbler</td>
<td>State species of special concern</td>
<td>No evidence of this species was observed during site visits.</td>
<td></td>
</tr>
</tbody>
</table>

Source: BRG Consulting, Inc.; Marquez and Associates; 1998
California Least Tern (Sterna antillarum brownii) is federally and state listed as endangered. It is a summer resident along the southern California coast, primarily from late April through August. The population decline of least terns can be attributed to the loss of suitable nesting habitat along sandy beaches, which have become areas of high human activity and disturbance. A single California least tern was observed foraging in the San Diego River channel west of the study area during field surveys in 1989. A study of California least tern foraging indicates that the brackish marsh area of the San Diego River (area around I-5) is rarely utilized for foraging by this species. The study area is unlikely to be used at all.

Least Bell's Vireo (Vireo pallidus pusillus) is both federally and state listed as endangered. Its habitat is restricted to riparian woodland; most frequently it occupies areas that combine an understory of dense young willows or mulefat with a canopy of tall willows. The vireo's decline is due to loss of riparian habitat combined with parasitism by the brown-headed cowbird. The least Bell's vireo arrives in San Diego County in late March and early April and leaves for its wintering ground in September. It is known to winter only in southern Baja California. There are no recent records of least Bell's vireos nesting within the study area. There is a low potential for this species to breed within the riparian habitat of the San Diego River crossing, due to the high levels of urbanization and ambient noise.

Light-footed Clapper Rail (Rallus longirostris levipes) is listed as endangered by both the federal and state governments. This species is a localized resident in tidal salt marshes that support good growth of cordgrass (Spartina foliosa). Clapper rail numbers have been greatly reduced by destruction and degradation of salt marsh habitat (Umitt 1984). Surveys detected no clapper rails in the study area. There is a very low probability of their occurrence in the riparian habitat of the San Diego River crossing.

Willow Flycatcher (Empidonax traillii extimus) is a federal endangered summer visitor whose breeding grounds are restricted to riparian woodland habitats. The CDFG considers it a first-priority species of special concern. The population of this subspecies nesting in southern California is estimated to be less than 80 pairs. This species' decline is due to a combination of destruction of riparian woodland and brood parasitism by brown-headed cowbirds. Only two substantial populations remain in San Diego County, along the Santa Margarita River (about 13 pairs) and along the upper San Luis Rey River (about 12 pairs). The only other population resides along the south fork of the Kern River. Elsewhere, nesting is ephemeral, sometimes consisting of a single isolated pair. No evidence of this species was observed in the study area during site visits.

California Gnatcatcher. The California gnatcatcher (Polioptila californica californica) a federally-listed threatened species, was detected at the Nobel Drive Coaster Station area during the vegetation mapping site visits. After the initial detection, focused surveys were conducted according to USFWS protocol in March and April 1998. California gnatcatchers were detected on March 27, April 3 and April 10, 1998. Figures H-14 through H-16 in Appendix H identify the locations of the sightings.

San Diego Black-Tailed Jackrabbit. This species (Lepus californicus bennettii) is a state and federal species of special concern. It was detected in the Nobel Drive Coaster Station area during the California gnatcatcher surveys, described above. This subspecies is restricted to the Pacific slope from Santa Barbara County to northwestern Baja California. Localities on the eastern edge of its
range, within San Diego County, include the Jacumba and San Felipe valleys. At present, the San Diego black-tailed jackrabbit is fairly common in coastal southern California; habitat loss is the primary reason for its current listing.

**San Diego Marsh Elder** (*Iva hayesiana*), a federal species of special concern, is a low perennial shrub occurring in moist or alkaline places below 200 meters (656 feet) in elevation in coastal San Diego County and Baja California. This late spring to summer blooming (April - September) species in the daisy family produces inconspicuous greenish-white flowers. San Diego marsh elder is threatened primarily by waterway channelization and development. San Diego marsh elder was not evident during site visits to the San Diego River crossing or Nobel Drive Station area and has only a slight potential to occur in the freshwater marsh or riparian habitats in the study area.

**Southwestern Pond Turtle** (*Clemmys marmorata pallida*) is a federal species of special concern and a state fully protected species, that is also listed as threatened by the San Diego Herpetological Society and is the only native turtle in southern California. The southwestern pond turtle is restricted to permanent water, and much of its habitat has been disrupted by urban and agricultural development. Additional threats include predation by raccoons, large mouth bass and bullfrogs, and trampling by cattle. Localities where pond turtles have been found have clean flowing water in a natural riparian environment. There is a low potential for this species to occur in the waters of the U.S. and riparian habitat of the San Diego River crossing, due to the degraded water quality.

**Two-Striped Garter Snake** (*Thamnophis couchi hammondi*) is a federal species of special concern and state fully protected species. It is considered endangered by the San Diego Herpetological Society and occurs in aquatic habitats. This subspecies prefers rocky streams with protected pools near shore. Chiefly diurnal in activity, this species is also active at dusk. It has been depleted from many coastal riparian localities, such as Mission Valley, where formerly it was common. There is a low potential for this species to occur within the waters of the U.S. and riparian habitat of the San Diego River crossing, due to the degree of urbanization.

**Yellow-breasted Chat** (*Icteria virens*) is another species restricted to riparian woodland, where it frequents dense undergrowth. Brown-headed cowbird parasitism and habitat loss are suspected as the major reasons for the decline of this species. It is a species of special concern to the CDFG. The yellow-breasted chat is a summer visitor to California, arriving in early April. It may occur in the riparian habitat in the San Diego River crossing or Nobel Drive Coaster Station area, but was not detected during site visits.

**Yellow Warbler.** A summer visitor, yellow warbler (*Dendroica petechia*) nests only in mature riparian woodland, in California. Like least Bell's vireo, it is a frequent victim of the brown-headed cowbird. The yellow warbler is considered a species of special concern by the CDFG. In San Diego County, it is uncommon and localized as a breeding species but is still common and widespread as a migrant. Earlier studies observed yellow warblers within the Morena section of the Mission Valley West Light Rail Transit Project. It is possible that this species occupies riparian habitat in the San Diego River crossing or Nobel Drive Coaster Station area, but no evidence of the species was observed during site visits.

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3.8  GEOTECHNICAL CONDITIONS

Geotechnical conditions are described in this section, based upon geotechnical studies conducted for the AA/DEIS/DEIR and additional geotechnical studies conducted in 1997 for the Balboa LRT Extension alignment. The results of the 1997 studies were published in the document, Foundation Report: Mid-Coast Light Rail, San Diego, California (September 1997), which is incorporated into this FEIS by this reference.

3.8.1  Soils

Studies conducted for the AA/DEIS/DEIR identified several soil classifications within the Mid-Coast Corridor, which was divided into three study segments: south, center and north. The improvements proposed under alternatives considered in this FEIS are located within the south and center segments, which are shown on Figures 3.8-1 and 3.8-2. The September 1997 geotechnical report also identified soil classifications along the Balboa LRT Extension (within the south segment). Soil classifications found in the vicinity of the proposed FEIS alternatives are described below.

**Alluvium (Qa), South/Center Segments.** Alluvial soils are located within the San Diego River, Tecolote Creek, and Rose Canyon Creek drainages. They are found along the LRT Balboa Extension and in the vicinity of the Nobel Drive Coaster Station. The alluvial soils comprise loose to moderately dense, clayey to silty sands with occasional gravel lenses. Depths of alluvium range from approximately 9 meters (30 feet) within Rose Canyon Creek to greater than 28 meters (90 feet) within the San Diego River.

**Artificial Fill Soils (Qa), South/Center Segments.** Previously placed fill soils occur within and adjacent to the existing SDNR alignment along the majority of the south segment. They occur both along the Balboa LRT Extension and in the vicinity of the Nobel Drive Coaster Station. Fill soils are also located adjacent to Mission Bay and the San Diego River. These soils generally consist of loose to moderately dense, clayey to silty sands with local areas of debris or rubble materials. The depth of fill soils below existing grade generally ranges from 0.6 to 3.1 meters (2 to 10 feet).

**Bay Point Formation (Qbp), South Segment.** Dense to very dense, fine- to medium-grained sands with variable amounts of clay define the Bay Point Formation in the study area. The Bay Point Formation underlies fill soils and/or alluvium within the south segment or is exposed at the surface in the absence of fill and/or alluvial soils. Bay Point Formation is found along the northern portion of the LRT Balboa Extension.

**Stadium Conglomerate (Tst), Center Segment.** The Stadium Conglomerate is a Tertiary age non-marine deposit consisting of a tightly packed gravel to cobble conglomerate in a silty to clayey sand matrix. The Stadium Conglomerate is mapped as a thin wedge ranging from 0 to 8 meters (0 to 25 feet) in thickness underlying the Linda Vista Foundation. It is found in the general vicinity of the Nobel Drive Coaster Station.
Lindavista Formation (Qln), Center Segment. The Lindavista Formation consists of a dense to very dense, medium- to coarse-grained sand with abundant gravels and cobbles. This formation is locally well-cemented and difficult to excavate. The Lindavista Formation is exposed along the mesa tops within the University City area of the center segment, and in the general vicinity of the Nobel Drive Coaster Station.

Scripps Formation (Tsc), Center Segment. The Scripps Formation is exposed along the study corridor slopes in the University City area. This formation consists of dense to very dense, silty sands with thin interbeds of plastic clays. It is found in the general vicinity of the Nobel Drive Coaster Station.

3.8.2 Seismicity

The Rose Canyon Fault Zone (Figure 3.8-3) is located within the south segment of the Mid-Coast Corridor in the vicinity of improvements under consideration in this FEIS. The September 1997, geotechnical report estimated that the northern 1,500 meters (4,900 feet) of the Balboa LRT Extension is located within the Rose Canyon Fault Zone, which is designated as a State of California Earthquake Fault Special Study Zone. Traces of the Rose Canyon Fault Zone have been identified within the Mission Bay Area and Rose Canyon. Recent exploratory trenching and fault studies have indicated the Rose Canyon Fault has exhibited seismic movement within the last 11,000 years. The California Division of Mines and Geology has classified the Rose Canyon Fault Zone as active.

Improvements proposed under the FEIS alternatives are also in the general vicinity of the Mission Bay Fault and the Old Town Fault. No evidence of recent faulting currently exists for either of these faults. Other regional fault zones which may subject the proposed alternatives to ground motion include the Offshore Zone of Deformation, Coronado Banks, San Diego Trough, Elsinore, San Jacinto, Newport Inglewood, San Clemente, and San Miguel-Vallecitos fault zones. No known active fault lines are located within the center segment (which includes the Nobel Coaster Station area). Table 3.8-1 lists the significant active faults that may affect the site, the estimated maximum probable seismic events which could occur on these faults, and the predicted ground accelerations at the site associated with these events.
MID-COAST LRT PROJECT
BALBOA EXTENSION AND NOBEL DRIVE COASTER STATION
FINAL ENVIRONMENTAL IMPACT STATEMENT

Metropolitan Transit Development Board
San Diego, California

Figure 3.8-3
Active Faults and Major Earthquakes

Source:
Reference Map/Adapted from
Proctor, R.J., 1973

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Table 3.8-1
Seismic Parameters for Maximum Probable Earthquakes

<table>
<thead>
<tr>
<th>Fault</th>
<th>Fault-to-Site Distance (km)</th>
<th>Maximum Probable Earthquake Magnitudes</th>
<th>Estimated Acceleration (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Peak Horizontal Bedrock²</td>
</tr>
<tr>
<td>Agua Blanca-Coronado Bank</td>
<td>14</td>
<td>7.1</td>
<td>0.22</td>
</tr>
<tr>
<td>Newport Inglewood</td>
<td>64</td>
<td>6.5</td>
<td>0.03</td>
</tr>
<tr>
<td>Offshore Zone of Deformation</td>
<td>27</td>
<td>6.5</td>
<td>0.08</td>
</tr>
<tr>
<td>Rose Canyon</td>
<td>&lt;1</td>
<td>6.5</td>
<td>0.56</td>
</tr>
<tr>
<td>San Clemente</td>
<td>47</td>
<td>6.6</td>
<td>0.05</td>
</tr>
<tr>
<td>San Diego Trough</td>
<td>24</td>
<td>6.1</td>
<td>0.08</td>
</tr>
<tr>
<td>San Miguel-Vallecitos</td>
<td>35</td>
<td>6.8</td>
<td>0.08</td>
</tr>
<tr>
<td>Whittier-Elsinore</td>
<td>39</td>
<td>7.2</td>
<td>0.09</td>
</tr>
</tbody>
</table>

Notes:


3.9 WATER RESOURCES

Key water resource features in the vicinity of improvements proposed under the FEIS alternatives include: the San Diego River, Mission Bay, Tecolote Creek, Rose Creek, and San Clemente Creek. The topographic features of the land within the south end of the corridor consist mainly of the floodplain of the San Diego River and Mission Bay. Moving northward along to the terminus of the Balboa LRT Extension, and then north to the Nobel Drive Coaster Station site, there is a series of mesas that rise up from the river and are cut latitudinally by deep canyons with seasonal streams.

3.9.1 Surface Water

Improvements proposed under the FEIS alternatives are located in portions of the following hydrographic sub-units of the San Diego Basin: Mission San Diego, Tecolote, Miramar, and Soledad hydrographic sub-units identified in the Comprehensive Water Quality Control Plan Report for the San Diego Basin. The basins (or watersheds) of water resources are shown on Figures 3.9-1 and 3.9-2. A "basin" or "watershed" is the part of the earth’s surface from which storm water runoff flows to a specific water resource. Key coastal and inland surface water features in the vicinity of the FEIS alternatives include the San Diego River, Rose Creek, San Clemente Creek, and Tecolote Creek.
MID-COAST LRT PROJECT
BALBOA EXTENSION AND NOBEL DRIVE COASTER STATION FINAL ENVIRONMENTAL IMPACT STATEMENT

Metropolitan Transit Development Board
San Diego, California

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Source: Fraser Engineering, Inc., September 1991

Figure 3.9-2
Water Resources Surface Hydrographic Sub-Units
These surface waters have beneficial uses, mostly oriented around passive recreation and water supply, and also as habitats for aquatic and wildlife resources. Additionally, the annual streams serve as water supply sources for limited agricultural and industrial uses. Tables 3.9-1 and 3.9-2 list the beneficial uses as identified by the State Water Resources Control Board (SWRCB). Surface water conditions have been identified in accordance with Section 404 of the Clean Water Act.

<table>
<thead>
<tr>
<th>Table 3.9-1</th>
<th>Existing and Potential Beneficial Uses of Inland Surface Waters</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AGR</td>
</tr>
<tr>
<td>6.10 Soledad</td>
<td>●</td>
</tr>
<tr>
<td>6.40 Miramar</td>
<td>○</td>
</tr>
<tr>
<td>6.50 Tecolote</td>
<td>●</td>
</tr>
<tr>
<td>7.11 Mission San Diego</td>
<td>●</td>
</tr>
</tbody>
</table>

NOTE: ● = Existing beneficial use  ○ = Potential beneficial use

ABBREVIATIONS:  
AGR - Agricultural Supply  
IND - Industrial Service Supply  
REC-1 - Water Contact Recreation  
REC-2 - Non-Contact Water Recreation  
WARM - Warm Fresh-Water Habitat  
COLD - Cold Fresh-Water Habitat  
WILD - Wildlife Habitat  
RARE - Preservation of Rare & Endangered

Source: Fraser Engineering, 1995

<table>
<thead>
<tr>
<th>Table 3.9-2</th>
<th>Existing and Potential Beneficial Uses of Coastal Waters</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>REC1</td>
</tr>
<tr>
<td>Mouth of San Diego River</td>
<td>●</td>
</tr>
<tr>
<td>Mission Bay</td>
<td>●</td>
</tr>
</tbody>
</table>

NOTE: ● = Existing beneficial use

ABBREVIATIONS:  
REC-1 - Water Contact Recreation  
REC-2 - Non-Contact Water Recreation  
COMM - Ocean Commercial and Sport Fishing  
SAL - Saline Water Habitat  
RARE - Preservation of Rare & Endangered Species  
MAR - Marine Habitat  
SHELL - Shellfish Harvesting

Source: Fraser Engineering, 1995

3.9.2 Groundwater

A review of published information regarding the presence, use, and quality of the Mid-Coast Corridor groundwater indicates that, where present, most of the groundwater does not meet minimum water quality objectives for municipal or agricultural uses due to high levels of dissolved solids, sulfates, and/or sodium chlorides. SWRCB does not include any of the Mid-Coast Corridor resources in their calculations for estimated safe yield to meet municipal water demands. The improvements proposed under the FEIS alternatives are located entirely within the Mid-Coast Corridor.
3.9.3 Flooding and Drainage

The area surrounding the improvements proposed under the FEIS alternatives consists of a mixture of older and newer (less than 20 years old) developments. In most cases the older developments contain drainage facilities that were constructed along with the major transportation facilities, i.e., I-5 and the SDNR tracks. The drainage facilities constructed by the railroad are almost all undersized and do not have sufficient capacity to carry today’s peak storm water flows. Some drainage facilities have been replaced and upsized as a result of adjacent development either by Caltrans during the construction of I-5, or by adjacent property owners as a condition of development mandated by the City of San Diego.

There still exists some localized flooding along the SDNR tracks and in the immediate areas of the older drainage facilities. Continued development upstream, in the tributary areas of the streams and drainage structures within the study area, has resulted in some older, once adequate facilities now being undersized. Additionally, new development in the area has contributed to a heavy burden on the undersized structures, and some localized flooding presently occurs at these structures. In more recent times, urban planning, refined design techniques, and engineering design standards have resulted in the construction of storm drainage facilities with sufficient capacity to handle both today’s peak flows as well as the peak flows at build-out. This is the case with most of the newly developed areas such as University City, and most facilities within these areas have sufficient capacity to control drainage for the life of the drainage facility. In 1997, a preliminary assessment of drainage patterns in the vicinity of the FEIS alternatives was prepared under separate cover. This report, titled Preliminary Drainage Assessment for the Mid-Coast Light Rail Transit Project and Commuter Rail Stations, April 1997, is incorporated into the FEIS by reference. It provides an inventory of all major structures crossing the right-of-way, describes the main drainage patterns, and makes recommendations regarding the adequate design of drainage modifications for the proposed project.

The AA/DEIS/DEIR identified ten potential flooding areas in the Mid-Coast Corridor alternatives. Two of these areas could affect the Balboa LRT Extension/Nobel Drive Coaster Station Alternative, as shown in Figure 3.9-3: San Diego River, and Tecolote Creek (numbers 1 and 2 on Figure 3.9-3). These areas center around existing bridges and are described in Table 3.9-3. Flooding and drainage areas were identified in accordance with Executive Order 11988 regarding Floodplain Management.
Table 3.9-3
Areas of Known or Potential Flooding

<table>
<thead>
<tr>
<th>Major Creek</th>
<th>$Q_{100}$ (cms/cfs)*</th>
<th>Bridge Elevation (meters/feet)</th>
<th>100 Year Flood Elevation (meters/feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Tecolote Creek</td>
<td>1,495/4,900</td>
<td>4.83/15.82 (RR)</td>
<td>4/12</td>
</tr>
</tbody>
</table>

Notes:  
- RR = elevation of top of rail at center of railroad bridge  
- * = $Q_{100}$ based on FEMA published data  
- cms/cfs = flow rate in cubic meters per second/cubic feet per second

Source: Fraser Engineering, 1995

3.10 CULTURAL RESOURCES

Potential historical and archaeological resources in the project area have been identified and evaluated in accordance with applicable regulations and guidelines. This section reports on the identification of such resources.

3.10.1 Regulatory Setting

Section 106 of the National Historic Preservation Act of 1966 requires federal agencies to take into account the effects of their activities and programs on historic properties. Section 110 of the Act lays out affirmative agency responsibilities with respect to historic properties and establishes the National Register of Historic Places (NRHP) for identifying and listing historic properties of importance to the nation, the states, and to local communities.

Guidelines for implementing Section 106 requirements are promulgated by the Advisory Council on Historic Preservation (ACHP) in “Protection of Historic Properties” (36 CFR Part 800). These guidelines require agencies to comply also with other federal laws related to historic preservation, including the National Environmental Policy Act (NEPA) of 1969; the Archaeological and Historic Preservation Act of 1979; and Executive Order 11593 (1971), addressing “Protection and Enhancement of the Cultural Environment.” Other agency-specific legislation requires consideration of the impacts of federal actions on cultural resources. Transportation projects must comply with the provisions of Section 4(f) of the U.S. Department of Transportation Action of 1966. State of California cultural resource regulations are provided in the California Environmental Quality Act (CEQA; PRC Division 13, Sections 21000-21178); archaeological and historical resources are specifically treated under Sections 21083.2 and 21084.1, respectively. California PRC 5020.1 through 5024.6 (effective 1992) creates the California Register of Historical Resources and sets forth requirements for protection of historic cultural resources.

3.10.2 Areas of Potential Effects (APE)

Areas of Potential Effects (APE) for archaeological and historical architectural cultural resources were delineated in accordance with Section 106 guidelines. The APE for archaeological resources was defined as a 61-meter (200-foot) wide corridor based on the project center-line including...
proposed station and park-and-ride lot construction area locations. The APE for historical architectural resources includes properties within one parcel on either side of the project right-of-way. Surveys of cultural resources within the APE consisted of an archaeological resources survey conducted during October 1991 and May 1992, and an historic architectural survey conducted in May 1998, as described below.

3.10.3 Archaeological Resources

Research and field investigations for archaeological resources were conducted in October 1991 and May 1992 and included a site records search, literature review, historic map check, historic properties inventory, and a field survey. The site records search and literature review were conducted at the South Coastal Information Center at San Diego State University and the San Diego Museum of Man. Early USGS maps and aerial photographs of the study area were examined for information relating to historic resources. The NRHP was also checked for listed sites within the project area. Resources that may be eligible based on further research were also included in the inventory. A field survey of the study area was conducted to supplement data collected during the background research.

3.10.3.1 Prehistoric Archaeology. Archaeological surveys resulted in the identification of one previously unrecorded prehistoric resource within the APE. The site was identified as a disturbed shell and lithic scatter. Further investigation revealed that the integrity of the site was destroyed due to previous grading activity; therefore, no further action with regard to prehistoric archeology is required for proposed project activities for any of the alternatives under consideration.

3.10.3.2 Historic Archaeology. The historic map check identified three unrecorded historic archaeological resources within the APE. A foundation and associated material were identified at one of these sites; however, the recent age (not eligible for historic classification) of the site, the lack of unique or significant features, and recent grading disturbance make this site ineligible for nomination to the NRHP. Surface material was not evident at the other two locations. Further investigation revealed that the integrity of one of these sites was destroyed due to previous grading activity; therefore, no further action would be required with respect to the present project alternatives. The condition and status of the third site is unknown. The potential resource would consist of the foundation remains, if any, of a structure apparent in c. 1950s photographs that had disappeared prior to the 1991 survey. Review of the location during the 1998 surveys for architectural resources and of the California Southern Railroad Line (now SDNR) revealed nothing at the surface. Given the extent of disturbance of the general vicinity, the likelihood that remains exist that would be eligible for nomination to the NRHP is doubtful.

3.10.4 Historic Architectural Resources

Research and field investigations for architectural resources were conducted in May 1998 and included property specific research and a field survey. Property specific data were obtained from assessment information available through an on-line link with Experian Real Estate Services, records on file with the San Diego County Assessor’s office, and historic records, including Sanborn Fire
Insurance maps and San Diego City directories held in the California Room of the San Diego County Public Library. A field inventory was conducted in accordance with standard practices of the Federal Transit Administration, and the standards of the California State Office of Historic Preservation.

Archival and field surveys identified and evaluated 21 buildings within the project APE. None of the buildings within the APE appear to meet the criteria for listing in the NRHP. All 21 buildings are less than fifty years old and none meets the threshold level for exceptional significance, historical or architectural, established for recently constructed resources.

3.10.5 California Southern Railroad

Background research, a field inspection and recordation of an approximately 5-kilometer (3-mile) segment of the California Southern Railroad Line (now the SDNR) were conducted in May 1998. This section of the railroad line also includes five bridges of varying sizes and construction. Archival research was conducted at the California State Railroad Museum Library and Archives in Sacramento, the California State Archives, the California Room of the California State Library, and the California Room at the San Diego Public Library. The railroad line was inspected, photographed, and measured at various points along the proposed extension. Detailed field notes were taken regarding the physical attributes of the features at each of these points. In addition, the entire alignment from the San Diego River Bridge to Balboa Avenue was visually inspected, to the extent that it was visible from public roads. Each of the five bridges was inspected and recorded.

Neither the railroad line nor any of the five bridges appear to be eligible for listing in the NRHP or the California Register of Historical Resources because they do not meet the threshold levels for either significance or integrity.

3.11 PARKLANDS

Pursuant to Section 4(f), the Secretary of Transportation shall not approve any transportation project that requires the use of any publicly owned land from a public park, recreation area, or wildlife and water fowl refuge of national, state, or local significance unless (1) there is no prudent and feasible alternative to the use of that land and (2) the project includes all possible planning to minimize harm to the resource(s) being affected by that use. This section identifies publicly owned parklands and recreational/wildlife habitat areas that are located in the vicinity of improvements proposed under the FEIS alternatives and potentially protected by Section 4(f) of the U.S. Department of Transportation Act (Public Law 89-67080 Statutes 931). An inventory of these areas is shown in Figures 3.11-1 through 3.11-4. Table 3.11-1 summarizes information on the publicly-owned recreation and open space lands in the project vicinity. Bicycle facilities within parklands are shown on Figure 3.2-4.
Table 3.11-1
Potential Section 4(f) Properties in the Vicinity of FEIS Alternatives

<table>
<thead>
<tr>
<th>Name</th>
<th>Hectares/ Acres</th>
<th>Type</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mission Bay Park*</td>
<td>747/1,845 (land)</td>
<td>Regional</td>
<td>Parkland</td>
</tr>
<tr>
<td>902/2,228 (water)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nobel Drive Open Space/ Renaissance/ La Jolla Mitigation Site</td>
<td>3.8/9.3</td>
<td>Neighborhood</td>
<td>Open Space</td>
</tr>
<tr>
<td>Doyle Community Park*</td>
<td>10/24</td>
<td>Community</td>
<td>Parkland</td>
</tr>
<tr>
<td>City Owned Open Space, North of SDNR Right-of-Way and South of Nobel Drive (between Regents Rd. and Genesee Ave.)</td>
<td>N/A</td>
<td>Remnant</td>
<td>Open Space</td>
</tr>
</tbody>
</table>

*4(f)-protected lands


FTA has coordinated with the City of San Diego Park and Recreation Department, the agency having jurisdiction over the Nobel Drive Open Space/ Renaissance/ La Jolla Mitigation Site and the City-owned open space north of the SDNR right-of-way and south of Nobel Drive. The Park and Recreation Department has written a letter, dated January 19, 1999, and included in Appendix I, which states that any park, recreation, or refuge activities that may occur within this area are incidental to its primary purpose as open space and visual amenity for the community. The area is not dedicated parkland, and the Park and Recreation Department does not consider it significant open space, due to the condition of existing vegetation at this site (described in Section 3.7.3.1), and the fact that the site is surrounded by development on three sides and separated from the Rose Canyon Open Space Park by the existing railroad right-of-way. Therefore, Section 4(f) does not apply to these properties.

3.12 HAZARDOUS MATERIALS

This section summarizes known hazardous release sites within the Mid-Coast Corridor, with a particular focus on the south and center segments of the Mid-Coast Corridor, in which the improvements proposed by the FEIS alternatives are located. These two segments generally extend from a point south of the San Diego River (on the south) to the I-5 - Sorrento Valley Road Interchange (on the north). Information was initially obtained as the result of a records search supplemented by field reconnaissance, and regulatory agency staff interviews from 1992 to 1994. Complete documentation of these studies can be found in the Hazardous Material Technical Report, August 1992, and the Draft Feasibility Level Geotechnical Investigations For Mid-Coast Corridor AA/DEIS/DEIR, TSM/Commuter Rail (Tunnel), June 1994.
Figure 3.11-4
Open Space in Vicinity of Nobel Drive Station

① = City Owned
During preliminary engineering a subsequent Phase 1 Site Assessment was conducted to update the previous hazardous waste and materials studies and document any changes in conditions along the alignment that may have occurred since 1994. The findings of this study are presented in the technical report, *Phase 1 Site Assessment for the Mid-Coast Light Rail Transit Project and Commuter Rail Stations*. The study area for the Phase 1 Site Assessment included the Balboa LRT Extension alignment, the Nobel Drive Coaster Station site, the future planned LRT alignment to University City, and the Sorrento Valley Commuter Rail Station, at which parking improvements are proposed as a separate project. The study consisted of a review of agency records and lists of hazardous materials and/or waste activity, a review of reports of previous investigations, site reconnaissance of the LRT alignment, and a review of historical topographic maps of the Nobel Drive commuter rail station.

**Findings of the 1994 Investigation**

Within the south segment (location of the Balboa LRT Extension) 19 sites were identified that had experienced releases of hazardous materials and/or wastes, primarily from underground storage tanks (UST's). Twelve sites were mitigated through the removal of contaminated soils, the repair of tank equipment, or the finding of contaminants below established clean-up levels; their status is considered No Further Action (NFA). Seven sites were then under investigation by the respective property owners; their status was considered unresolved (UNR); and mitigation measures were not finalized. These sites were, however, at a considerable distance from the LRT alignment. In addition, the study noted that utility poles within the SDNR corridor may have been treated with the wood preserver creosote. These utility poles had also been coated with a "tacky" oil that may contain PCBs and metals. Some visual discoloration of the soils and gravel were noted within the SDNR right-of-way. This discoloration may have been the result of minor leakage of lubricating oils and hydraulic fluids used to maintain SDNR trains. Creosote, PCBs, and various metals, oils and fluids are considered hazardous wastes based on their respective chemical properties.

Within the center segment (Nobel Drive Coaster Station is located in this segment), hazardous waste releases related to UST leaks were identified at two sites: UCSD Scripps Benthic Lab and UCSD Mayer Hall. In both cases the effect of these releases was classified as no impact.

**Findings of the Preliminary Engineering Site Assessment**

Searches of federal and state databases identified releases and generators of hazardous substances with 200 meters (1/8 mile) of the project area. These are as follow: 7 accidental releases of oil or hazardous substances, 14 leaking underground storage tanks (LUST's), 34 large-quantity generators of hazardous materials, 1 landfill, and 39 underground storage tank registrations. Of the 14 LUST's, 11 cases had been closed, and three were undergoing remediation. A review of the County's unauthorized release listing revealed 24 cases at 18 sites along the 400-meter (1/4-mile) wide search area, and no cases within a 200-meter (1/8-mile) radius of the proposed Nobel Drive Commuter Rail Station site. Fifteen of the cases reported by the County had been closed, while the remaining nine are undergoing remediation.
A thorough records review was performed for the ARCO service station at 1550 Morena Boulevard, due to its proximity to the alignment and its location relative to groundwater flow in the area. Although investigations conducted by others in 1992 had identified contaminants in ground water at that site, as of 1996 ongoing semi-annual ground water monitoring had not detected contamination in the furthest offsite down-gradient well and no active remediation was being conducted. The City of San Diego Rose Canyon Operations file was also reviewed and two unresolved contamination issues were identified at that site. Soil contamination had been found below the asphalt pavement in native soil in a former above-ground diesel tank area in the yard near Morena Boulevard. Also, in an area adjacent to the SDNR right-of-way and immediately north of Balboa Avenue, a marshy area downstream of a storm drain outlet had been contaminated by oil.

Site reconnaissance was performed to observe surface conditions and current activities. The only apparent release of potentially hazardous substance observed along the Mid-Coast LRT alignment was identified on Cudahy Place. A stain was observed underneath an old rusting railway tank car stationed on a spur track in this area. Although the rail car did not appear to be used, a representative of the WD-40 company reported that the car is filled with petroleum lube oil and transported from the site on an irregular schedule and is empty most of the time. The only potential source of contamination observed at the proposed site of the Nobel Drive Coaster Station was an above-ground storage tank at the top of the south slope of Rose Canyon, on the perimeter of the University City High School athletic fields. The AST was empty and had previously stored water and/or coolant for a solar heating system that no longer exists.
CHAPTER 4
Transportation Impacts and Mitigation
CHAPTER 4: TRANSPORTATION IMPACTS AND MITIGATION

4.1 OVERVIEW

This chapter quantifies expected transportation impacts of the No-Build, TSM and Balboa LRT Extension/Nobel Drive Coaster Station Alternatives on the Mid-Coast Corridor and metropolitan San Diego. The first two sections describe anticipated impacts on mode choice, transit ridership characteristics, and forecast patronage. The last section describes potential impacts on travel patterns, the transportation environment, and projected vehicular traffic, circulation, and parking conditions in the Mid-Coast Corridor. Traffic operations under each alternative during the peak hour are evaluated, with emphasis on levels of service at selected intersections. Because the proposed project would be grade-separated (i.e., no at-grade crossings for rail and highway), there will be no impacts to cross traffic at grade crossings. An assessment is made of the need for measures to mitigate adverse impacts of the TSM and Balboa LRT Extension/Nobel Drive Coaster Station Alternatives on the roadway network in the vicinity of proposed new transportation facilities for these alternatives.

Future transit patronage and vehicular traffic volumes were developed using the San Diego Association of Governments' (SANDAG) current regional travel demand model (Series 8). The year 2015 No-Build Alternative (baseline) network was defined to be the same as the no-build network for the I-15 Major Investment Study. Refinements were made to the model to reflect the TSM and Balboa LRT Extension/Nobel Drive Coaster Station Alternatives evaluated in this FEIS. Transportation baseline projects and projections of conditions under the No-Build Alternative are described in Section 3.2.

4.2 MODE CHOICE

Table 4.2-1 illustrates detailed mode choice statistics produced by the SANDAG travel forecasting model. Data are shown by time of day (peak hour and full day) for work, non-work, and total trips. The table shows trips within the Mid-Coast transportation study area (Figure 3.2-1) and between the transportation study area and the remainder of the San Diego Region under the 1990 Baseline and the 2015 No-Build, TSM, and Balboa LRT Extension/Nobel Drive Coaster Station Alternatives.

Between the 1990 Baseline and year 2015 No-Build, peak-period auto use is projected to decline to 92 percent of the work trips for the 2015 No-Build compared with 94 percent in 1990. Correspondingly, peak-period transit use is projected to increase by half over this period, from 3.6 percent to 5.4 percent of work trips. There is a corresponding but smaller projected decrease in auto use for all work trips. Auto use for all trip purposes is projected to remain nearly constant between 1990 and 2015 No-Build, with a slight increase in transit use.
### Table 4.2-1.
Mid-Coast Corridor Mode Choice - Person Trips within Mid-Coast and between Mid-Coast and Remainder of Region - 1990 Baseline Data and 2015 Alternatives

<table>
<thead>
<tr>
<th>Trip Purpose and Period</th>
<th>Drive Alone</th>
<th>Carpool / Vanpool</th>
<th>Rail</th>
<th>Bus</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Peak Hour</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work*</td>
<td>148,566</td>
<td>23,004</td>
<td>383</td>
<td>6,211</td>
<td>4,595</td>
<td>182,759</td>
</tr>
<tr>
<td>%</td>
<td>81.3%</td>
<td>12.6%</td>
<td>0.2%</td>
<td>3.4%</td>
<td>2.5%</td>
<td>100%</td>
</tr>
<tr>
<td>Non-Work</td>
<td>368,879</td>
<td>323,759</td>
<td>245</td>
<td>5,234</td>
<td>628</td>
<td>773,575</td>
</tr>
<tr>
<td>%</td>
<td>47.7%</td>
<td>41.9%</td>
<td>0.03%</td>
<td>0.7%</td>
<td>0.1%</td>
<td>100%</td>
</tr>
<tr>
<td>Peak Hour Total</td>
<td>517,445</td>
<td>346,763</td>
<td>628</td>
<td>11,445</td>
<td>80,053</td>
<td>956,334</td>
</tr>
<tr>
<td>%</td>
<td>54.1%</td>
<td>36.3%</td>
<td>0.1%</td>
<td>1.2%</td>
<td>8.4%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Weekday</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work*</td>
<td>243,594</td>
<td>38,418</td>
<td>572</td>
<td>9,973</td>
<td>7,704</td>
<td>300,261</td>
</tr>
<tr>
<td>%</td>
<td>81.1%</td>
<td>12.8%</td>
<td>0.2%</td>
<td>3.3%</td>
<td>2.6%</td>
<td>100%</td>
</tr>
<tr>
<td>Non-Work</td>
<td>976,069</td>
<td>886,576</td>
<td>570</td>
<td>12,513</td>
<td>179,419</td>
<td>2,055,147</td>
</tr>
<tr>
<td>%</td>
<td>47.5%</td>
<td>43.1%</td>
<td>0.03%</td>
<td>0.6%</td>
<td>8.7%</td>
<td>100%</td>
</tr>
<tr>
<td>Weekday Total</td>
<td>1,219,663</td>
<td>924,994</td>
<td>1,142</td>
<td>22,486</td>
<td>187,123</td>
<td>2,355,408</td>
</tr>
<tr>
<td>%</td>
<td>51.8%</td>
<td>39.3%</td>
<td>0.05%</td>
<td>1.0%</td>
<td>7.9%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>2015 - No-Build Alternative</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work*</td>
<td>149,336</td>
<td>23,499</td>
<td>3,744</td>
<td>6,441</td>
<td>4,395</td>
<td>187,415</td>
</tr>
<tr>
<td>%</td>
<td>79.7%</td>
<td>12.5%</td>
<td>2.0%</td>
<td>3.4%</td>
<td>2.3%</td>
<td>100%</td>
</tr>
<tr>
<td>Non-Work</td>
<td>450,141</td>
<td>394,909</td>
<td>3,004</td>
<td>4,766</td>
<td>88,391</td>
<td>941,211</td>
</tr>
<tr>
<td>%</td>
<td>47.8%</td>
<td>42.0%</td>
<td>0.3%</td>
<td>0.5%</td>
<td>9.4%</td>
<td>100%</td>
</tr>
<tr>
<td>Peak Hour Total</td>
<td>599,477</td>
<td>418,408</td>
<td>6,748</td>
<td>11,207</td>
<td>92,786</td>
<td>1,128,626</td>
</tr>
<tr>
<td>%</td>
<td>53.1%</td>
<td>37.1%</td>
<td>0.6%</td>
<td>1.0%</td>
<td>8.2%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Weekday</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work*</td>
<td>244,841</td>
<td>38,854</td>
<td>5,085</td>
<td>10,038</td>
<td>7,334</td>
<td>306,152</td>
</tr>
<tr>
<td>%</td>
<td>80.0%</td>
<td>12.7%</td>
<td>1.7%</td>
<td>3.3%</td>
<td>2.4%</td>
<td>100%</td>
</tr>
<tr>
<td>Non-Work</td>
<td>1,195,770</td>
<td>1,084,621</td>
<td>6,210</td>
<td>10,674</td>
<td>211,383</td>
<td>2,508,658</td>
</tr>
<tr>
<td>%</td>
<td>47.7%</td>
<td>43.2%</td>
<td>0.2%</td>
<td>0.4%</td>
<td>8.4%</td>
<td>100%</td>
</tr>
<tr>
<td>Weekday Total</td>
<td>1,440,611</td>
<td>1,123,475</td>
<td>11,295</td>
<td>20,712</td>
<td>218,717</td>
<td>2,814,810</td>
</tr>
<tr>
<td>%</td>
<td>51.2%</td>
<td>39.9%</td>
<td>0.4%</td>
<td>0.7%</td>
<td>7.8%</td>
<td>100%</td>
</tr>
</tbody>
</table>

* Includes home to college

Source: SANDAG Travel Model, August 1998

TRANSPORTATION IMPACTS AND MITIGATION
4-2
# Table 4.2-1 - (Continued)

Mid-Coast Corridor Mode Choice - Person Trips within Mid-Coast and between Mid-Coast and Remainder of Region - 1990 Baseline Data and 2015 Alternatives

<table>
<thead>
<tr>
<th>Trip Purpose and Period</th>
<th>Mode</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Drive Alone</td>
<td>Carpool/Vanpool</td>
</tr>
<tr>
<td>2015 - TSM Alternative</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Peak Hour</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work*</td>
<td>148,636</td>
<td>23,370</td>
</tr>
<tr>
<td>%</td>
<td>79.3%</td>
<td>12.5%</td>
</tr>
<tr>
<td>Non-Work</td>
<td>449,916</td>
<td>394,559</td>
</tr>
<tr>
<td>%</td>
<td>47.8%</td>
<td>41.9%</td>
</tr>
<tr>
<td>Peak Hour Total</td>
<td>598,552</td>
<td>417,929</td>
</tr>
<tr>
<td>%</td>
<td>53.0%</td>
<td>37.0%</td>
</tr>
<tr>
<td><strong>Weekday</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work*</td>
<td>243,862</td>
<td>38,677</td>
</tr>
<tr>
<td>%</td>
<td>79.7%</td>
<td>12.6%</td>
</tr>
<tr>
<td>Non-Work</td>
<td>1,192,344</td>
<td>1,084,015</td>
</tr>
<tr>
<td>%</td>
<td>47.6%</td>
<td>43.2%</td>
</tr>
<tr>
<td>Weekday Total</td>
<td>1,439,206</td>
<td>1,122,692</td>
</tr>
<tr>
<td>%</td>
<td>51.1%</td>
<td>39.9%</td>
</tr>
<tr>
<td>2015 - Phase I Balboa LRT Extension/Nobel Drive Coaster Station Alternative</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Peak Hour</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work*</td>
<td>147,235</td>
<td>23,142</td>
</tr>
<tr>
<td>%</td>
<td>78.6%</td>
<td>12.3%</td>
</tr>
<tr>
<td>Non-Work</td>
<td>449,199</td>
<td>393,545</td>
</tr>
<tr>
<td>%</td>
<td>47.7%</td>
<td>41.8%</td>
</tr>
<tr>
<td>Peak Hour Total</td>
<td>596,434</td>
<td>416,687</td>
</tr>
<tr>
<td>%</td>
<td>52.8%</td>
<td>36.9%</td>
</tr>
<tr>
<td><strong>Weekday</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work*</td>
<td>242,437</td>
<td>38,453</td>
</tr>
<tr>
<td>%</td>
<td>79.2%</td>
<td>12.6%</td>
</tr>
<tr>
<td>Non-Work</td>
<td>1,194,179</td>
<td>1,082,550</td>
</tr>
<tr>
<td>%</td>
<td>47.6%</td>
<td>43.2%</td>
</tr>
<tr>
<td>Weekday Total</td>
<td>1,436,616</td>
<td>1,121,003</td>
</tr>
<tr>
<td>%</td>
<td>51.0%</td>
<td>39.8%</td>
</tr>
</tbody>
</table>

* Includes home to college

Source: SANDAG Travel Model, May 1998
The TSM Alternative is projected to increase year 2015 transit use from 5.4 to 5.9 percent of peak-hour work trips. Total peak-hour trips show a slight projected change in transit mode choice between the 2015 No-Build and 2015 TSM Alternatives from 1.6 to 1.7 percent. Weekday work and total trips are likewise projected to have a slightly increased transit mode share, from 4.9 to 5.3 percent and from 1.1 to 1.2 percent, respectively.

Compared with the TSM Alternative, the Balboa LRT Extension/Nobel Drive Coaster Station Alternative (also called the “Build Alternative”) is projected to increase year 2015 transit use for peak-hour work trips from 5.9 to 6.7 percent. Total peak-hour trips show a projected change in transit mode choice from 1.7 to 2.0 percent between the No-Build and Balboa LRT Extension/Nobel Drive Coaster Station Alternatives. Likewise, transit use for weekday work and total trips are projected to increase from 5.3 to 5.9 percent and from 1.2 to 1.4 percent, respectively, in 2015 with the Balboa LRT Extension/Nobel Drive Coaster Station Alternative.

One might observe that, subject to rounding, the forecasting model produces the same total number of trips for each alternative in 2015 because the model bases total trips on land use, not transportation modes. This procedure is generally followed in transportation modeling by all metropolitan planning organizations.

Table 4.2-2 summarizes peak-hour work trip modes for three areas: the Mid-Coast transportation study area (Figure 3.2-1), the Centre City - Downtown San Diego area, and the San Diego region. As shown, the TSM Alternative is projected to produce an increase greater than 1 percent for peak-hour work-related transit trips only within the Mid-Coast transportation study area, with a corresponding decrease in auto use.

In contrast, the Build Alternative is projected to cause an increase in transit use for peak-hour work trips, coupled with a slight reduction in auto use, for all three geographic areas — the Mid-Coast area, the Downtown area, and the region. The decline in auto use under the Build Alternative also includes a slight decrease in the carpool/vanpool mode share for the transportation study area and Centre City area.

4.3 IMPACTS ON 2015 TRANSIT RIDERSHIP AND MOBILITY

4.3.1 Transit Ridership

Table 4.3-1 summarizes the effects of the TSM and Build Alternatives on overall 2015 transit ridership in the Mid-Coast transportation study area and the San Diego region. Consistent with the mode choice statistics discussed above, the TSM Alternative is projected to have a modest effect on transit ridership. Under this Alternative, weekday linked transit trips\(^1\) in the transportation study area are projected to increase by 2,187 trips per day, or about 7 percent. The region-wide effect of the TSM Alternative is projected to be a one-percent increase, or 2,694 more daily linked transit trips.

\(^1\) A “linked transit trip” counts as only one trip the multiple transit boardings/transfers that a transit rider may make during a single trip.
<table>
<thead>
<tr>
<th>Geographic Area and Alternative</th>
<th>Mode</th>
<th></th>
<th></th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Drive Alone</td>
<td>Carpool / Vanpool</td>
<td>Transit</td>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>Mid-Coast</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1990 Baseline</td>
<td>81%</td>
<td>13%</td>
<td>3.6%</td>
<td>2.5%</td>
<td>100%</td>
</tr>
<tr>
<td>2015 No-Build</td>
<td>80%</td>
<td>13%</td>
<td>5.4%</td>
<td>2.3%</td>
<td>100%</td>
</tr>
<tr>
<td>2015 TSM</td>
<td>79%</td>
<td>12%</td>
<td>5.9%</td>
<td>2.3%</td>
<td>100%</td>
</tr>
<tr>
<td>2015 Build*</td>
<td>79%</td>
<td>12%</td>
<td>6.7%</td>
<td>2.3%</td>
<td>100%</td>
</tr>
</tbody>
</table>

| Centre City - Downtown        |               |          |          |          |       |
| 1990 Baseline                 | 61%           | 11%      | 24.5%    | 3.8%     | 100%  |
| 2015 No-Build                 | 51%           | 9.7%     | 34.1%    | 5.2%     | 100%  |
| 2015 TSM                      | 51%           | 9.6%     | 34.3%    | 5.2%     | 100%  |
| 2015 Build*                   | 50%           | 9.5%     | 35.2%    | 5.2%     | 100%  |

| Region                        |               |          |          |          |       |
| 1990 Baseline                 | 79%           | 13%      | 4.3%     | 3.7%     | 100%  |
| 2015 No-Build                 | 79%           | 13%      | 5.5%     | 3.3%     | 100%  |
| 2015 TSM                      | 79%           | 13%      | 5.6%     | 3.3%     | 100%  |
| 2015 Build*                   | 78%           | 13%      | 5.8%     | 3.3%     | 100%  |

Note: Work trips include home to college
*Balboa LRT Extension/Nobel Drive Coaster Station Alternative

Source: SANDAG Travel Model, August 1998

In comparison with the TSM Alternative, the Balboa LRT Extension/Nobel Drive Coaster Station Alternative is projected to have a year 2015 increase of 4,280 (13 percent) weekday linked transit trips in the Mid-Coast zone. The region-wide effect of this Build Alternative is projected to be an increase of 7,562 daily linked trips when compared with the TSM Alternative, representing a 4 percent increase. The effect on unlinked trips is projected to be greater, resulting in an increase of 9,026 daily boardings in the region in comparison with the TSM Alternative.

Table 4.3-1 also illustrates the transfer percentage and the mode of access for 2015 transit users. For the region, the transfer percentage is expected to rise slightly from 34 percent under the No-Build and TSM Alternatives to 35 percent under the Build Alternative. Mode of access percentages in the region show only slight changes among the alternatives.

Within the Mid-Coast transportation study area, the Build Alternative is projected to result in a decrease in the percentage walking to transit and a corresponding increase in the percentage driving to transit. This decrease results from the addition of new rail trips that have a higher proportion of drive access than bus access. While walking to transit in the immediate Mid-Coast area would decrease from 79 to 75 percent, the total number of walking trips to transit in the region would increase by about 6 percent and 14 percent, compared to the TSM and No-Build alternatives.
respectively, as a result of the projected increase in total transit passengers for the Build Alternative. The total number of riders driving to transit would increase by more than 50 percent within the Mid-Coast area and by 8 percent within the region under the Build Alternative.

<table>
<thead>
<tr>
<th>Table 4.3-1</th>
<th>Transit Ridership (Weekdays) and Access Mode for Mid-Coast and Region by Alternative, 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weekday Transit Trips (Linked) [1]</strong></td>
<td></td>
</tr>
<tr>
<td>Within Mid-Coast Corridor Area</td>
<td>32,007</td>
</tr>
<tr>
<td>Within Region</td>
<td>215,735</td>
</tr>
<tr>
<td><strong>Weekday Transit Trips (Unlinked) [1]</strong></td>
<td></td>
</tr>
<tr>
<td>Within Region</td>
<td>352,573</td>
</tr>
<tr>
<td><strong>Percent Transfers [2]</strong></td>
<td></td>
</tr>
<tr>
<td>Within Region</td>
<td>33.5%</td>
</tr>
<tr>
<td><strong>Access Mode to Transit</strong></td>
<td></td>
</tr>
<tr>
<td>Within Mid-Coast Corridor Area</td>
<td></td>
</tr>
<tr>
<td>Walk</td>
<td>79.0%</td>
</tr>
<tr>
<td>Drive</td>
<td>12.0%</td>
</tr>
<tr>
<td>Driven</td>
<td>9.0%</td>
</tr>
<tr>
<td>Within Region</td>
<td></td>
</tr>
<tr>
<td>Walk</td>
<td>76.2%</td>
</tr>
<tr>
<td>Drive</td>
<td>14.1%</td>
</tr>
<tr>
<td>Driven</td>
<td>9.7%</td>
</tr>
</tbody>
</table>

[1] Unlinked trips are equivalent to total passenger boardings. Linked trips, in comparison, adjust for the fact that some transit riders may transfer during the course of their trip and, consequently, produce more than one boarding per complete trip. These additional boardings are not included in linked trip totals; as a result, total linked trips are less than total unlinked trips.

[2] Transfer percent is based upon projected number of total transit boardings (unlinked trips) where the mode of access is from another transit vehicle. A transit user may make more than one transfer per linked trip, and thus the difference between unlinked and unlinked trip totals may be greater than the reported transfer percent.


Source: San Diego Association of Governments, August 1998

Table 4.3-2 summarizes the 2015 weekday boardings by transit mode and alternative, showing the anticipated effects of each alternative on individual transit modes. As shown, transit boardings are projected to increase under the TSM Alternative, with 198 additional LRT boardings, nine additional Coaster system boardings, and 4,160 additional combined bus system boardings, as compared to the No-Build Alternative.

Compared to the TSM Alternative, rail transit modes are projected to gain ridership under the Build Alternative, with a portion of this new rail ridership switching from the bus system to rail. Moreover, assuming simultaneous operation of the Balboa LRT Extension and the proposed new Nobel Drive Coaster Station, it is projected that some Coaster riders will be attracted to the LRT.

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mode, given its more frequent headways and its extensive distribution of stations in the immediate San Diego area. As a result, only a moderate net gain is anticipated in overall Coaster ridership from the simultaneous opening of the Mid-Coast LRT extension and a new Coaster station at Nobel Drive.

<table>
<thead>
<tr>
<th>Table 4.3-2</th>
<th>Projected 2015 Transit Weekday Boardings by Alternative</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Access Mode</td>
</tr>
<tr>
<td></td>
<td>Walk</td>
</tr>
<tr>
<td>No-Build Alternative</td>
<td></td>
</tr>
<tr>
<td>LRT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>66,989</td>
</tr>
<tr>
<td>%</td>
<td>48%</td>
</tr>
<tr>
<td>Coaster</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2,172</td>
</tr>
<tr>
<td>%</td>
<td>33%</td>
</tr>
<tr>
<td>Rail Subtotal</td>
<td></td>
</tr>
<tr>
<td>%</td>
<td>47%</td>
</tr>
<tr>
<td>Bus</td>
<td></td>
</tr>
<tr>
<td></td>
<td>139,024</td>
</tr>
<tr>
<td>%</td>
<td>68%</td>
</tr>
<tr>
<td>Total Transit</td>
<td>208,815</td>
</tr>
<tr>
<td>%</td>
<td>59%</td>
</tr>
</tbody>
</table>

| TSM Alternative |                   |                   |                   |                   |                           |                           |
| LRT             |                   |                   |                   |                   |                           |                           |
| %               | 48%   | 12%   | 40%     | 100%   |                           |                           |
| Coaster         | 2,176  | 1,748  | 2,752   | 6,666   |                           |                           |
| %               | 33%   | 26%   | 41%     | 100%   |                           |                           |
| Rail Subtotal   | 69,251 | 18,874 | 58,827  | 146,952 |                           |                           |
| %               | 47%   | 13%   | 40%     | 100%   |                           |                           |
| Bus             | 141,276 | 7,556  | 61,146  | 209,988 |                           |                           |
| %               | 67%   | 4%    | 29%     | 100%   |                           |                           |
| Total Transit   | 210,527 | 26,440 | 119,973 | 356,940 |                           |                           |
| %               | 59%   | 7%    | 34%     | 100%   |                           |                           |

| Balboa LRT Extension/Nobel Drive Coaster Station Alternative |                   |                   |                   |                   |                           |                           |
| LRT             |                   |                   |                   |                   |                           |                           |
| %               | 47%   | 13%   | 41%     | 100%   |                           |                           |
| Coaster         | 2,222  | 1,699  | 2,818   | 6,739   |                           |                           |
| %               | 33%   | 25%   | 42%     | 100%   |                           |                           |
| Rail Subtotal   | 73,280 | 20,757 | 64,876  | 158,913 |                           |                           |
| %               | 46%   | 13%   | 41%     | 100%   |                           |                           |
| Bus             | 138,650 | 7,004  | 61,399  | 207,053 |                           |                           |
| %               | 67%   | 3%    | 30%     | 100%   |                           |                           |
| Total Transit   | 211,900 | 27,761 | 126,275 | 365,966 |                           |                           |
| %               | 58%   | 8%    | 32%     | 100%   |                           |                           |

Source: San Diego Association of Governments, August 1998

Overall, under the Build Alternative, the LRT system is expected to gain 11,898 weekday boardings compared with a total net increase of 9,026 transit boardings. The Coaster system is projected to

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have an increase of about 480 new system-wide daily boardings as a result of the opening the Nobel Drive Station, but it is also anticipated that more than 400 riders may switch from the Coaster system to the LRT system with the simultaneous operation of the Balboa LRT Extension. Similarly, under the Build Alternative, bus transit boardings are projected to decrease by 2,935, resulting from a combination of converting some buses to feeder routes for the LRT, and the attractiveness of the extensive LRT service and distribution system.

Table 4.3-3 shows the projected station-by-station effect of the alternatives on Coaster weekday boardings. The proposed Nobel Drive Station is projected to attract 240 boardings per day at that station, yielding 480 new boardings system-wide when an equal number of return trips are included.

<table>
<thead>
<tr>
<th>Station</th>
<th>No-Build</th>
<th>TSM</th>
<th>Difference Between TSM &amp; No-Build</th>
<th>Build*</th>
<th>Difference Between Build* &amp; No-Build</th>
<th>Difference Between Build* &amp; TSM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oceanside</td>
<td>732</td>
<td>736</td>
<td>4</td>
<td>747</td>
<td>15</td>
<td>11</td>
</tr>
<tr>
<td>Carlsbad Village</td>
<td>595</td>
<td>597</td>
<td>2</td>
<td>601</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Carlsbad Poinsettia</td>
<td>472</td>
<td>476</td>
<td>4</td>
<td>480</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>Encinitas</td>
<td>886</td>
<td>888</td>
<td>2</td>
<td>904</td>
<td>18</td>
<td>16</td>
</tr>
<tr>
<td>Solana Beach</td>
<td>558</td>
<td>560</td>
<td>2</td>
<td>572</td>
<td>14</td>
<td>12</td>
</tr>
<tr>
<td>Sorrento Valley</td>
<td>717</td>
<td>705</td>
<td>-12</td>
<td>563</td>
<td>-154</td>
<td>-142</td>
</tr>
<tr>
<td>Nobel</td>
<td>0</td>
<td>0</td>
<td></td>
<td>240</td>
<td>240</td>
<td>240</td>
</tr>
<tr>
<td>Old Town</td>
<td>643</td>
<td>652</td>
<td>9</td>
<td>708</td>
<td>65</td>
<td>56</td>
</tr>
<tr>
<td>Santa Fe</td>
<td>2,065</td>
<td>2,062</td>
<td>-3</td>
<td>1,928</td>
<td>-137</td>
<td>-134</td>
</tr>
<tr>
<td>Total</td>
<td>6,668</td>
<td>6,676</td>
<td>8</td>
<td>6,743</td>
<td>75</td>
<td>67</td>
</tr>
</tbody>
</table>

*Balboa LRT Extension/Nobel Drive Coaster Station Alternative

Source: San Diego Association of Governments, August 1998

As shown on both Table 4.3-2 and Table 4.3-3, the projected increase in Coaster ridership from the Build Alternative is reduced due to the possible diversion of more than 400 trips to the proposed new LRT stations in the Mid-Coast Corridor. According to the SANDAG model, the Sorrento Valley and downtown Santa Fe Coaster Stations may experience reduced Coaster boardings. The projections suggest that a portion of the Coaster riders who formerly drove to the Sorrento Valley Station may choose instead to drive to the Nobel Coaster Station or the Balboa extension LRT stations, perhaps because many of these trips were gaining access to the Coaster Station via the freeway, enabling an easy shift to the Balboa or Clairemont LRT Stations, which also have easy freeway access. In comparison to using the Coaster, the LRT system would offer more frequent service and a more extensive distribution system without a transfer.

The Sorrento Valley and Santa Fe Coaster stations are projected to also lose Coaster ridership under the TSM Alternative, which improves express bus service in the corridor with shorter headways and park-and-ride lots at the sites of the future Balboa and Clairemont stations. While the TSM
Alternative is not projected to cause Coaster riders to switch to other transit modes at the same level associated with implementation of the Build Alternative, the pattern is consistent. The projected mode switch under the TSM adds further credence to the theory that access to alternative transit park-and-ride stations is an important factor in the shift in ridership from the Sorrento Valley Coaster Station to other transit services under the Build Alternative.

Table 4.3-4 shows the projected year 2015 weekday LRT and Coaster boardings by proposed new LRT and Coaster station and by mode of access. The combined LRT and Coaster boardings for the four stations are projected to total 6,604 per day. Of these, the proposed new Coaster station at Nobel Drive is projected to contribute 240 daily boardings. Because of return trips from other stations, these boardings are almost half of the total new boardings.

<table>
<thead>
<tr>
<th>Station</th>
<th>2015 Weekday Boardings by Access Mode</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Walk</td>
<td>Kiss &amp; Ride</td>
<td>Drive</td>
<td>Transfer</td>
<td>Total</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>LRT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tecolote</td>
<td>565</td>
<td>81</td>
<td>243</td>
<td>60</td>
<td>949</td>
<td>15%</td>
<td></td>
</tr>
<tr>
<td>Clairemont</td>
<td>341</td>
<td>144</td>
<td>431</td>
<td>2,330</td>
<td>3,246</td>
<td>51%</td>
<td></td>
</tr>
<tr>
<td>Balboa</td>
<td>482</td>
<td>200</td>
<td>597</td>
<td>890</td>
<td>2,169</td>
<td>34%</td>
<td></td>
</tr>
<tr>
<td>LRT Subtotal</td>
<td>1,388</td>
<td>425</td>
<td>1,271</td>
<td>3,280</td>
<td>6,364</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>%</td>
<td>22%</td>
<td>7%</td>
<td>20%</td>
<td>52%</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coaster</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nobel</td>
<td>30</td>
<td>32</td>
<td>94</td>
<td>84</td>
<td>240</td>
<td></td>
<td></td>
</tr>
<tr>
<td>%</td>
<td>13%</td>
<td>13%</td>
<td>39%</td>
<td>35%</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total LRT and COASTER</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1,418</td>
<td>457</td>
<td>1,365</td>
<td>3,364</td>
<td>6,604</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>%</td>
<td>21%</td>
<td>7%</td>
<td>21%</td>
<td>51%</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: San Diego Association of Governments, May 1998

The Balboa LRT Extension Alternative is projected to draw 6,364 daily boardings at the three new proposed stations, distributed primarily to the Clairemont and Balboa Stations, which will have 85 percent of the total. The end-of-the-line station, Balboa, would have the highest number of riders arriving by auto. More than 50 percent of the Balboa LRT Extension boardings are projected to be from transfers, indicating the importance of the connecting bus transit service. In comparison, transfers are projected to account for only 35 percent of the access to the proposed Nobel Coaster Station, with more than 50 percent driving or being driven to the train.

Table 4.3-5 summarizes the projected 2015 LRT boardings for the FEIS alternatives for selected existing LRT stations. Under the TSM Alternative, the LRT system is projected to have a net increase of 198 boardings, including an increase of 769 daily boardings at the Santa Fe LRT Station. For the Build Alternative, the tabulation shows the largest projected ridership gains at existing
stations at the Old Town and Downtown Stations, indicating that the majority of the new riders from the Balboa LRT Extension would be transfer riders (e.g., between LRT lines or between LRT and bus) or that they wish to travel to the downtown employment and cultural centers.

<table>
<thead>
<tr>
<th>Station</th>
<th>No-Build</th>
<th>TSM</th>
<th>Difference Between TSM &amp; No-Build</th>
<th>Build*</th>
<th>Difference Between Build* &amp; No-Build</th>
<th>Difference Between Build* &amp; TSM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Old Town</td>
<td>5,061</td>
<td>5,124</td>
<td>63</td>
<td>6,791</td>
<td>1,730</td>
<td>1,667</td>
</tr>
<tr>
<td>Santa Fe</td>
<td>2,849</td>
<td>2,834</td>
<td>-15</td>
<td>3,038</td>
<td>189</td>
<td>204</td>
</tr>
<tr>
<td>Civic Center</td>
<td>5,345</td>
<td>5,318</td>
<td>-27</td>
<td>6,246</td>
<td>901</td>
<td>928</td>
</tr>
<tr>
<td>City College</td>
<td>4,851</td>
<td>4,873</td>
<td>12</td>
<td>5,198</td>
<td>337</td>
<td>325</td>
</tr>
<tr>
<td>12th &amp; Imperial</td>
<td>9,320</td>
<td>9,313</td>
<td>-7</td>
<td>9,285</td>
<td>55</td>
<td>-28</td>
</tr>
<tr>
<td>Fashion Valley</td>
<td>1,410</td>
<td>1,397</td>
<td>-13</td>
<td>1,390</td>
<td>-20</td>
<td>-7</td>
</tr>
<tr>
<td>Grossmont Center</td>
<td>5,120</td>
<td>5,120</td>
<td>0</td>
<td>5,197</td>
<td>77</td>
<td>77</td>
</tr>
<tr>
<td>El Cajon</td>
<td>3,232</td>
<td>3,236</td>
<td>4</td>
<td>3,414</td>
<td>182</td>
<td>178</td>
</tr>
<tr>
<td>Santee</td>
<td>1,658</td>
<td>1,660</td>
<td>2</td>
<td>1,713</td>
<td>55</td>
<td>53</td>
</tr>
<tr>
<td>San Ysidro</td>
<td>15,859</td>
<td>15,874</td>
<td>15</td>
<td>15,694</td>
<td>-165</td>
<td>-180</td>
</tr>
<tr>
<td>3 Balboa LRT Extension Stations</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6,364</td>
<td>6,364</td>
<td>6,364</td>
</tr>
<tr>
<td>All Other Stations</td>
<td>85,363</td>
<td>85,527</td>
<td>164</td>
<td>87,844</td>
<td>2,481</td>
<td>2,317</td>
</tr>
<tr>
<td>Total</td>
<td>140,078</td>
<td>140,276</td>
<td>198</td>
<td>152,174</td>
<td>12,096</td>
<td>11,898</td>
</tr>
</tbody>
</table>

*Balboa LRT Extension/Nobel Drive Coaster Station Alternative

Source: San Diego Association of Governments, August 1998

4.3.2 Impact on Projected Travel Times/Accessibility

While traffic and congestion between many major activity centers in metropolitan San Diego are expected to increase in the future, travel times from the Mid-Coast area are projected to remain relatively low (Table 3.2-10). Thus, the main effect of the proposed project would be to improve transit travel times.

Table 4.3-6 lists projected AM peak period travel times between several points in the corridor and downtown (12th and Imperial) and Grossmont (Grossmont Transit Center) for each of the project alternatives. Times are shown for travel by single occupant vehicle (SOV), high occupancy vehicle (HOV), and transit with walk access on the home end. The table also shows the ratio of the transit travel time to SOV and HOV travel time.
<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Single Occupant Vehicle</th>
<th>High Occupancy Vehicle</th>
<th>Transit with Walk Access</th>
<th>Ratio of Transit to SOV</th>
<th>HOV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Towne Centre Dr./ Nobel Dr. (Nobel Station)</td>
<td>Grossmont</td>
<td>26</td>
<td>26</td>
<td>92</td>
<td>3.5</td>
<td>3.5</td>
</tr>
<tr>
<td></td>
<td>Centre City San Diego</td>
<td>23</td>
<td>22</td>
<td>63</td>
<td>2.7</td>
<td>2.9</td>
</tr>
<tr>
<td>Balboa Ave./Moraga Ave. (Balboa Station)</td>
<td>Grossmont</td>
<td>30</td>
<td>29</td>
<td>81</td>
<td>2.7</td>
<td>2.8</td>
</tr>
<tr>
<td></td>
<td>Centre City San Diego</td>
<td>20</td>
<td>19</td>
<td>52</td>
<td>2.6</td>
<td>2.8</td>
</tr>
<tr>
<td>Morena Blvd./ Ingulf St. (Clairemont Station)</td>
<td>Grossmont</td>
<td>25</td>
<td>25</td>
<td>66</td>
<td>2.7</td>
<td>2.7</td>
</tr>
<tr>
<td></td>
<td>Centre City San Diego</td>
<td>14</td>
<td>14</td>
<td>37</td>
<td>2.7</td>
<td>2.7</td>
</tr>
<tr>
<td>Morena Blvd./ Dorcus St. (Tecolote Station)</td>
<td>Grossmont</td>
<td>25</td>
<td>25</td>
<td>48</td>
<td>1.9</td>
<td>1.9</td>
</tr>
<tr>
<td></td>
<td>Centre City San Diego</td>
<td>15</td>
<td>14</td>
<td>43</td>
<td>2.9</td>
<td>3.1</td>
</tr>
</tbody>
</table>

### TSM Alternative

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Single Occupant Vehicle</th>
<th>High Occupancy Vehicle</th>
<th>Transit with Walk Access</th>
<th>Ratio of Transit to SOV</th>
<th>HOV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Towne Centre Dr./ Nobel Dr. (Nobel Station)</td>
<td>Grossmont</td>
<td>26</td>
<td>26</td>
<td>89</td>
<td>3.4</td>
<td>3.4</td>
</tr>
<tr>
<td></td>
<td>Centre City San Diego</td>
<td>23</td>
<td>22</td>
<td>60</td>
<td>2.6</td>
<td>2.7</td>
</tr>
<tr>
<td>Balboa Ave./Moraga Ave. (Balboa Station)</td>
<td>Grossmont</td>
<td>30</td>
<td>29</td>
<td>79</td>
<td>2.6</td>
<td>2.7</td>
</tr>
<tr>
<td></td>
<td>Centre City San Diego</td>
<td>20</td>
<td>19</td>
<td>54</td>
<td>2.7</td>
<td>2.8</td>
</tr>
<tr>
<td>Morena Blvd./ Ingulf St. (Clairemont Station)</td>
<td>Grossmont</td>
<td>25</td>
<td>25</td>
<td>64</td>
<td>2.6</td>
<td>2.6</td>
</tr>
<tr>
<td></td>
<td>Centre City San Diego</td>
<td>14</td>
<td>14</td>
<td>35</td>
<td>2.5</td>
<td>2.5</td>
</tr>
<tr>
<td>Morena Blvd./ Dorcus St. (Tecolote Station)</td>
<td>Grossmont</td>
<td>25</td>
<td>25</td>
<td>48</td>
<td>1.9</td>
<td>1.9</td>
</tr>
<tr>
<td></td>
<td>Centre City San Diego</td>
<td>15</td>
<td>14</td>
<td>43</td>
<td>2.9</td>
<td>3.1</td>
</tr>
</tbody>
</table>

### Balboa LRT Extension/Nobel Drive Coaster Station Alternative

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Single Occupant Vehicle</th>
<th>High Occupancy Vehicle</th>
<th>Transit with Walk Access</th>
<th>Ratio of Transit to SOV</th>
<th>HOV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Towne Centre Dr./ Nobel Dr. (Nobel Station)</td>
<td>Grossmont</td>
<td>26</td>
<td>26</td>
<td>59</td>
<td>2.3</td>
<td>2.3</td>
</tr>
<tr>
<td></td>
<td>Centre City San Diego</td>
<td>23</td>
<td>22</td>
<td>53</td>
<td>2.3</td>
<td>2.4</td>
</tr>
<tr>
<td>Balboa Ave./Moraga Ave. (Balboa Station)</td>
<td>Grossmont</td>
<td>30</td>
<td>29</td>
<td>46</td>
<td>1.5</td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td>Centre City San Diego</td>
<td>20</td>
<td>19</td>
<td>37</td>
<td>1.9</td>
<td>2.0</td>
</tr>
<tr>
<td>Morena Blvd./ Ingulf St. (Clairemont Station)</td>
<td>Grossmont</td>
<td>25</td>
<td>25</td>
<td>40</td>
<td>1.6</td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td>Centre City San Diego</td>
<td>14</td>
<td>14</td>
<td>31</td>
<td>2.2</td>
<td>2.2</td>
</tr>
<tr>
<td>Morena Blvd./ Dorcus St. (Tecolote Station)</td>
<td>Grossmont</td>
<td>25</td>
<td>25</td>
<td>39</td>
<td>1.6</td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td>Centre City San Diego</td>
<td>15</td>
<td>14</td>
<td>30</td>
<td>2.0</td>
<td>2.2</td>
</tr>
</tbody>
</table>

**Source:** San Diego Association of Governments, De Leuw, Cather & Company. September 1998

Under the No-Build and TSM alternatives, ratios range from about 2.0 to 3.5, indicating that transit travel times from the Mid-Coast are not very competitive with the automobile travel times. In general, trips with transit times that are more than 50 percent longer than auto times capture very few "choice" riders. In the case of the Nobel Drive Station (Towne Centre Drive/Nobel Drive) origin, the travel time to Grossmont would be over an hour more by transit than by auto, giving a ratio of 3.5. Although these comparisons assume use of express buses in the corridor (primarily Route 50 for these trips), the projected transit times are typically much higher than auto times because of walk time, wait time (including wait time for one or more transfers), and less direct travel routes.
Under the Build Alternative, transit times improve considerably for some origin/destination pairs and only slightly for others. Transit times from the Nobel Drive, Balboa, and Clairemont Station areas to Grossmont improve the most, followed closely by transit times from the Balboa and Tecolote Station areas to downtown. Transit-to-auto time ratios from the vicinity of the proposed three LRT stations to Grossmont reach or approach 1.5. However, transit-to-auto time ratios from all four points to downtown remain close to or above 2.0, as does the transit time ratio from the Nobel Drive Station area to Grossmont.

4.3.3 Mitigation Measures

Since there are beneficial impacts to transit use under the TSM and the Balboa LRT Extension/Nobel Coaster Station Alternatives, no mitigation measures are proposed.

4.4 IMPACT ON VEHICULAR TRAFFIC

4.4.1 Roadway Traffic and Vehicle Miles Traveled (VMT)

Table 4.4-1 illustrates the projected 2015 average daily traffic (ADT) on area freeways under the proposed project alternatives. In general, the SANDAG travel model projects slight increases in I-5 freeway ADT north of the project area and slight decreases adjacent to and south of the project. I-805 is projected to have a slight decrease from the I-5/805 split south. These differences are likely caused by the diversion of trips that normally would drive to downtown San Diego on I-5 and I-805 switching to I-5 north of the project to gain access the new LRT and Coaster stations. Because only 28 percent of the access to the new transit stations is by auto (Table 4.3-4), only slight changes in ADT would be expected on the major roadway in the Mid-Coast Corridor.

<table>
<thead>
<tr>
<th>Facility</th>
<th>Location</th>
<th>Average Daily Traffic (ADT)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No-Build</td>
<td>TSM</td>
</tr>
<tr>
<td>I-5</td>
<td>I-805/I-5-La Jolla Village</td>
<td>221,100</td>
</tr>
<tr>
<td>I-5</td>
<td>La Jolla Village-Nobel</td>
<td>183,400</td>
</tr>
<tr>
<td>I-5</td>
<td>Nobel-Gilman</td>
<td>182,200</td>
</tr>
<tr>
<td>I-5</td>
<td>Gilman-Arden</td>
<td>213,500</td>
</tr>
<tr>
<td>I-5</td>
<td>SR 52-Balboa</td>
<td>234,400</td>
</tr>
<tr>
<td>I-5</td>
<td>Balboa-Clairemont/Mission Bay</td>
<td>265,500</td>
</tr>
<tr>
<td>I-5</td>
<td>Clairemont/Mission Bay- Sea World Dr.</td>
<td>264,500</td>
</tr>
<tr>
<td>I-5</td>
<td>Sea World Dr.-I-8</td>
<td>239,300</td>
</tr>
<tr>
<td>I-805</td>
<td>I-5/I-805 Junction-La Jolla Village Dr.</td>
<td>196,000</td>
</tr>
<tr>
<td>I-805</td>
<td>La Jolla Village Dr.-SR52</td>
<td>210,000</td>
</tr>
</tbody>
</table>

*Balboa LRT Extension/Nobel Drive Coaster Station Alternative

Source: San Diego Association of Governments, 1998
Table 4.4-2 displays the projected 2015 ADT on area arterials under the proposed project alternatives. As with the freeway ADT, the expected changes are slight and correspond to the effects of transit access trips. That is, ADT on north-south roadways is projected to be slightly lower under the Build Alternative than the No-Build as transit trips replace auto trips to the downtown. East-west arterials connecting with I-5 are projected to have slight increases in ADT from auto trips gaining access to the new transit stations under the Build Alternative.

<table>
<thead>
<tr>
<th>Facility</th>
<th>Location</th>
<th>Average Daily Traffic (ADT)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No-Build</td>
</tr>
<tr>
<td>Ardath Road/SR 52</td>
<td>West of I-5</td>
<td>53,800</td>
</tr>
<tr>
<td>Ardath Road/SR 52</td>
<td>East of I-5</td>
<td>94,400</td>
</tr>
<tr>
<td>Balboa Avenue/Garnet</td>
<td>West of I-5</td>
<td>65,600</td>
</tr>
<tr>
<td>Balboa Avenue/Garnet</td>
<td>East of I-5</td>
<td>31,500</td>
</tr>
<tr>
<td>Clairemont Drive</td>
<td>East of I-5</td>
<td>30,900</td>
</tr>
<tr>
<td>Genesee Avenue</td>
<td>North of La Jolla Village Dr.</td>
<td>14,500</td>
</tr>
<tr>
<td>Genesee Avenue</td>
<td>South of La Jolla Village Dr.</td>
<td>17,100</td>
</tr>
<tr>
<td>Genesee Avenue</td>
<td>North of SR 52</td>
<td>32,600</td>
</tr>
<tr>
<td>La Jolla Colony Drive</td>
<td>East of I-5</td>
<td>10,300</td>
</tr>
<tr>
<td>La Jolla Village Drive</td>
<td>West of I-5</td>
<td>39,100</td>
</tr>
<tr>
<td>La Jolla Village Drive</td>
<td>East of I-5</td>
<td>51,700</td>
</tr>
<tr>
<td>Miramar Road</td>
<td>East of I-805</td>
<td>32,700</td>
</tr>
<tr>
<td>Morena Boulevard</td>
<td>North of Balboa Avenue</td>
<td>23,200</td>
</tr>
<tr>
<td>Morena Boulevard</td>
<td>South of Balboa Avenue</td>
<td>17,300</td>
</tr>
<tr>
<td>Morena Boulevard</td>
<td>North of Clairemont</td>
<td>16,600</td>
</tr>
<tr>
<td>Morena Boulevard</td>
<td>South of Clairemont</td>
<td>21,700</td>
</tr>
<tr>
<td>Nobel Drive</td>
<td>East of I-5</td>
<td>21,100</td>
</tr>
<tr>
<td>Pacific Highway</td>
<td>North of Friars Road</td>
<td>17,500</td>
</tr>
<tr>
<td>Sea World Drive</td>
<td>West of I-5</td>
<td>55,100</td>
</tr>
<tr>
<td>Tecolote Road</td>
<td>East of I-5</td>
<td>39,100</td>
</tr>
<tr>
<td>West Morena Boulevard</td>
<td>North of Tecolote Road</td>
<td>17,200</td>
</tr>
<tr>
<td>West Morena Boulevard</td>
<td>South of Tecolote Road</td>
<td>14,200</td>
</tr>
</tbody>
</table>

*Balboa LRT Extension/Nobel Drive Coaster Station Alternative

Source: San Diego Association of Governments, 1998

Table 4.4-3 summarizes the projected 2015 highway (non-transit) VMT for the three project alternatives for the peak periods and daily. The TSM Alternative is projected to have slight VMT reductions on the order of 0.1 percent in all time periods compared with the No-Build Alternative. The Balboa LRT Extension/Nobel Drive Coaster Station Alternative is projected to have a negligible effect on VMT in comparison to the TSM Alternative, with the very slight numerical differences shown being attributable to “noise” in the traffic assignment model.
### Table 4.4-3

Highway Vehicle Miles [1] (Kilometers) of Travel in the Region (Non-Transit) by Alternative, 2015

<table>
<thead>
<tr>
<th></th>
<th>YMT in Thousands</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No-Build Miles</td>
<td>TSM Miles</td>
<td>Difference</td>
<td>% Change</td>
<td>Build [2]</td>
<td>Difference</td>
<td>% Change</td>
</tr>
<tr>
<td></td>
<td>(Km.)</td>
<td>(Km.)</td>
<td>Miles</td>
<td>Build &amp;</td>
<td>Miles</td>
<td>Build &amp;</td>
<td>from TSM</td>
</tr>
<tr>
<td>Freeways</td>
<td>9,489.8</td>
<td>9,472.0</td>
<td>-17.8</td>
<td>-28.7</td>
<td>9,473.0</td>
<td>1.0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Arterials</td>
<td>9,211.2</td>
<td>9,205.5</td>
<td>-5.7</td>
<td>-9.2</td>
<td>9,198.7</td>
<td>-6.8</td>
<td>-0.2%</td>
</tr>
<tr>
<td>AM Total</td>
<td>18,701.0</td>
<td>18,677.5</td>
<td>-23.5</td>
<td>-37.9</td>
<td>18,671.7</td>
<td>-5.8</td>
<td>0.0%</td>
</tr>
<tr>
<td>PM Total</td>
<td>24,306.2</td>
<td>24,275.3</td>
<td>-30.9</td>
<td>-49.8</td>
<td>24,278.8</td>
<td>3.5</td>
<td>0.0%</td>
</tr>
<tr>
<td>Daily</td>
<td>48,852.6</td>
<td>48,759.2</td>
<td>-93.4</td>
<td>-150.2</td>
<td>48,810.1</td>
<td>50.9</td>
<td>0.10%</td>
</tr>
<tr>
<td>Arterials</td>
<td>50,604.2</td>
<td>50,576.9</td>
<td>-27.3</td>
<td>-44.2</td>
<td>50,563.4</td>
<td>-13.5</td>
<td>-0.03%</td>
</tr>
<tr>
<td>Daily Total</td>
<td>99,456.8</td>
<td>99,336.1</td>
<td>-120.7</td>
<td>-194.2</td>
<td>99,373.5</td>
<td>37.4</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

[1] Miles appear first because the model output is in miles.
[2] Balboa LRT Extension/Nobel Drive Coaster Station Alternative

Source: San Diego Association of Governments, August 1998

#### 4.4.2 Roadway Level of Service

Because the proposed project will be grade-separated, there will be no impacts to cross traffic at grade crossings. Generally, the freeway and highway street network afford a high level of mobility for private auto and commercial traffic, and they operate at acceptable levels of service during much of the day. Growing congestion is evident, however, and has resulted in deteriorating peak-hour conditions at certain roadway locations. SANDAG projects that, during peak periods, there were 208.4 kilometers (129.5 miles) of highway in the San Diego region operating at LOS E to F in 1990 (see Tables 4.4-4 and 4.4-5). Freeways had a total of 74.5 kilometers (46.3 miles) operating at this very congested LOS E to F category, more than any other class of roadway.
Table 4.4-4
Level of Service Criteria for Freeways [1]

<table>
<thead>
<tr>
<th>Level of Service</th>
<th>Description</th>
<th>Volume/Capacity Ratio &amp; Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Free-flow conditions with a high level of maneuverability.</td>
<td>0.00 to 0.30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>≥65 mph</td>
</tr>
<tr>
<td>B</td>
<td>Free-flow conditions but presence of other vehicles is noticeable. Minor</td>
<td>0.30 to 0.47</td>
</tr>
<tr>
<td></td>
<td>disruptions easily absorbed.</td>
<td>≥65 mph</td>
</tr>
<tr>
<td>C</td>
<td>Minor disruptions cause significant local deterioration.</td>
<td>0.47 to 0.70</td>
</tr>
<tr>
<td></td>
<td></td>
<td>64 mph</td>
</tr>
<tr>
<td>D</td>
<td>Borders on unstable flow with ability to maneuver severely restricted due</td>
<td>0.70 to 0.89</td>
</tr>
<tr>
<td></td>
<td>to congestion.</td>
<td>≥61 mph</td>
</tr>
<tr>
<td>E</td>
<td>Conditions at or near capacity. Disruptions cannot be dissipated and cause</td>
<td>0.89 to 1.00</td>
</tr>
<tr>
<td></td>
<td>queues to form.</td>
<td>≥53 mph</td>
</tr>
<tr>
<td>F</td>
<td>Forced or breakdown flow with queues forming at locations where demand</td>
<td>Greater than 1.00</td>
</tr>
<tr>
<td></td>
<td>exceeds capacity.</td>
<td>Variable</td>
</tr>
</tbody>
</table>

[1] Based on a design speed of 105 kilometers per hour (65 miles per hour)


By 2015, the regional roadway kilometers (miles) operating at LOS E to F are projected to almost double under the No-Build Alternative as compared to 1990 conditions. The TSM Alternative is projected to have about six more kilometers (four more miles) of roadway operating at LOS A to C as compared with the No-Build Alternative and about three to five kilometers (two to three miles) less of roadways in each of the LOS D or LOS E to F categories. Under the Balboa LRT Extension/Nobel Drive Coaster Station Alternative, the length of roadway operating at LOS A to C is projected to increase by approximately ten kilometers (six miles), as compared to the No-Build and TSM Alternatives, while the length of roadway at LOS E to F is projected to decrease by about five to six kilometers (three to four miles).

4.4.3 Intersection Level of Service

Twelve intersections adjacent to the proposed transportation improvements under the TSM and Balboa LRT Extension/Nobel Drive Coaster Station Alternatives were analyzed to determine if these facilities would cause unacceptable increases in congestion at those locations. Both signalized and unsignalized intersections were evaluated.
### Table 4.4-5
Regional Roadway Miles [1] (Kilometers) by Level of Service by Alternative

<table>
<thead>
<tr>
<th>Service Level</th>
<th>Freeway</th>
<th>CMP[2] Route</th>
<th>Regional Arterial</th>
<th>Other Arterial</th>
<th>Total Km. (Miles)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990 Baseline</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A - C</td>
<td>240.4 (386.8)</td>
<td>684.2 (1100.8)</td>
<td>457.9 (736.8)</td>
<td>2857 (3792.4)</td>
<td>3739.6 (6016.8)</td>
</tr>
<tr>
<td>D</td>
<td>46.4 (74.6)</td>
<td>17.7 (28.5)</td>
<td>12.4 (20)</td>
<td>33 (53.1)</td>
<td>109.5 (176.2)</td>
</tr>
<tr>
<td>E - F</td>
<td>46.3 (74.5)</td>
<td>27.3 (43.9)</td>
<td>13 (20.9)</td>
<td>42.7 (68.7)</td>
<td>129.5 (208)</td>
</tr>
<tr>
<td>Total</td>
<td>333.1 (535.9)</td>
<td>729.2 (1173.2)</td>
<td>483.3 (777.7)</td>
<td>2432.7 (3914.2)</td>
<td>3978.6 (6401)</td>
</tr>
<tr>
<td>No-Build Alternative (2015)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A - C</td>
<td>248.2 (399.3)</td>
<td>722.3 (1162.2)</td>
<td>495.1 (796.6)</td>
<td>2758 (4437.6)</td>
<td>4232.6 (6795.7)</td>
</tr>
<tr>
<td>D</td>
<td>74.4 (119.7)</td>
<td>29.5 (47.5)</td>
<td>17.5 (28.2)</td>
<td>41.8 (67.2)</td>
<td>163.2 (262.6)</td>
</tr>
<tr>
<td>E - F</td>
<td>98.2 (158)</td>
<td>62.8 (101)</td>
<td>23.7 (38.1)</td>
<td>54.6 (87.8)</td>
<td>239.2 (384.9)</td>
</tr>
<tr>
<td>Total</td>
<td>420.8 (677)</td>
<td>814.6 (1310.7)</td>
<td>536.3 (862.9)</td>
<td>2854.4 (4592.6)</td>
<td>4626 (7443.2)</td>
</tr>
<tr>
<td>TSM Alternative (2015)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A - C</td>
<td>249.1 (400.8)</td>
<td>723.4 (1164)</td>
<td>495.9 (797.9)</td>
<td>2759.3 (4439.7)</td>
<td>4227.7 (6802.3)</td>
</tr>
<tr>
<td>D</td>
<td>74.4 (119.7)</td>
<td>27.3 (43.9)</td>
<td>18.3 (29.4)</td>
<td>40.9 (65.8)</td>
<td>160.9 (258.8)</td>
</tr>
<tr>
<td>E - F</td>
<td>97.2 (156.4)</td>
<td>63.9 (102.8)</td>
<td>22.1 (35.6)</td>
<td>54.1 (87)</td>
<td>237.3 (381.8)</td>
</tr>
<tr>
<td>Total</td>
<td>420.7 (676.9)</td>
<td>814.6 (1310.7)</td>
<td>536.3 (862.9)</td>
<td>2854.3 (4592.6)</td>
<td>4625.9 (7442.9)</td>
</tr>
<tr>
<td>Balboa LRT Extension/Nobel Drive Coaster Station Alternative</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A - C</td>
<td>248.9 (400.4)</td>
<td>723 (1163.3)</td>
<td>498.2 (801.6)</td>
<td>2758.7 (4438.7)</td>
<td>4228.9 (6804.3)</td>
</tr>
<tr>
<td>D</td>
<td>74 (119.1)</td>
<td>30.2 (48.6)</td>
<td>15.7 (25.3)</td>
<td>41.4 (66.6)</td>
<td>161.3 (259.6)</td>
</tr>
<tr>
<td>E - F</td>
<td>97.8 (157.4)</td>
<td>61.4 (98.8)</td>
<td>22.4 (36)</td>
<td>54.3 (87.4)</td>
<td>235.9 (379.6)</td>
</tr>
<tr>
<td>Total</td>
<td>420.7 (676.9)</td>
<td>814.6 (1310.7)</td>
<td>536.3 (862.9)</td>
<td>2854.4 (4592.7)</td>
<td>4626.1 (7443.5)</td>
</tr>
</tbody>
</table>

[1] Miles appear first because the model output is in miles.

Source: San Diego Association of Governments, August 1998

Intersection LOS was calculated using methodologies consistent with the 1994 Highway Capacity Manual (HCM). LOS at signalized intersections is based upon the average delay experienced by vehicles passing through an intersection and is assigned a letter designation, ranging from LOS A to LOS F, corresponding to average delay, as follows:

<table>
<thead>
<tr>
<th>Level of Service</th>
<th>Average Total Delay per Vehicle (Sec.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>≤ 5</td>
</tr>
<tr>
<td>B</td>
<td>&gt; 5 and ≤ 15</td>
</tr>
<tr>
<td>C</td>
<td>&gt; 15 and ≤ 25</td>
</tr>
<tr>
<td>D</td>
<td>&gt; 25 and ≤ 40</td>
</tr>
<tr>
<td>E</td>
<td>&gt; 40 and ≤ 60</td>
</tr>
<tr>
<td>F</td>
<td>&gt; 60</td>
</tr>
</tbody>
</table>

2 Delay thresholds pertain to signalized intersections. Unsignalized intersection LOS is somewhat different but also delay-based for movements to and from the minor street.
For unsignalized intersections, level of service is defined by the average total delay in seconds for a vehicle passing through the intersection in a 15-minute period, as follows:

<table>
<thead>
<tr>
<th>Level of Service</th>
<th>Average Total Delay per Vehicle (Sec.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>≤ 5</td>
</tr>
<tr>
<td>B</td>
<td>&gt; 5 and ≤ 10</td>
</tr>
<tr>
<td>C</td>
<td>&gt; 10 and ≤ 20</td>
</tr>
<tr>
<td>D</td>
<td>&gt; 20 and ≤ 30</td>
</tr>
<tr>
<td>E</td>
<td>&gt; 30 and ≤ 45</td>
</tr>
<tr>
<td>F</td>
<td>&gt; 45</td>
</tr>
</tbody>
</table>

At an intersection with both stop-sign controlled and continuous through movements, the delay applies to the approach(es) under stop controls.

LOS A describes traffic operations with very low delay and all intersection approaches open. LOS F describes failure conditions, with unacceptable delays to most vehicles, long queues, and stop-and-go flow. LOS F results when arrivals exceed the capacity of an intersection during a specified time period.

Table 4.4-6 shows the results of the Level of Service analysis for the year 2015. Under 2015 No-Build conditions, three of the evaluated intersections are projected to operate below acceptable levels of service, at LOS E or worse. The three intersections are: Nobel Drive/Towne Centre Drive, Balboa-Garnet/Mission Bay Drive, and Clairemont Drive/I-5 NB Ramps.

Where the LOS standard is exceeded, as at these three intersections, the City of San Diego has specified guidelines for determining project impact as shown in Table 4.4-7. Since none of the delay increases resulting from the project alternatives equals or exceeds two seconds, the project does not have a significant negative impact based on these criteria. The project would lower the level of service at Morena Boulevard/West Morena Boulevard from LOS C to a borderline LOS D. This level of impact is acceptable within the City of San Diego guidelines.

4.5 PARKING

Because the proposed project will add transit park-and-ride parking in the corridor, there will be a beneficial effect on parking supply and availability. Additionally, the project will have an indirect beneficial effect on the balance of parking supply and demand in downtown San Diego as a result of improving transit access and reducing the need to drive to the downtown.
### Table 4.4-6

**Intersection Level of Service by Alternative, PM Peak Hour, 2015**

<table>
<thead>
<tr>
<th>Intersection</th>
<th>LRT Station or TSM Park-and-Ride Lot Served</th>
<th>No-Build</th>
<th>TSM</th>
<th>Build [2]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nobel Dr./Genesee Ave.</td>
<td>Nobel Coaster</td>
<td>21.6</td>
<td>C</td>
<td>18.6</td>
</tr>
<tr>
<td>Nobel Dr./Towne Center Dr.</td>
<td>Nobel Coaster</td>
<td>49.7</td>
<td>E</td>
<td>49.0</td>
</tr>
<tr>
<td>Balboa-Garnet Ave./Mission Bay Dr.</td>
<td>Balboa</td>
<td>72.8</td>
<td>F</td>
<td>72.8</td>
</tr>
<tr>
<td>Balboa Ave.-Morena Blvd. Ramps North</td>
<td>Balboa</td>
<td>4.1</td>
<td>A</td>
<td>4.0</td>
</tr>
<tr>
<td>Balboa Ave.-Moraga Ave.</td>
<td>Balboa</td>
<td>14.3</td>
<td>B</td>
<td>13.1</td>
</tr>
<tr>
<td>Paul Jones Ave./Morena Blvd. [4]</td>
<td>Balboa</td>
<td>1.7</td>
<td>A</td>
<td>1.6</td>
</tr>
<tr>
<td>Clairemont Dr./I-5 NB Ramps</td>
<td>Clairemont</td>
<td>40.1</td>
<td>E</td>
<td>40.1</td>
</tr>
<tr>
<td>Ingulf St./Morena Blvd.</td>
<td>Clairemont</td>
<td>8.2</td>
<td>B</td>
<td>8.2</td>
</tr>
<tr>
<td>Clairemont Dr./Denver St.</td>
<td>Clairemont</td>
<td>19.0</td>
<td>C</td>
<td>18.1</td>
</tr>
<tr>
<td>Morena Blvd/W. Morena Blvd.</td>
<td>Tecolote LRT</td>
<td>17.6</td>
<td>C</td>
<td>26.5</td>
</tr>
<tr>
<td>Vega St./W. Morena Blvd.</td>
<td>Tecolote LRT</td>
<td>9.0</td>
<td>B</td>
<td>9.0</td>
</tr>
</tbody>
</table>

**Notes:**

[1] Delay for signalized intersections is stopped delay, delay for unsignalized intersections is average total delay (sec/veh).
[3] Intersection under traffic control only under 2015 Balboa LRT Extension/Nobel Drive Coaster Station Alternative.

**Source:** Traffic projections by SANDAG; LOS evaluation by PTG–De Leuw, Cather & Company, August 1998.

### Table 4.4-7

**Significant Transportation Impact Measure**

<table>
<thead>
<tr>
<th>Level of Service With Project</th>
<th>Allowable Increase due to Project Impacts --Delay (sec)</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>2</td>
</tr>
<tr>
<td>E</td>
<td>2</td>
</tr>
<tr>
<td>F</td>
<td>2</td>
</tr>
</tbody>
</table>

**Source:** City of San Diego, May 1998
4.6  BICYCLE FACILITIES

4.6.1  Impacts

The No-Build and TSM Alternatives would have no long-term impact on bicycle facilities. The preliminary design of the Nobel Coaster Station shows an informal, undesignated bicycle trail on the north side of the railroad right of way. A consortium of cities led by the City of Carlsbad is planning a bicycle trail, the Coastal Rail Trail, that will be parallel to the SDNR railway from Oceanside south to downtown San Diego. The Coastal Rail Trail is planned to have a paved width of 3.6 meters (12 feet) with a total graded width of 4.9 meters (16 feet). The trail will be located on the north side of the railroad tracks in the vicinity of the Nobel Coaster Station and on the west side of the SDNR tracks along the Balboa Segment of the Mid-Coast LRT. Design of the project is planned for 1999 with construction (starting in the north San Diego County) beginning in 2000.

The informal bicycle trail in the vicinity of the Nobel Drive Station would be replaced by the Coastal Rail Trail and therefore would complement the station amenities. Additionally, the station would provide access to the Coastal Rail Trail in the University City community. Depending upon the timing of the Rail Trail construction with respect to the Nobel Drive Coaster Station construction, the Nobel Drive Station could affect either the informal trail or the Coastal Rail Trail. Mitigation is proposed.

The Coastal Rail Trail would be separated from the Balboa segment of the LRT by the existing SDNR railroad tracks. There would be no impact from the LRT as a result. The Balboa LRT Extension/Nobel Drive Coaster Station Alternative would also have a beneficial effect on bicycle facilities through the inclusion of bicycle parking racks and lockers at the new park-and-ride lots. Short-term construction-related impacts on bicycle facilities are addressed in Section 5.13.1.3.

4.6.2  Mitigation

If the Nobel Drive Coaster Station is constructed prior to the bicycle Rail Trail, the existing informal bike and hiking trail in the proposed Nobel Drive Coaster Station area would be reconfigured to avoid interference with station platforms and allow for pedestrian access to the station from the high density residential areas in the vicinity of the station site (see Figure 2.4-33 in Chapter 2). The bike and hiking path would be maintained parallel to the railroad tracks. It is MTDB and NCTD’s policy to discourage at-grade bicycle and pedestrian crossings of the right-of-way. The Coaster Station itself will enable riders to cross the rail line for access to the far side of the platform. As a result of the station platform, non-transit riders, including hikers and bicyclists, may also choose to cross the rail line at this platform location.

If the bicycle Rail Trail is constructed prior to the Nobel Drive Coaster Station, MTDB will coordinate with the consortium of cities to ensure that the planned bicycle trail is compatible with the station plans to avoid impacts later when the station is constructed.
4.7 RAIL FREIGHT AND AMTRAK SERVICES

The proposed project will have no permanent impact on the Burlington Northern Santa Fe (BNSF) freight service nor Amtrak service, which operate on the MTDB-owned tracks. As described in Section 2.4, freight service spur tracks will cross the LRT tracks at-grade, with appropriate rail signaling. The spurs will be used only during non-operating LRT hours, i.e., 1:00 to 5:00 AM. Some relocation and improvements will occur to the freight spur tracks to allow for construction of the LRT tracks and to improve some track curvature. Access to the industrial facility customers in the south segment via these freight spurs will not be impaired. Short-term construction impacts to rail freight and Amtrak services are discussed in Section 5.13.1.5.
CHAPTER 5
Environmental Consequences
CHAPTER 5: ENVIRONMENTAL CONSEQUENCES

This chapter describes the potential environmental consequences of the No-Build, Transportation Systems Management (TSM), and Balboa Light Rail Transit (LRT) Extension/Nobel Drive Coaster Station Alternatives, as defined in Chapter 2. Detailed technical information may be found in the supporting environmental technical reports available at MTDB’s offices, 1255 Imperial Avenue, Suite 1000, San Diego, California, which are incorporated into this Final Environmental Impact Statement (FEIS) by reference. Environmental consequences are discussed for thirteen environmental impact categories, as listed below with corresponding section numbers.

Section 5.1 Land Use and Neighborhoods
Section 5.2 Socioeconomics
Section 5.3 Safety and Security
Section 5.4 Visual and Aesthetic Resources
Section 5.5 Air Quality
Section 5.6 Noise and Vibration
Section 5.7 Natural Resources
Section 5.8 Water Resources
Section 5.9 Cultural Resources
Section 5.10 Parklands
Section 5.11 Energy
Section 5.12 Hazardous Materials
Section 5.13 Construction

For each impact category, this chapter identifies potential adverse impacts and appropriate mitigation measures for the three alternatives under consideration in this FEIS. Direct, indirect, and cumulative impacts of the TSM and Build Alternatives are considered. Environmental consequences related to transportation and traffic are documented in Chapter 4, Transportation Impacts.

One way in which the National Environmental Policy Act (NEPA) differs from the California Environmental Quality Act (CEQA) is that NEPA does not require a determination of significance for each environmental effect. The fact that an environmental impact statement (EIS) is being prepared for this project under NEPA represents the Federal Transit Administration’s (FTA) assessment that, overall, this project has a “significant impact” on the environment. Since this FEIS was prepared in accordance with NEPA and does not specifically address CEQA, the level of significance for each environmental effect is not identified, however, mitigation measures are identified wherever feasible for each identified impact. This chapter also reports the relationship between short-term uses of the environment and long-term productivity, and any irreversible and irretrievable commitments of resources.
5.1 LAND USE AND NEIGHBORHOODS

This section presents a summary of land use and neighborhood impacts associated with each alternative. It includes a discussion of displacements and relocations, consistency with local plans, Coastal Zone consistency requirements, electromagnetic fields (EMF), barriers to social interaction, impacts of new development, and public facilities and services. Detailed technical information can be found in the following technical reports:

- Land Use Technical Report, January 1993;
- Neighborhood Environmental Technical Report, February 1994;
- Conceptual Right-of-Way Requirements Report, January 26, 1994; and

The No-Build Alternative is the base case for the expected land use and neighborhood conditions in the year 2015. Physical improvements associated with the No-Build Alternative would already have been approved, programmed, or constructed.

5.1.1 Displacements and Relocations

Direct impacts to land uses would be in the form of relocations or displacements associated with the acquisition of alignment right-of-way. Displacements and relocations for each FEIS alternative are discussed below. There are no impacts to prime, statewide or locally important farmlands under any of the alternatives. This finding was verified in a letter from the U.S. Department of Agriculture dated December 2, 1994.

5.1.1.1 No-Build Alternative. No displacements and/or relocations would occur with the No-Build Alternative. No impacts would result.

5.1.1.2 TSM Alternative.

Impacts

The TSM Alternative would require the commitment and use of a total of 1.46 hectares (3.63 acres) of land to construct two park-and-ride (P&R) facilities. The effects of these proposed facilities are discussed below.

Clairemont Drive P&R Lot - A 114-space P&R lot would be constructed at Clairemont Drive and Morena Boulevard (see Figure 2.3-2 in Chapter 2). The parking facility would be constructed principally within the San Diego Northern Railway (SDNR) right-of-way, which is owned by the Metropolitan Transit Development Board (MTDB). It would require acquisition of 0.084 hectares (0.208 acres) of street right-of-way, owned by the City of San Diego. No land use impacts would occur.
Balboa Avenue P&R Lot - A new 113-space P&R lot would be constructed at Balboa Avenue and Morena Boulevard (see Figure 2.3-1 in Chapter 2). The existing Balboa Avenue P&R Lot would be moved from its currently constrained location near the southbound freeway entrance ramp to a larger parcel of land between Morena Boulevard and the SDNR just east of I-5. The 1.38 hectare (3.42 acre) parcel is excess street right-of-way owned by the City of San Diego. No land use impacts would occur. The relocated Balboa Avenue facility would serve bus routes #27 and #30, which would be re-routed to the P&R lot as part of the TSM Alternative.

Mitigation Measures

Land acquisition will be carried out pursuant to MTDB’s agreement with the City of San Diego.

5.1.1.3 Balboa LRT Extension/Nobel Drive Coaster Station. A total of 4.42 hectares (10.95 acres) of land would be acquired to develop the Balboa LRT Extension/Nobel Drive Coaster Station Alternative (Build Alternative). No residential property would be acquired, and no businesses would be displaced. Details regarding acquisitions and land use impacts are described below.

Balboa LRT Extension Impacts

The Balboa LRT Extension is located entirely within or alongside the SDNR right-of-way, which is owned by the MTDB. As shown in Table 5.1-1, a total of 3.41 hectares (8.46 acres) of additional right-of-way would need to be acquired, of which 0.54 hectares (1.32 acres) would be from private ownership. An additional 0.17 hectare (0.43 acres) of property would need to be acquired for construction easement, of which 0.08 hectare (0.2 acres) would be from private ownership. Acquisition of privately held land would consist of small portions of industrial or commercial parcels along the SDNR right-of-way. Displacement and relocation of one business may occur in the Tecolote Station area, as described below. A private rail spur, serving the Union Tribune warehouse in the vicinity of Lovelock Street, would need to be reconfigured to provide for sufficient LRT right-of-way. This spur reconfiguration would also require building modifications and the installation of a new door to the warehouse building, adjacent to the new private spur.

There are three stations included in the Balboa LRT Extension, located at Tecolote Road, Clairemont Drive, and Balboa Avenue. Right-of-way and land use impacts associated with these stations are discussed below.

Tecolote Road Station - This station would be developed under the existing Tecolote Road overcrossing of the SDNR tracks, between West Morena Boulevard and I-5. Site development would extend south and north of Tecolote Road adjacent to the west side of West Morena Boulevard. Additional right-of-way will be required to accommodate 103 P&R spaces, an automobile drop-off/circulation lane, and two small shelters for each platform. It is anticipated that minor modifications to the yard area for Armstrong Nursery (formerly Nurseryland), a retail nursery adjacent to the Tecolote LRT Station site, would occur in this area; however, it may become necessary to acquire the entire property and relocate the nursery. MTDB is coordinating with Armstrong Nursery to determine the most appropriate arrangement at this site, but this Final EIS
“worst case” scenario of the possible acquisition of the property on which the nursery is located, and the possible relocation of the nursery.

Table 5.1-1
Summary of Right-of-Way Acquisition for LRT Balboa Extension

<table>
<thead>
<tr>
<th>Project Parcel No.</th>
<th>Existing Use</th>
<th>Area Needed Hectares</th>
<th>Area Needed (Acres)</th>
<th>Reason for Take</th>
<th>Acquisition Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Warehouse</td>
<td>0.02</td>
<td>(0.04)</td>
<td>S7 Siding</td>
<td>P</td>
</tr>
<tr>
<td>15</td>
<td>Warehouse</td>
<td>0.05</td>
<td>(0.13)</td>
<td>S7 &amp; S5</td>
<td>P</td>
</tr>
<tr>
<td>20</td>
<td>—</td>
<td>0.00</td>
<td>(0.01)</td>
<td>Substation</td>
<td>P</td>
</tr>
<tr>
<td>21</td>
<td>Warehouse</td>
<td>0.00</td>
<td>(0.01)</td>
<td>S3 Siding</td>
<td>P</td>
</tr>
<tr>
<td>22</td>
<td>—</td>
<td>0.00</td>
<td>(0.01)</td>
<td>Substation</td>
<td>S</td>
</tr>
<tr>
<td>23</td>
<td>Warehouse</td>
<td>0.04</td>
<td>(0.09)</td>
<td>S4 &amp; S5 Siding</td>
<td>P</td>
</tr>
<tr>
<td>27</td>
<td>Warehouse</td>
<td>0.02</td>
<td>(0.05)</td>
<td>—</td>
<td>P</td>
</tr>
<tr>
<td>29</td>
<td>1-3 Story Bldg.</td>
<td>0.02</td>
<td>(0.04)</td>
<td>S3 Siding</td>
<td>P</td>
</tr>
<tr>
<td>33</td>
<td>1-3 Story Bldg.</td>
<td>0.20</td>
<td>(0.49)</td>
<td>S1 &amp; S2 Siding</td>
<td>P</td>
</tr>
<tr>
<td>37</td>
<td>Retail Nursery</td>
<td>0.19</td>
<td>(0.46)</td>
<td>LRT &amp; Vega St.</td>
<td>P</td>
</tr>
<tr>
<td>39</td>
<td>Retail Nursery</td>
<td>1.15</td>
<td>(2.84)</td>
<td>Tecolote Station</td>
<td>CP</td>
</tr>
<tr>
<td>41</td>
<td>Street ROW</td>
<td>0.08</td>
<td>(0.20)</td>
<td>Curve 34 NB</td>
<td>CS</td>
</tr>
<tr>
<td>43</td>
<td>Street ROW</td>
<td>0.00</td>
<td>(0.01)</td>
<td>Curve 34 NB</td>
<td>CS</td>
</tr>
<tr>
<td>45</td>
<td>Street ROW</td>
<td>0.11</td>
<td>(0.28)</td>
<td>Clairemont Station</td>
<td>CS</td>
</tr>
<tr>
<td>47</td>
<td>Street ROW</td>
<td>1.38</td>
<td>(3.42)</td>
<td>Balboa Station</td>
<td>CP</td>
</tr>
<tr>
<td>49</td>
<td>Street ROW</td>
<td>0.01</td>
<td>(0.03)</td>
<td>Balboa Avenue Underpass</td>
<td>S</td>
</tr>
<tr>
<td>51</td>
<td>Storage Yard</td>
<td>0.14</td>
<td>(0.35)</td>
<td>Substation</td>
<td>CP</td>
</tr>
</tbody>
</table>

Subtotal Right-of-way Property Take: 3.41 hectares (8.46 acres)

<table>
<thead>
<tr>
<th>Construction Easement</th>
<th>Area Needed Hectares</th>
<th>Area Needed (Acres)</th>
<th>Reason for Take</th>
<th>Acquisition Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Vacant</td>
<td>0.06</td>
<td>(0.15)</td>
<td>Const. easement</td>
</tr>
<tr>
<td>3</td>
<td>Vacant</td>
<td>0.02</td>
<td>(0.05)</td>
<td>Const. easement</td>
</tr>
<tr>
<td>5</td>
<td>Vacant</td>
<td>0.01</td>
<td>(0.03)</td>
<td>Const. easement</td>
</tr>
<tr>
<td>23</td>
<td>Warehouse</td>
<td>0.04</td>
<td>(0.09)</td>
<td>S3 &amp; S4 Siding</td>
</tr>
<tr>
<td>27</td>
<td>Warehouse</td>
<td>0.01</td>
<td>(0.02)</td>
<td>S3 Siding</td>
</tr>
<tr>
<td>29</td>
<td>1-3 Story Bldg.</td>
<td>0.01</td>
<td>(0.03)</td>
<td>S3 Siding</td>
</tr>
<tr>
<td>33</td>
<td>1-3 Story Bldg.</td>
<td>0.02</td>
<td>(0.06)</td>
<td>S1 &amp; S2 Siding</td>
</tr>
</tbody>
</table>

Subtotal Construction Property Take: 0.17 hectare (0.43 acres)

Abbreviations:

| S | State Property |
| CS | City Street |
| CP | City Property Parcel |
| P | Private Property |

Total Property Take: 3.58 hectares (8.89 acres)
Total Private Owner Fee: 0.62 hectares (1.52 acres)
Total City Fee Take: 2.76 hectares (6.84 acres)
Total City Street ROW: 0.19 hectares (0.49 acres)
Total State Take: 0.01 hectares (0.04 acres)

Source: Parsons Transportation Group-De Leuw, Cather & Company, 1998

ENVIRONMENTAL CONSEQUENCES

5-4
Clairemont Drive Station - This station would be developed under the existing Clairemont Drive overcrossing of the SDNR tracks, Morena Boulevard, and I-5. Site development would extend south and north of Clairemont Drive adjacent to the west side of Morena Boulevard. Parking (50 spaces) would be available on-street. No land use impacts would occur.

Balboa Avenue Station - This station would be developed in the southwest quadrant of the Balboa Avenue/Morena Boulevard interchange. Access to the site would be from Morena Boulevard. Additional right-of-way will be required to accommodate LRT platforms, bus and automobile drop-off/circulation lanes, 272 P&R spaces, and a large shelter for LRT patrons. No land use impacts would occur.

Nobel Drive Coaster Station Impacts

The Nobel Drive Coaster (commuter rail) Station would be east of Towne Centre Drive, just north of the existing SDNR tracks, and would include a 225-space P&R lot. Construction of the Nobel Drive Coaster Station would require acquisition of portions of two parcels of open space owned by the City of San Diego. The acquisition would total 0.84 hectare (2.06 acres), as shown in Table 5.1-2.

The taking of these parcels at Nobel Drive is not considered a land use impact. The City of San Diego has no plans to formally develop the parcels for future recreational use. However, the smaller parcel of 0.91 hectare (2.25 acres) is officially designated as a mitigation site for the “Renaissance La Jolla” residential condominium project on the north side of Nobel Drive. As shown in Table 5.1-2, approximately 0.44 hectare (1.07 acre) of the mitigation site parcel would be needed. Potential bicycle facility, public facility, natural resource, and parkland impacts of this taking are addressed in Sections 4.6, 5.1.7, 5.7, and 5.10, respectively.

<table>
<thead>
<tr>
<th>Assessor’s Parcel No. (APN)</th>
<th>Existing Use</th>
<th>Area Needed</th>
<th>Reason for Take</th>
<th>Acquisition Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>345-221-17</td>
<td>Vacant</td>
<td>0.40 Hectares (0.99)</td>
<td>Nobel Dr. Station</td>
<td>CP</td>
</tr>
<tr>
<td>345-221-01</td>
<td>Mitigation site</td>
<td>0.44 Hectares (1.07)</td>
<td>Nobel Dr. Station</td>
<td>CP</td>
</tr>
</tbody>
</table>

Abbreviations
CP City Property Parcel

Table 5.1-2
Summary of Right-of-Way Acquisition for Nobel Drive Coaster Station

<table>
<thead>
<tr>
<th>Total Property Take</th>
<th>0.84 Hectare (2.06 acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total City Fee Take</td>
<td>0.84 Hectare (2.06 acres)</td>
</tr>
</tbody>
</table>

Mitigation Measures

Acquisition of publicly owned property will be carried out in accordance with agreements with the affected public agencies. Private property acquisitions and relocations of private businesses will be carried out according to State and Federal requirements, including the following compensation and relocation procedures:

- Code of Civil Procedure (Section 1263.320a) regarding fair market value compensation;
- California Government Code (Chapter 16, Section 7260 et seq.) regarding location; and
- Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act.

To mitigate impacts to the Union Tribune warehouse, private rail spur, and retail nursery, MTDB will coordinate with the affected property owners to design and construct the necessary improvements. This coordination and design is already underway.

To mitigate impacts at the Nobel Drive Coaster Station, mitigation will be established in a new location, as discussed in Section 5.7.

5.1.2 Consistency With Local Plans

Impacts

As discussed in Section 3.1, the City of San Diego has adopted various long-range planning guidelines and policies for the three Community Planning Areas in the vicinity of improvements under the FEIS alternatives. Community plans for each of these areas contain general statements regarding transit improvements. The TSM Alternative and the Balboa LRT Extension/Nobel Drive Coaster Station Alternative are both consistent with these general policy statements.

For example, the provision of a Nobel Drive Coaster Station is consistent with the University Community Planning Area policies, although the University Community Plan does not specifically identify the Nobel Drive Station site as a commuter rail transfer point. Rather, the community plan simply acknowledges the need for such a facility in the University City Community. The construction of the Nobel Drive Coaster Station is considered consistent with the University Community Plan as it would provide a commuter rail transfer point, improving access between University City and the region and facilitating multi-modal travel for persons living or working in University City.

The Balboa LRT Extension/Nobel Drive Coaster Station Alternative has been endorsed by the City of San Diego, and the following local planning organizations: Pacific Beach Community Planning Committee, Clairemont Mesa Planning Committee, and University Community Planning Group. Documentation of these endorsements are included in Appendix K.
Mitigation Measures

MTDB will coordinate with the City of San Diego regarding update of the community planning area plans to include the Balboa LRT Extension/Nobel Drive Coaster Station Alternative.

5.1.3 Coastal Zone Review and Other Affected Plans

Impacts

Some components of the TSM Alternative and the Balboa LRT Extension/Nobel Drive Coaster Station Alternative are located in the Coastal Zone, which is described in Section 3.1. Table 5.1-3 summarizes the components of the alternatives located in the Coastal Zone. There is no certified Local Coastal Plan (LCP) for the areas of the Coastal Zone in which the project is located, and these areas are therefore under jurisdiction of the Coastal Commission. Coordination with the California Coastal Commission regarding Mid-Coast Project transportation alternatives began in February 1994. In December 1994, MTDB wrote to the Coastal Commission, requesting the review and identification of portions of the AA/DEIS/DEIR alternatives in the Coastal Zone and a description of their impacts. The Coastal Commission’s January 10, 1995, response identified components of the project located within the Coastal Zone (including Mission Bay Park) and the issues to be addressed in processing a coastal development permit.

Coastal Consistency Certification of the Mid-Coast Corridor Project, Balboa LRT Extension and Nobel Drive Coaster Station was approved by the Coastal Commission on July 13, 1999. A copy of correspondence from the Coastal Commission notifying MTDB of the Consistency Certification is included in Appendix I.

<table>
<thead>
<tr>
<th>Project Component</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Park-and-ride lots at:</td>
<td></td>
</tr>
<tr>
<td>Clairemont Drive</td>
<td>Coastal Zone boundary ends at eastern edge of railroad ROW; these lots</td>
</tr>
<tr>
<td>Balboa Avenue</td>
<td>would be located within, or partly within, the Coastal Zone.</td>
</tr>
<tr>
<td>Transportation System Management (TSM) Alternative</td>
<td></td>
</tr>
<tr>
<td>Balboa LRT Extension/Nobel Drive Coaster Station Alternative</td>
<td></td>
</tr>
<tr>
<td>Construct LRT tracks</td>
<td>Within railroad ROW between I-8 and Balboa Avenue.</td>
</tr>
<tr>
<td>Construct stations at:</td>
<td>Coastal Zone boundary ends at eastern edge of railroad ROW; these</td>
</tr>
<tr>
<td>Tecolote Road</td>
<td>stations would be located within, or partly within, the Coastal Zone.</td>
</tr>
<tr>
<td>Clairemont Drive</td>
<td></td>
</tr>
<tr>
<td>Balboa Avenue</td>
<td></td>
</tr>
</tbody>
</table>

Note: All project components located within the Coastal Zone have been coordinated with the California Coastal Commission. Additionally, a coastal development permit will be obtained prior to any construction within the Coastal Zone.

Sources: City of San Diego Planning Department 1995; PTG-De Leuw, Cather & Co. 1999
Mitigation Measures

The project has been found to be consistent with the California Coastal Act, and MTDB will obtain a coastal development permit prior to construction in the Coastal Zone. With mitigation of impacts to wetlands and waters of the U.S. and habitat of special status species, as described in Section 5.7, no further mitigation is required.

5.1.4 Electromagnetic Fields

5.1.4.1 Introduction. Electrical systems produce both electric and magnetic fields. Electric fields result from the strength of the electric charge while magnetic fields result from the motion of the charge. Together, these fields are referred to as electromagnetic fields (EMFs). EMFs are invisible, non-ionizing, low frequency radiation. Electric and magnetic fields are common throughout nature and produced by all living organisms. The concern over EMF exposure generally pertains, however, to man-made sources of electromagnetism and the increased levels of exposure that interfere with other systems and may have adverse biological impacts. Under extreme conditions (i.e., the presence of intense electrical fields), EMF hazards can include shock and burn. Such conditions are rare. The possible health and biological effects of the more common levels of EMF exposure are under much study and intense debate. There is no emerging consensus on acceptable levels and duration of EMF exposure.

Electric field strength is measured in units of volts per meter (V/m) and is greater the higher the voltage. Field strength deteriorates rapidly with distance from the source. Magnetic field strength has several units of measure; the most commonly used are the milligauss (mG) and the microTesla (mT). Ten milligauss equal one microTesla. Direct current (DC) produces stronger EMFs than alternating current (AC). Magnetic fields also deteriorate with distance but readily pass through most objects. Magnetic fields are typically the radiation of concern when evaluating EMFs. Consequently, EMF strength is measured in terms of milligauss (mG).

Neither the federal government nor State of California has set standards for EMF exposure. Federal guidelines are under consideration by the Federal Drug Administration, Federal Communications Commission, Department of Defense, and Environmental Protection Agency. The California Department of Education has established a policy of "prudent avoidance" for the location of schools in the vicinity of power lines. Several countries and other states have standards for electrical field exposure, but not EMFs from electric trains. The International Radiation Protection Association has proposed limiting electric field exposure to five kV/m and magnetic fields at 2000 mG.

5.1.4.2 EMF Impacts from Project Electrification. Neither the No-Build nor the TSM Alternative would result in new sources of EMF. The Balboa LRT Extension/Nobel Drive Coaster Station Alternative would result in new sources. These new sources of EMF would include overhead LRT power distribution systems (catenary); power substations with connecting lines (underground) to the major electrical utility lines; LRT stations with their various electrical systems for lighting, communications, utilities, fare machines, and their proximity to overhead train power lines; and electrically powered LRT vehicles.
EMF intensities around electric trains vary considerably. The greatest potential fields, and therefore chance of exposure, are within the LRT vehicle and at passenger stations. Vehicles would be a mobile source of EMF exposure for transit passengers, train operators, and maintenance and other personnel who would work on or around vehicles. Stations would increase exposure to boarding and alighting passengers and any workers, security or other personnel who would spend time in station areas.

Strong fields are not associated with the normal environment and the operation of passenger trains. Measurements of average magnetic fields for catenary powered rail vehicles have ranged from approximately 400 mG at head level to 1500 mG at floor level.¹ The field strengths at head level approach exposures found at the earth's magnetic poles (600 mG). The duration of exposure to EMFs from transit systems is relatively brief in comparison to the daily exposure from office equipment and household appliances, electric power lines, and other electrically powered machines. At present, the preponderance of evidence from exposure studies for general power sources would suggest the increased risk of cancer and other diseases is very small for conventional, electrified transit systems.

5.1.4.3 Mitigation Measures. No mitigation of LRT EMF exposure from the Balboa LRT Extension/Nobel Drive Coaster Station is recommended. Should future scientific studies indicate a health risk to passengers and/or workers, mitigation measures to shield or limit exposure may warrant consideration.

5.1.5 Barriers to Social Interaction

5.1.5.1 No-Build Alternatives. The No-Build Alternative would not impose any additional barriers to neighborhood cohesion and social interaction and no impacts would result.

5.1.5.2 TSM Alternative. The development of new P&R facilities at two locations within or along existing rail right-of-way would not create any new barriers to social interaction and neighborhood cohesion. The bus service and P&R facilities provided under the TSM Alternative are designed to provide service generally comparable, to the extent possible, to the Balboa LRT Extension/Nobel Drive Coaster Station Alternative, but for lower capital costs. However, the TSM Alternative would provide only minor reductions in congestion on area roadways over the long-term. Since the buses run in mixed flow with other vehicles, as traffic increases, the buses would experience longer travel times. The local area linkages among neighborhoods and community facilities represented by the proposed LRT extension would not be established. No adverse impacts to social interaction and neighborhood cohesion are anticipated, nonetheless, and no mitigation is proposed.

¹ Safety of High Speed Guided Ground Transportation Systems. EMF Exposure Environments Summary Report. Table 4-3. The dominant source of magnetic field generation is the traction power and control equipment under the vehicle's floor.
5.1.5.3 **Balboa LRT Extension/Nobel Drive Coaster Station Alternative.** The Balboa LRT Extension would be located in an existing transportation corridor that already forms a distinct boundary between neighborhoods east and west of the SDNR tracks. The development of LRT in this transportation corridor would not create any new barriers between neighborhoods. New station facilities would be located within existing rail, freeway, and street right-of-way. Where land acquisition for new facilities is required, these facilities would be adjacent to existing rail right-of-way. As a result, no new barriers to social interaction and neighborhood cohesion would be created. Overall, implementation of this alternative would be beneficial, providing linkages among neighborhoods and improving access to commercial, residential, and shopping opportunities within the San Diego region.

5.1.6 **Impact of New Developments**

No large-scale, new developments are anticipated as a direct result of implementing any alternative evaluated in this FEIS. Development is expected to occur with or without the proposed alternatives. Locational decisions for developments may, however, be influenced by the presence of an LRT station, Coaster station, or P&R lot. For example, with proper zoning, retail stores may choose to locate near an LRT station to serve LRT patrons. It is expected that such developments would be located in commercial zones. This type of development would not adversely affect any neighborhood in the vicinity of improvements related to any of the FEIS alternatives.

One site, across Morena Boulevard from the proposed Clairemont Drive Station, was identified as having potential for higher intensity, transit oriented development. The Clairemont Drive Station site would be developed as an LRT station under the Balboa LRT Extension/Nobel Drive Coaster Station Alternative, and as a P&R lot under the TSM Alternative. Discussions have been held with property owners/developers to identify opportunities for joint development. It is anticipated that the City of San Diego would work with potential developers to ensure that new development in the vicinity of transit improvements would comply with the City’s Transit-Oriented Development Design Guidelines, as discussed in Section 3.1. In addition, MTDB has published joint development guidelines in its Designing for Transit handbook to assist in this effort. Other opportunity areas for joint development or transit-oriented private development could be identified over time as community plans are updated.

Potential impacts of development influenced by the TSM Alternative or the Balboa LRT Extension/Nobel Drive Coaster Station Alternative are not expected to adversely affect neighborhoods. Although MTDB works with the City of San Diego to actively encourage joint development, MTDB does not have authority over local land use decisions. The City of San Diego would need to approve any such development projects. The No-Build Alternative would not result in any new development, but also would not reduce roadway congestion nor increase mobility and access for the residents and businesses in the corridor. No mitigation is proposed for any of the alternatives.
5.1.7 Public Facilities and Services

5.1.7.1 No-Build and TSM Alternatives. The No-Build and TSM Alternatives would not have a direct effect on schools, churches, hospitals, community centers, parklands, or other public facilities or services.

5.1.7.2 Balboa LRT Extension/Nobel Drive Coaster Station Alternative.

Impacts

As discussed in Section 5.1.1 (Acquisitions and Displacements), construction of the Nobel Drive Coaster Station would require acquisition of two parcels of publicly held open space across the SDNR right-of-way north of the Rose Canyon Open Space Park. The smaller parcel (0.91 hectares, or 2.25 acres) is officially designated as a mitigation site for the “Renaissance La Jolla” residential condominium project on the north side of Nobel Drive. The larger parcel (3.1 hectares/7.65 acres) is open space, but it is not dedicated park land. The acquisition would total 0.84 hectare (2.06 acres). Approximately 0.44 hectare (1.07 acre) of the mitigation site parcel, and 0.4 hectare (0.99 acre) of the open space would be needed. The taking of the two parcels would permanently convert this open space/mitigation land to transportation use.

The University Community Plan identifies Rose Canyon as an important open space and as a “Trail Through Nature” in the primary pedestrian network. However, the City of San Diego has no plans to formally develop the two parcels to be acquired north of the Rose Canyon Open Space Park for future recreational use. Taking of this open space for the Nobel Drive Coaster Station would not constitute an adverse impact to community facilities. In proportion to the size of the adjacent 113 hectare (278 acre) Rose Canyon Open Space Park, the two parcels to be acquired would be insignificant. Development of the proposed Nobel Drive commuter rail station would, in fact, improve access to the dedicated park land to the south. The affected open space parcels are not considered to be protected by Section 4(f) of the Department of Transportation Act, so no “4(f) impacts” would occur. (see Section 5.10, Parklands).

Mitigation Measures

The mitigation measures for the Nobel Drive Coaster Station identified in Section 5.1.1 fully address both the acquisition and public facility impacts of the station.

5.1.8 Cumulative Land Use and Neighborhood Impacts

5.1.8.1 No-Build Alternative. No individual or cumulative land use impacts associated with the No-Build Alternative have been identified.

5.1.8.2 TSM Alternative. P&R lots under the TSM Alternative are not expected to create adverse cumulative land use or neighborhood impacts. While two locations would be subjected to construction of new P&R facilities, some of the sites are already zoned or planned to include these
facilities, and the necessary right-of-way has been preserved. The TSM Alternative's increased bus service and new P&R lots would provide some improvement in regional access to existing and future land uses and community facilities and would be considered a beneficial regional impact. No mitigation is warranted.

5.1.8.3 Balboa LRT Extension/Nobel Drive Coaster Station Alternative. The transit improvements under the Build Alternative are not expected to create adverse cumulative land use or neighborhood impacts. The Balboa Extension would be constructed within an existing transportation corridor. Selected locations would be subjected to the construction of new transit station facilities, but some of the sites are already zoned or planned to include these facilities, and the necessary right-of-way has been preserved. Additionally, three of the new stations would be located in or adjacent to areas zoned for commercial use, which would allow the City of San Diego to implement transit oriented development policies in those areas and would potentially encourage future development in these areas, in accordance with local plans. The new transit service provided by this alternative would improve regional access to existing and future land uses and community facilities, and would be considered a beneficial regional impact.

5.2 SOCIOECONOMICS

5.2.1 Regional Socioeconomic Impacts

Forecasts for the San Diego region indicate an expanding economy with steady growth predicted over the period up to the planning horizon year of 2015. Population is anticipated to increase by 43 percent over the next 25 years. Employment growth is expected to outpace that of population, at a rate of 50 percent over the same forecast period. The trend toward a service and information economy is anticipated to continue, as positions in manufacturing and government decline. Although regional per capita income is predicted to continue to increase, it is anticipated to drop 12 percent below the U.S. per capita income in the next 25 years. Given this long-term regional outlook, none of the proposed alternatives would likely result in changes to regional socioeconomics beyond current regional planned and forecasted growth.

5.2.2 Employment Impacts

Table 5.2-1 provides an estimate of the number of positions and level of economic activity created by the expenditure of construction funds for the TSM and Build Alternatives. Estimates are based in part on an input/output study of construction activity in Texas by the Federal Highway Administration (Politano and Roadifer, 1989). Funds created in economic output include the multiplier effect of direct construction being re-spent in service or other sectors of the economy. Economic activity generated by a proposed project is anticipated to benefit the San Diego region and would also follow the labor and material markets for transportation-related construction.

With respect to job creation, FHWA found nationally in the early 1980s that a one million dollar investment would directly generate 10 on-site, full-time construction jobs (person years of
employment [PYE]). This number has been adjusted to 6.7 PYE positions to reflect inflation through 1998. When off-site, construction-related and service-industry-related jobs and related increases in consumer demand (direct, indirect, and induced effects) are considered, the total number of full time PYE positions created rises to about 15.4, adjusting for inflation, for each one million dollars investment.

<table>
<thead>
<tr>
<th>Table 5.2-1</th>
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<tr>
<td>Impacts from Construction Investment (in millions of dollars)</td>
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<td>Alternative</td>
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<tr>
<td>Mid-Coast LRT Project, Balboa Extension and Nobel Drive Coaster Station</td>
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<tr>
<td>Transportation Systems Management (TSM)</td>
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<td>No-Build</td>
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* Construction impacts are based on preliminary estimates for construction value (1998 dollars).
** Construction value includes administration costs.

N/A = Not Applicable

Sources:


Long-term economic benefits associated with operation and maintenance of the proposed project are expected as well. Employment opportunities generated as a result of operation and maintenance were assessed by applying generation factors derived from the RIMS II economic impact model.

5.2.2.1 No-Build Alternative. The No-Build Alternative is the baseline for growth and conditions projected for 2015 in the Mid-Coast Corridor. The San Diego regional population is expected to grow from 2,498,016 in 1990 to 3,763,253 by 2015. Regional employment between these same years is expected to grow from 1,198,265 to 1,561,364 full-time equivalent (FTE) positions. Forecasted economic growth already includes projects in the No-Build Alternative. The No-Build Alternative would have no adverse impact on forecasted economic growth.

5.2.2.2 TSM Alternative.

Impacts. While some direct and indirect employment would be created by the investment of $2.4 million for capital facilities, the principal generator of employment for the TSM Alternative would be the expenditure of an additional $825,000 annually on operational and maintenance (O&M) costs as compared to the No-Build Alternative. Approximately 16 on-site PYE positions and 37 total PYE positions during construction would be created by the capital expenditure.
Compared with the No-Build Alternative, transit operations would create approximately 28 direct and 37 additional indirect FTE positions annually over the operational life of the TSM Alternative.

The economic impact of employment changes associated with the TSM Alternative is expected to be negligible in size and neutral in consequence. The employment created by the capital and O&M expenditures would represent a net increase of the total employment forecast for the San Diego region.

Mitigation Measures. No mitigation needs are indicated.

5.2.2.3 Balboa LRT Extension/Nobel Drive Coaster Station Alternative

Impacts. Compared with the No-Build Alternative, capital costs for construction of the Balboa LRT Extension/Nobel Drive Coaster Station Alternative would be $65.5 million. Construction expenditures would generate approximately 439 on-site full-time construction positions (PYE) and 1,009 total positions (PYE), including direct, indirect, and induced, as compared to the No-Build Alternative. The incremental difference in annual O&M costs would be $385,000 for the Mid-Coast LRT Project. This level of annual O&M expenditures potentially would create an additional ongoing 30 FTE (13 direct and 17 indirect) employment compared with the No-Build Alternative.

The impact of this direct and indirect employment added to the regional economy would be positive. The levels of possible employment would represent a net increase to the employment already forecast for the region by 2015 and included in the No-Build Alternative. Besides creating additional employment, the Balboa LRT Extension/Nobel Drive Coaster Station Alternative would contribute non-local money to the regional economy.

Mitigation Measures. As the impacts are mostly beneficial, there is no need for mitigation.

5.2.3 Cumulative Economic Development Impacts

5.2.3.1 No-Build Alternative. There are no individual adverse project impacts associated with the No-Build Alternative. Cumulative impacts may result from the loss of the “multiplier effect” of direct construction investment in the TSM or Build Alternative being re-spent in other sectors of the local and regional economy.

5.2.3.2 TSM Alternative

Impacts. The TSM Alternative improvements would have a small beneficial effect on cumulative economic development in the San Diego region. Improved access to existing and future businesses as a result of increased bus service and new P&R lots would be a beneficial impact of the TSM improvements.

Mitigation Measures. No mitigation need is indicated.
5.2.3.3 **Balboa LRT Extension/Nobel Drive Coaster Station Alternative**

**Impacts.** As described in Section 3.3, steady economic growth is projected for the Community Planning Areas in the vicinity of the FEIS alternatives and in the San Diego region. The Balboa LRT Extension/Nobel Drive Coaster Station Alternative would make a small positive contribution to identified region-wide cumulative economic growth, which is expected to occur with or without the project. The Mid-Coast LRT Project, Balboa Extension and Nobel Drive Coaster Station Alternative would support the planned economic patterns of the region by improving access to employment centers and businesses, and may facilitate more compact development, particularly around stations, than would otherwise be possible.

**Mitigation Measures.** As the impacts are neutral or beneficial, no mitigation is proposed.

5.3 **SAFETY AND SECURITY**

This section presents a summary of the potential impacts of the FEIS alternatives related to security, seismic safety, and the provision of emergency services (Hazardous Materials issues are discussed in Section 5.12). It also includes an evaluation of child safety considerations. The following were used as inputs:

- MTDB procedures and design criteria;
- Analysis of Crime Trends for MTDB and SDTI, September 1992; and

5.3.1 **No-Build Alternative**

No safety and security impacts are expected as a result of the No-Build Alternative.

5.3.2 **TSM Alternative**

The two P&R lots included in the TSM Alternative have the potential for security impacts to P&R patrons and their vehicles. These possible security impacts would be addressed by police patrol services provided by the City of San Diego Police Department. The expanded bus service included in the TSM Alternative would be secured using measures similar to those in place today (e.g., driver radio capability, plain clothes officers on-board, video cameras). No security impacts are expected.

The P&R lots would be designed to MTDB specifications. No adverse impacts related to seismic safety are expected. No emergency services would be affected. No additional safety mitigation measures are needed.
5.3.3 Balboa LRT Extension/Nobel Drive Coaster Station Alternative

5.3.3.1 Impacts

Operations. Security for the Nobel Drive Coaster Station would be provided by the City of San Diego Police and the security force of the commuter rail system. Concern has been expressed regarding security issues related to the LRT extension. San Diego Trolley, Inc. (SDTI), the operator of the LRT system, and MTDB provide protection for passengers and property through a combination of efforts. Since beginning operation in July 1981, SDTI has retained a private security contractor to provide protection. The force is uniformed and officers have the power of arrest. Most of the officers are armed and meet or exceed the licensing standards of the California Bureau of Collections and Investigative Services. In addition, fare inspection personnel employed by MTDB check passengers for proper fare payment and assist in maintaining security. Several actions have been taken recently in an effort to enhance security:

- The responsibilities of the security and fare inspection forces have been combined to allow both to check fares;
- Prepaid fare zones have been established at stations to allow the inspection of passengers before boarding to improve station and on-board security;
- SDTI has a management-level Transit Security Administrator to coordinate, promote and bolster security efforts;
- Through the efforts of the Security Administrator, there has been expanded liaison and coordination with municipal police forces and private security providers along the LRT lines;
- Plain clothes security officers have been deployed on both the LRT and bus systems; and
- How-to "Ride Guides" have been distributed to inform riders of steps they can take to increase their own security while on the LRT.

A SANDAG study (1992) compared crime rates in areas surrounding East Line trolley stations in 1987 and 1991, before and after the start of the East Line to El Cajon (Table 5.3-1). There were three levels of analysis: areas immediately surrounding trolley stations, a larger east suburban area, and the San Diego region. Following the introduction of eight trolley stations, an average of 7,000 boardings daily, and 800 cars parked at any one time, the violent crime rate in areas immediately surrounding East Line stations increased less than rates for the east suburban area and region. Property crime rates decreased slightly more surrounding trolley stations than in the east suburban area, and slightly less than the regional rate.²

² It is not known exactly why crime statistics are more favorable around trolley stations, but this may be attributable to the predictable presence of passengers, and the trolley's own security presence.
A survey was also conducted on-board the trolley to identify passengers’ perceptions of trolley security and crime. Riders rated the economy and crime as the major issues facing the region. Over three-quarters rated security at trolley stations “good” or “average”. Eighty percent feel “safe” on-board the trolley.

This percentage declined when asked their feelings on safety at trolley stations (63 percent felt “safe”). This was higher, however, than the proportion that feel safe at automatic teller machines or in downtown San Diego (54 percent and 47 percent, respectively). A slightly lower percentage of East Line riders rated trolley security “good” or “average” compared to South Line passengers. The study concluded that while there is some concern among passengers about station security, it may chiefly reflect concerns about crime region-wide.

Similar questions were posed in a 1993 resident opinion survey conducted on behalf of MTDB. Residents ranked crime and the economy as the major issues facing the region. This is consistent with similar studies conducted in other west coast metropolitan cities. When asked their perceptions of safety at various public places, people generally perceive transit as safe as compared to ATMs or downtown San Diego. However, there are differences in the perceptions of safety on-board and at transit facilities between transit riders and non-riders. Seventy-five percent of residents who have ridden transit believe it is safe on-board and 56 percent believe it is safe at trolley stations and bus stops. Lower percentages of non-riders perceive transit as safe: Forty-eight percent believe on-board is safe and 39 percent believe facilities are safe. However, a large proportion of non-riders is unfamiliar with trolley service and did not have an opinion on safety.

Seismic Safety. The LRT extension and the Nobel Drive Coaster Station would be built to MTDB design criteria that include provisions for seismic safety. MTDB requires project soils reports to identify known earthquake faults in the area, geologic-seismic features of the area, potential for liquefaction, depth of bedrock and recommended design acceleration at the site. All bridges, stations and maintenance buildings would be designed and built according to the most current seismic zone for design.
Emergency procedures are in place for responding to earthquakes. Tracks, bridges, and catenary are inspected for any structural problems, and service is resumed as soon as it is safe to do so. Within minutes of an earthquake, train operators are ordered to slow trains to 15 mph while the operators make a visual inspection of the line, checking conditions of the rails, catenary system, signals, switches and substations. This is followed by a second inspection process where crews are deployed for a closer examination of the track. Each inspector walks an 8 kilometer (5 mile) section of the track to identify defects.

**Emergency Vehicle Accommodation.** The Balboa LRT Extension does not include any at-grade crossings and would not affect emergency services. Similarly, the Nobel Drive Coaster Station would have no impact on the provision of emergency services.

5.3.3.2 **Mitigation Measures.** While no safety or security impacts were identified for this alternative, MTDDB's LRT design criteria call for various features to enhance the security of LRT stations. One of the objectives for LRT and station design is “to provide a safe, secure, comfortable and attractive environment throughout the transit system, particularly at and along approaches to station entrances.” In addition, waiting areas at bus stops and kiss-and-ride areas will be visually accessible for security reasons. Other security design-related features include lighting public areas, and using wrought iron fences rather than solid walls to maintain the visibility of station platforms and other areas in LRT stations.

5.3.4 **Children’s Safety**

In April 1997, President Clinton signed Executive Order (EO)13045, requiring every public agency to ensure that its activities address disproportionate risks to children that result from environmental health risks or safety risks. EO 13045 defines “environmental health risks and safety risks” to mean risks to health or safety that are attributable to products or substances that the child is likely to come in contact with or ingest. Such substances include air, food, water, soil, and products that people use or may be exposed to.

The alternatives considered in this FEIS were evaluated in terms of their potential to disproportionately expose children to environmental health risks and safety risks, as defined in EO 13045. A two-part methodology was employed. First it was ascertained whether the alternative was found to result in land use, safety and security, air quality, water, parklands, soil, or construction impacts, or any other impacts that could foreseeably affect environmental health and safety. The second step was to identify any evidence that such impacts would disproportionately affect children.

5.3.4.1 **No-Build Alternative.** The No-Build Alternative has no impacts that could be expected to affect environmental health and safety. Therefore, there could be no disproportionate effects on children.

5.3.4.2 **TSM Alternative.** The TSM Alternative consists of increased bus service and construction of P&R lots. These activities were shown to result in no adverse impacts to agricultural or residential land uses, safety and security, air quality, or soil. Minor impacts to water resources
are expected as a result of stormwater runoff from the parking lots. Runoff impacts will be mitigated, as discussed in Section 5.8.1, to minimize any long-term effect on bodies of water.

During construction of the P&R lots, mitigation measures will be employed to minimize the minor, short-term construction impacts discussed in Section 5.13. Mitigation measures will assure safe pedestrian access around the construction sites, reduction of construction dust and noise, and safe handling of any hazardous materials that may be encountered. The homes nearest the construction sites are located across major roadways (Morena Boulevard and the Balboa Avenue ramp), and there is no reason to expect that children would be disproportionately affected by construction activities.

5.3.4.3 **Balboa LRT Extension/Nobel Drive Coaster Station Alternative.** The proposed improvements under the Build Alternative would result in no adverse impacts to agricultural, educational, or residential land uses; air quality; or soil.

Minor safety and security impacts could occur under this alternative, but they will be mitigated as described in Section 5.3.3. Minor impacts to water resources are expected as a result of stormwater runoff from the parking lots. Runoff impacts will be mitigated, as discussed in Section 5.8, to minimize any long-term effect on bodies of water.

During construction of the Balboa LRT extension and station areas, mitigation measures will be employed to minimize the short-term construction impacts discussed in Section 5.13. Mitigation measures will assure safe pedestrian access around the construction sites, fencing of construction sites, reduction of construction dust and noise, and safe handling of any hazardous materials that may be encountered. With the exception of the Nobel Drive area, the homes nearest the construction sites are located across major roadways from the LRT line and the station sites (Morena Boulevard, the Balboa Avenue ramp). At Nobel Drive, there are apartments to the east and north of the proposed station area. Construction fencing will help protect children from hazards associated with construction activity. There is also a school in the vicinity of the Nobel Drive Station, but it is located on the south rim of Rose Canyon, separated from the station area by the canyon and existing railroad tracks. Due to the physical separation between most land uses occupied by children and project construction, and the use of construction fencing, there is no reason to expect that children would be disproportionately affected by construction activities.

No impacts to child safety are expected during operations of the Balboa LRT Extension/Nobel Drive Coaster Station. The LRT trains would operate within existing right-of-way, which will be fenced. There are no at-grade rail crossings proposed on the Balboa LRT Extension. With the exception of the Nobel Drive Station area, nearby parks and residential areas are separated from the right-of-way by major roadways (I-5, Morena Boulevard, and the Balboa Avenue Ramp). The Coaster Station at Nobel Drive will enable pedestrians to cross the existing SDNR tracks in the station area. Warning devices will be installed at this crossing, based on NCTD policies and procedures. These measures would be adequate to ensure that no disproportionate risks to children’s safety would result from the proposed action.
5.4 VISUAL AND AESTHETIC

This section presents a summary of the visual and aesthetic impacts associated with alternatives evaluated in this FEIS. Detailed technical information can be found in the technical report Visual Impact Assessment (April 1994). Visual impacts of the alternatives include both the objective visual resource change created by the alternatives and the subjective viewer response to that change. Five categories to assess visual impacts were identified and are listed below:

- Landform quality.
- Visual quality.
- Visual resources.
- View quality.
- Neighborhood character.

An analysis of visual and aesthetic resources was conducted for the eight landscape units identified in the vicinity of improvements under the FEIS alternatives (identified in Section 3.4 and Figures 3.4-1 and 3.4-2). With each identified landscape unit, a candidate keyview was selected. Each candidate keyview was used as a visual aid in determining the significance of changes within each landscape unit. Contrasts to form, line, texture, color, value, and character were evaluated. An adverse impact rating was used to identify potential impacts.

For the purposes of the visual analysis, "adverse impact" was defined as a change to the visual environment that is visible to a moderate level of viewers (1,000 or more), where that change includes at least one of the following possible conditions:

- Permanently changes the landform character of an area and dominates the view by disrupting the unity of the visual scene,
- Clearly contrasts with the existing visual elements of a high quality landscape unit,
- Removes a large percentage of landscapes, structures, or landform that make up the visual resources of the landscape unit,
- Blocks an existing view or landmark considered important by the community, or
- Prevents the attainment of a design or other aesthetic goal as part of an adopted community plan or other city approved document.

Mitigation of other, more minor effects may be considered as the project design progresses and is discussed for each alternative, as appropriate.

Recommended mitigation measures will require quality and quantity monitoring, in accordance with the Mitigation Monitoring Program for the project. Review of design and engineering plans for all project elements (walls, parking lots, stations, catenary poles, landscaping, etc.) must be conducted prior to the approval of any construction plans or specifications. Field monitoring would be limited to landscape materials used as mitigation for landscape replacement or screening. If the mitigation is not meeting the performance criteria for plant distribution, mortality, maintenance, screening, or size, corrective measures defined in the framework of the Mitigation Monitoring Program will be
implemented. Actions will be required to correct the deficiency within a two year period. The monitoring will be accomplished by the project biologist responsible for monitoring biological mitigation actions. An annual Biological Mitigation Monitoring Report will be prepared for each of the first five years of establishment. If corrective measures are needed, then additional monitoring will occur until performance criteria have been met.

5.4.1 No-Build Alternative

To assess visual impacts, the No-Build Alternative serves as the baseline.

5.4.2 TSM Alternative

5.4.2.1 Impacts. The majority of the elements in the TSM Alternative are considered to have little or no effect on the visual environment. The Balboa Avenue and Clairemont Drive P&R lots are the only facilities that would be constructed under this Alternative, and they would be located in developed areas along a major roadway.

5.4.2.2 Mitigation Measures. Although no adverse impacts were identified for this Alternative, recommended actions to address minor visual effects include the following (see Table 5.4-1 at the end of Section 5.4): replacement of damaged or removed landscaping; landform screening and landscaping of parking lots; landform grading of affected slopes; contrast and color matching of plant materials, retaining walls and other equipment; improved aesthetics of retaining walls by designing walls with a textured surface, earth-tone color, and stepped for planting; and decreasing the scale of walls by installing a series of smaller walls.

5.4.3 Balboa LRT Extension/Nobel Drive Coaster Station Alternative

5.4.3.1 Impacts

Balboa LRT Extension. The majority of effects associated with the Balboa LRT Extension would be below the "adverse impact" thresholds. This is due to the location of the alignment within an existing rail and highway/freeway transportation corridor and the predominance of commercial and industrial land uses. The Balboa LRT Extension was divided into the following five segments for purposes of the visual analysis:

- Segment 1 - Old Town Transit Center to Friars Road,
- Segment 2 - Friars Road to Tecolote Road,
- Segment 3 - Tecolote Road to Clairemont Drive,
- Segment 4 - Clairemont Drive to Balboa Avenue, and
- Segment 5 - Balboa Avenue to north end of the Balboa Extension.

Segment 4 is the only area where adverse impacts may occur. In this area, there is a change in elevation within view of Mission Bay Park that would make visual changes more noticeable than elsewhere along the Balboa Extension. Long-term visual impacts would include retaining walls and
substations in the right-of-way that would be visible from the freeway and Mission Bay Park, and a sound wall southeast of the ramp connecting Balboa Avenue and Morena Boulevard. There are a number of residences in the Segment 4 area with views of Mission Bay. Some residents have expressed concern that the catenary system may disrupt the views from these homes. A visual simulation was prepared to show the view toward Mission Bay with catenary poles present, as shown in Figures 5.4-1 and 5.4-2. A number of utility poles and wires already exist in this area, however, which reduces the visual contrast of the new catenary system so that the addition of catenary would not appreciably degrade their view. Also, the track in this area would be at a lower grade than Morena Boulevard, which would minimize visual impacts. The sound walls along the Balboa Avenue ramp have been designed to minimize visual impacts. The upper 1.8 meters (six feet) of each wall would be made of a Plexiglas-type (clear, impact-resistant) product to provide noise attenuation and durability, while maintaining existing views from adjacent residences (see Figure 5.6-1 in Section 5.6).

**Nobel Drive Coaster Station.** The Nobel Drive Coaster Station would require a retaining wall, approximately 10 meters (33 feet) in height, to support the proposed station parking area. As shown in Figure 2.4-33, the station platform would be located in Rose Canyon along the existing SDNR tracks. The 225-space parking area, bus and automobile drop-off/circulation lanes would be at street level. In addition, station access to and from Nobel Drive would require removal of a portion of the landscaped median on Nobel Drive and installation of a traffic signal.

The parking lot, retaining wall, and station would directly affect an open space area that has moderate visual quality. Visual qualities of the area also would be degraded by the removal of a portion of the landscaped median on Nobel Drive. Although this neighborhood is predominantly characterized by paved roadways and residential development, the proposed commuter rail station would extend further into the canyon than most other improvements.

Rose Canyon provides the community and adjacent neighborhoods with a scenic view corridor that extends from La Jolla on the west to the Marine Corps Air Station Miramar (MCAS) property on the east. With the exception of the railroad tracks and utility lines, development is limited to the upper slope areas of the canyon. The lower portions of the canyon consist of gently rolling hills, riparian corridors, native chaparral, and recreational trails. Development of this station at the Nobel Drive site would affect these views. The parking area would interrupt the existing visual quality of natural vegetation and introduce a broad paved area into the view from the homes on the north side of Nobel Drive, and for motorists using Nobel Drive.

The station and retaining wall would affect the landform quality, visual quality, visual resources, and view quality looking north from portions of Rose Canyon. The landform quality of the canyon area would be changed by construction of the retaining wall, and the grading required for the parking lot. Views from Rose Canyon would also be changed by the removal of the natural chaparral and riparian vegetation in the proposed station area adjoining the Rose Canyon Open Space Park. Riparian vegetation is relatively rare in San Diego County. This change would contrast and detract from the existing landform character.
Figure 5.4-1
Existing View of
SDNR Right-of-Way
from across Morena
Blvd.
Figure 5.4-2
View of SDNR Right-of-Way from across Morena Blvd., with LRT Catenary
The removal of a portion of the median landscape and installation of turn lanes on Nobel Drive would have a minor visual effect. The removal of the median landscape would be offset by new plant material at the entrance to the commuter rail station.

5.4.3.2 Mitigation Measures.

Balboa LRT Extension. Mitigation for the retaining walls in the vicinity of Mission Bay Park will include use of colors and materials that will blend with the surrounding character, and the design of the smallest wall possible. Elements that add texture and scale to these walls will be incorporated. Landscaping, including shrubs and vines will be planted adjacent to the walls to screen them. Substations in the station areas will be screened with evergreen plant materials (trees and shrubs), and colors and materials to blend with the surrounding environment will be used. The screening will provide 90-100 percent screening coverage within a three year period. Refer to Table 5.4-1 for recommended plant materials.

Although other visual effects along the Balboa Extension right-of-way are considered minor, replacement landscaping will be provided to offset the loss of plant materials that may occur along various points in the right-of-way. The Landscape Replacement Study conducted for the AA/DEIS/DEIR identified a variety of mitigation measures listed below. (Refer to Table 5.4-1 for recommended plant materials.)

Mitigation #1: Caltrans Right-of-Way

- Plant five 15 gallon trees for every one tree removed (5:1)
- Plant two 1 gallon shrubs for every one shrub removed (2:1)
- Plant groundcover from flats and 1 gallon containers as needed for erosion control (1:1)

Mitigation #2: General Areas

- Plant trees and shrubs at a ratio of 1.25 to 1 to allow for normal plant mortality and to offset the difference between the size of the current and replacement plant materials. Trees will be a minimum of 15 gallon size (Eucalyptus - 5 gallon), shrubs 1 and 5 gallon size, except where noted under specific segments.
- Plant groundcover from flats and 1 gallon containers as needed for erosion control (1:1).

Other mitigation measures of minor visual effects along the right-of-way and in LRT station areas include the following:

- Landscape screening of key visual elements.
- Landform screening of proposed elements.
• Landform grading of affected slopes.
• Contrast and color matching of plant materials, retaining walls and other equipment
• Improved aesthetics of proposed elements such as retaining walls by designing walls with a textured surface, earth-tone color, and steps for planting; and decreasing the scale of project elements such as walls by utilizing a series of smaller walls.

Nobel Drive Coaster Station. Overall station visual quality impacts will be mitigated through the use of plant materials to (1) partially screen the parking lot and access drive, and (2) replace removed slope plantings and riparian vegetation. The visual quality impacts of the parking lot will be mitigated by landscaping along the perimeter to partially screen the lot without reducing the visibility of the station. Trees and other landscaping will also be provided within the parking lot to interrupt and soften the impact of the expanse of pavement. Visual impacts of the retaining wall will be mitigated through the use of a terraced wall, which will allow for extensive landscaping. The wall will be a natural color and will be landscaped with native vegetation.

Replacement and screening landscaping will include native shrubs and indigenous tree species planted in randomly spaced groupings. Shrubs will include 1 and 5 gallon sizes, and trees will be a minimum of 15 gallon size. Removed plant material will be replaced at a ratio of 1.25 to 1 to allow for normal plant mortality and to offset the difference between the size of the current and replacement plant materials. Replacement plant materials will be selected so as to obtain 75 percent of the size of the existing materials within a five year period. See Table 5.4-1 for additional information on the recommended plant materials.

Section 5.7 provides mitigation measures for removal of the existing natural mitigation area that would occur due to station development. See Section 5.10 for a discussion of mitigation measures for parkland impacts associated with the Nobel Drive Coaster Station.

5.4.4 Cumulative Impacts

There are no major public projects proposed within the visual environment of the TSM Alternative improvements. The only major public project identified within the visual corridor of the Balboa LRT Extension/Nobel Drive Coaster Station Alternative is the Regents Road bridge over Rose Canyon. This bridge is planned for a location approximately 1.6 kilometers (1 mile) west of the proposed Nobel Drive Coaster Station, and may result in slight degradation of visual quality in the Regents Road area. Due to the distance between the two projects, and the proposed mitigation for the Nobel Drive Coaster Station, this cumulative effect of the new Coaster station is regarded as a minor visual effect, and no further mitigation is recommended.
<table>
<thead>
<tr>
<th>Botanical Name</th>
<th>Location</th>
<th>Mature Size</th>
<th>Installation Requirements</th>
<th>On-Center Spacing</th>
<th>Mit. Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Caltrans ROW</td>
<td>Adj. Slopes</td>
<td>Typical Height</td>
<td>Typical Spread</td>
<td>Growth Rate</td>
</tr>
<tr>
<td>TREES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arbutus unedo</td>
<td>●</td>
<td></td>
<td>15-30’</td>
<td>15-30’</td>
<td>Slow-Mod</td>
</tr>
<tr>
<td>Eucalyptus cladoalyx</td>
<td>●</td>
<td></td>
<td>45-75’</td>
<td>25-50’</td>
<td>Moderate</td>
</tr>
<tr>
<td>Jacaranda mimosifolia</td>
<td>●</td>
<td></td>
<td>25-40’</td>
<td>15-30’</td>
<td>Slow-Mod</td>
</tr>
<tr>
<td>Platanus racemosa</td>
<td>●</td>
<td></td>
<td>50-90’</td>
<td>30-50’</td>
<td>Rapid</td>
</tr>
<tr>
<td>Prunus lyonii</td>
<td>●</td>
<td></td>
<td>30-40’</td>
<td>20-30’</td>
<td>Moderate</td>
</tr>
<tr>
<td>Quercus agrifolia</td>
<td>●</td>
<td></td>
<td>30-60’</td>
<td>40-70’</td>
<td>Moderate</td>
</tr>
<tr>
<td>Schinus terebinthifolius</td>
<td>●</td>
<td></td>
<td>20-30’</td>
<td>20-30’</td>
<td>Moderate</td>
</tr>
<tr>
<td>PALMS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Washington robusta</td>
<td>●</td>
<td></td>
<td>60-100’</td>
<td>10-12’</td>
<td>Rapid</td>
</tr>
<tr>
<td>SHRUBS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adenostoma fasciculatum</td>
<td>●</td>
<td>●</td>
<td>5-12’</td>
<td>5-8’</td>
<td>Moderate</td>
</tr>
<tr>
<td>Arbutus unedo ‘compacta’</td>
<td>●</td>
<td></td>
<td>8-12’</td>
<td>8-12’</td>
<td>Slow-Mod</td>
</tr>
<tr>
<td>Arctostaphylos spp.</td>
<td>●</td>
<td></td>
<td>2-4’</td>
<td>4-6’</td>
<td>Moderate</td>
</tr>
<tr>
<td>Baccharis sarothroides</td>
<td>●</td>
<td>●</td>
<td>6-12’</td>
<td>4-8’</td>
<td>Rapid</td>
</tr>
<tr>
<td>Ceanothus spp.</td>
<td>●</td>
<td>●</td>
<td>3-7’</td>
<td>4-10’</td>
<td>Mod-Rapid</td>
</tr>
<tr>
<td>Eriogonum fasciculatum</td>
<td>●</td>
<td>●</td>
<td>2-3’</td>
<td>2-3’</td>
<td>Rapid</td>
</tr>
<tr>
<td>Heteromeles arbutifolia</td>
<td>●</td>
<td>●</td>
<td>12-18’</td>
<td>15-20’</td>
<td>Moderate</td>
</tr>
<tr>
<td>Myoporum laetum</td>
<td>●</td>
<td>●</td>
<td>15-20’</td>
<td>15-20’</td>
<td>Rapid</td>
</tr>
<tr>
<td>Nerium oleander</td>
<td>●</td>
<td>●</td>
<td>5-15’</td>
<td>5-15’</td>
<td>Mod-Rapid</td>
</tr>
<tr>
<td>Nerium oleander ‘Petite’</td>
<td>●</td>
<td>●</td>
<td>3-4’</td>
<td>3-4’</td>
<td>Mod-Rapid</td>
</tr>
<tr>
<td>Prunus ilicifolia</td>
<td>●</td>
<td></td>
<td>15-20’</td>
<td>15-20’</td>
<td>Moderate</td>
</tr>
<tr>
<td>Quercus dumosa</td>
<td>●</td>
<td>●</td>
<td>3-10’</td>
<td>6-8’</td>
<td>Moderate</td>
</tr>
<tr>
<td>Rhamnus californica</td>
<td>●</td>
<td>●</td>
<td>8-10’</td>
<td>8-10’</td>
<td>Moderate</td>
</tr>
<tr>
<td>Rhamnus crocea</td>
<td>●</td>
<td>●</td>
<td>6-8’</td>
<td>6-8’</td>
<td>Moderate</td>
</tr>
<tr>
<td>Rhus integrifolia</td>
<td>●</td>
<td>●</td>
<td>6-15’</td>
<td>6-15’</td>
<td>Moderate</td>
</tr>
<tr>
<td>Salvia spp.</td>
<td>●</td>
<td>●</td>
<td>2-5’</td>
<td>2-5’</td>
<td>Mod-Rapid</td>
</tr>
</tbody>
</table>
Table 5.4-1
Mid-Coast Landscape Mitigation Requirements

<table>
<thead>
<tr>
<th>Botanical Name</th>
<th>Location</th>
<th>Typical Height</th>
<th>Typical Spread</th>
<th>Growth Rate</th>
<th>Size</th>
<th>Min. Height</th>
<th>Min. Spread</th>
<th>Min. Center Spacing</th>
<th>Mit. Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acacia redolens</td>
<td>●</td>
<td>3-12&quot;</td>
<td>15-30&quot;</td>
<td>Rapid</td>
<td>1 gal</td>
<td>4-8&quot;</td>
<td>6-12&quot;</td>
<td>20'-0&quot;</td>
<td>100%</td>
</tr>
<tr>
<td>Baccharis pilularis</td>
<td>●</td>
<td>2-3'</td>
<td>4-6'</td>
<td>Mod-Rapid</td>
<td>Flats</td>
<td>—</td>
<td>—</td>
<td>6'-0&quot;</td>
<td>100%</td>
</tr>
<tr>
<td>Carpobrota edulis</td>
<td>●</td>
<td>6-12&quot;</td>
<td>24-30&quot;</td>
<td>Rapid</td>
<td>Flats</td>
<td>—</td>
<td>—</td>
<td>12&quot;</td>
<td>100%</td>
</tr>
<tr>
<td>Delosperma alba</td>
<td>●</td>
<td>6-12&quot;</td>
<td>12-18&quot;</td>
<td>Rapid</td>
<td>Flats</td>
<td>—</td>
<td>—</td>
<td>12&quot;</td>
<td>100%</td>
</tr>
<tr>
<td>Lonicera japonica &quot;Halliana&quot;</td>
<td>●</td>
<td>18-24&quot;</td>
<td>24-48&quot;</td>
<td>Rapid</td>
<td>Flats</td>
<td>—</td>
<td>—</td>
<td>12&quot;</td>
<td>100%</td>
</tr>
<tr>
<td>BOUGAINVILLEA spp.</td>
<td>●</td>
<td>—</td>
<td>—</td>
<td>Rapid</td>
<td>1 gal</td>
<td>12-15&quot;</td>
<td>6-12&quot;</td>
<td>8'-0&quot;</td>
<td>60%</td>
</tr>
<tr>
<td>Clytostoma callistegoidea</td>
<td>●</td>
<td>—</td>
<td>—</td>
<td>Rapid</td>
<td>1 gal</td>
<td>18-24&quot;</td>
<td>12&quot;</td>
<td>10'-0&quot;</td>
<td>100%</td>
</tr>
<tr>
<td>Discocactus buccinatoria</td>
<td>●</td>
<td>—</td>
<td>—</td>
<td>Rapid</td>
<td>1 gal</td>
<td>12-24&quot;</td>
<td>6-12&quot;</td>
<td>8'-0&quot;</td>
<td>100%</td>
</tr>
<tr>
<td>Parthenocissus tricuspidata</td>
<td>●</td>
<td>—</td>
<td>—</td>
<td>Rapid</td>
<td>1 gal</td>
<td>12-18&quot;</td>
<td>6-10&quot;</td>
<td>10'-0&quot;</td>
<td>90%</td>
</tr>
</tbody>
</table>

* With proper installation and maintenance, plant materials should be able to reach this percentage of the mature plant size within a three year period.

Source: KTU+A; February 1994

5.5 AIR QUALITY

This section presents a summary of the regional and local air quality impacts associated with the alternatives evaluated in this FEIS. Detailed technical information can be found in the supporting technical report, Air Quality Impact, December 8, 1993, which is incorporated by reference into this FEIS. Further analyses of project impacts for the year 2010 were made at the request of Caltrans and the Federal Highway Administration and are presented in the report, Supplemental Air Quality Impact, January 1994. An updated local air quality analysis has been conducted for this FEIS, as described in the Summarized Air Quality Report, June 1998.

The AA/DEIS/DEIR air quality analysis showed that none of the AA/DEIS/DEIR alternatives would result in adverse impacts to air quality at the regional level. Traffic and energy analyses conducted for this FEIS indicated that the FEIS alternatives would result in no substantial increase in vehicle miles traveled (VMT) or energy consumption, and therefore it was determined that additional
regional air quality analyses are not necessary. Additional microscale carbon monoxide analysis was performed for the FEIS alternatives, however, to update findings for conformity purposes.

5.5.1 Regional Impacts

Regional air quality impacts were evaluated based on the results of the air quality analyses conducted for the AA/DEIS/DEIR and the FEIS traffic analyses. Two sources of regional pollutant emission impacts were considered in the AA/DEIS/DEIR analysis of impacts:

- Impacts related to auto/truck and urban bus vehicle miles traveled (VMT) and daily trips changes; and
- Impacts related to the electrical power generation associated with increased LRT VMT.

A discussion of the AA/DEIS/DEIR regional air quality analysis and FEIS traffic analysis follows.

5.5.1.1 Regional Emissions From Auto/Truck and Bus Travel. Regional air quality impact of auto/truck and bus travel consists of the change in pollutant emissions that would result from a change in daily vehicle miles traveled (VMT) by passenger vehicles and buses and the number of daily trips by passenger vehicles. For the purpose of this assessment, region was defined as the entire San Diego Air Basin, which includes all of San Diego County. Table 5.5-1 presents the daily automobile/truck VMT and urban diesel bus daily regional VMT for 2015 for the alternatives evaluated in the FEIS.

Compared with the 2015 No-Build Alternative, the Balboa LRT Extension/Nobel Drive Coaster Station Alternative (Build Alternative) would result in a decrease of 83,300 in daily regional auto/truck VMT. The TSM Alternative would result in a decrease of 120,700 VMT. The difference between the TSM and Build alternatives is within the traffic model’s margin of error. These figures indicate that a reduction in regional emissions would result under both alternatives.

<table>
<thead>
<tr>
<th>Table 5.5-1</th>
<th>Daily Automobile/Truck Trips and VMT and Urban Diesel Bus Daily Regional VMT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternative</td>
<td>Auto &amp; Truck VMT (x 1000)</td>
</tr>
<tr>
<td>2015 No-Build (baseline used in FEIS)</td>
<td>99,456.8</td>
</tr>
<tr>
<td>2015 TSM - change from No-Build</td>
<td>-120.7</td>
</tr>
<tr>
<td>2015 Balboa LRT Extension/Nobel Drive Coaster Station - change from No-Build</td>
<td>- 83.3</td>
</tr>
</tbody>
</table>

5.5.1.2 **Regional Emission Impacts From Electrical Power Generation.** An air quality analysis of emissions resulting from the power generation required to support increased LRT operations was conducted for the AA/DEIS/DEIR. Results of this analysis are presented in Table 5.5-2. Increases in electrical power generation for the non-LRT AA/DEIS/DEIR alternatives were found to be minimal and were assumed to be 0. As shown in the table, increases in regional pollutants associated with LRT power consumption and generation for the AA/DEIS/DEIR alternatives were found to be relatively small, but would slightly reduce the emissions benefits resulting from the auto/truck and bus emission reductions. Daily LRT power consumption for the Balboa LRT Extension/Nobel Drive Coaster Station Alternative would be approximately 391 megawatt-hours (Mwh) per day, which is less than one-half the power consumed under the AA/DEIS/DEIR LRT alternatives. It can be concluded that any increase in emissions due to power generation for the Balboa LRT Extension/Nobel Drive Coaster Station Alternative would be relatively small in comparison with, and would be wholly offset by, the reductions in motor vehicle emissions.

5.5.2 **Local Impacts**

This section provides the results of microscale analyses conducted for the AA/DEIS/DEIR and carbon monoxide microscale analysis conducted in preparation of the FEIS. Local air quality impacts related to construction are discussed in Section 5.13.4.

5.5.2.1 **AA/DEIS/DEIR Carbon Monoxide Microscale Analysis.** Eight critical sites in the vicinity of improvements proposed under the AA/DEIS/DEIR alternatives were identified for initial screening using 2005 and 2010 traffic volumes. The results of the analysis at three of these sites are relevant to this FEIS, since the sites are also located in the vicinity of improvements under the FEIS alternatives (as shown in Table 5.5-3). The results of the AA/DEIS/DEIR analysis indicate that traffic generated by stations located at Clairemont Drive, Balboa Avenue, and Nobel Drive would result in either a reduction of emissions, or only a nominal increase in pollutants.

On the basis of these results, it can be reasonably concluded that the FEIS alternatives that propose P&R lots and rail stations at these sites are unlikely to generate local air quality impacts. This conclusion was supported by the findings of intersection traffic analyses (Section 4.4.3) which showed no traffic impacts for either the TSM or Build Alternative.
### Table 5.5-2
Daily Regional Pollutant Emissions From Electrical Power Generation

<table>
<thead>
<tr>
<th>Alternative</th>
<th>LRT VMT (Daily)</th>
<th>Power Consumption(^1) (MWh/day)</th>
<th>Pollutant Emissions (pounds/day)(^2)</th>
<th>Change from 2005 No-Build (pounds/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>CO</td>
<td>NO x</td>
</tr>
<tr>
<td>1990 Existing</td>
<td>4120</td>
<td>25.82</td>
<td>5.68</td>
<td>12.39</td>
</tr>
<tr>
<td>2005 No-Build</td>
<td>12,176</td>
<td>76.29</td>
<td>16.78</td>
<td>36.62</td>
</tr>
<tr>
<td>2005 TSM(^3)</td>
<td>12,176</td>
<td>76.29</td>
<td>16.78</td>
<td>36.62</td>
</tr>
<tr>
<td>2005 LRT 1-5</td>
<td>13,896</td>
<td>87.07</td>
<td>19.16</td>
<td>41.79</td>
</tr>
<tr>
<td>2005 LRT Genesee</td>
<td>13,866</td>
<td>86.88</td>
<td>19.11</td>
<td>41.70</td>
</tr>
</tbody>
</table>

\(^1\) Assumes power consumption of 0.00267 MWh per LRT VMT including usage for traction, station lighting, auxiliary power, shops and offices. Unit is megawatt (1,000 kilowatts) hours per day.

\(^2\) Assumes 30 percent of emissions-producing electrical power would be produced within the San Diego Air Basin (San Diego Gas & Electric, January 1993).

\(^3\) Emission rates are from SDG&E projections for the year 2005, based on their current and anticipated emissions and sources. (Source: Mr. Jack Brunton, Environmental Services Manager SDG&E).

\(^4\) Results for the TSM/Commuter Rail and Commuter Rail Tunnel Alternatives would be similar.

1993:

- CO = 0.22 lbs/Mwh
- TSP = 0.09 lbs/Mwh
- NO x = 0.48 lbs/Mwh
- SO x = 0.24 lbs/Mwh
- ROG = 0.05 lbs/Mwh

Source: California Air Resources Board; BRW, Inc., January 1993
Table 5.5-3
Microscale Analysis Conducted for AA/DEIS/DEIR Alternatives
2005 Predicted Maximum Carbon Monoxide Concentrations
(Parts per Million)

<table>
<thead>
<tr>
<th>Location</th>
<th>Nearby Improvement(s) under FEIS Alternatives</th>
<th>No-Build</th>
<th>TSM</th>
<th>LRT 1-S</th>
<th>LRT Genesee</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1-Hr</td>
<td>8-Hr</td>
<td>1-Hr</td>
<td>8-Hr</td>
</tr>
<tr>
<td>1. Clairemont Drive/Denver Street</td>
<td>Clairemont P&amp;R lot/Clairemont LRT Station</td>
<td>11.7</td>
<td>6.9</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>2. Genesee Avenue/Nobel Drive</td>
<td>Nobel Drive Coaster Station</td>
<td>14.6</td>
<td>8.6</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>3. East Mission Bay Drive/Garnet Avenue</td>
<td>Balboa P&amp;R lot/ Balboa LRT Station</td>
<td>14.7</td>
<td>8.7</td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>

Notes:

a. Federal Ambient Air Quality Standards (parts per million): 1-Hour = 35.0
   Federal Ambient Air Quality Standards (parts per million): 8-Hour = 9.0
b. 8-Hour concentrations calculated using a persistence factor of 0.59 (ratio of 8-Hour to 1-Hour concentrations as determined by SDAPCD Oceanside Station Monitoring Data).
c. *= traffic impacts insufficient to warrant CO analysis.
d. Impacts for the TSM/Commuter Rail and Commuter Rail Tunnel Alternatives would be similar.

Source: BRW, Inc., January 1993

5.5.2.3 Carbon Monoxide Modeling for FEIS Alternatives. Additional carbon monoxide (CO) analyses were conducted for three intersections in the vicinity of transit stations and P&R lots proposed under the FEIS alternatives. Intersections were selected based on the proximity to sensitive receptors and existing congestion. Four scenarios (existing 1998, No-Build 2015, TSM 2015, and Build 2015) were modeled based on traffic data (provided in Chapter 4) for selected intersections. All four scenarios assumed “worst case” conditions for meteorological variables. Future ambient CO concentrations were estimated using a ratio of future-to-current traffic multiplied by a ratio of future-to-current emission factors, as required by the USEPA. Emission factors were generated using EMFAC7F, the most recent, available air quality model. Results of the analysis, as shown in Table 5.5-4, indicate that no exceedences of CO standards would result from any FEIS alternative.

5.5.3 Conformity with State Implementation Plan

FTA cannot approve funding for project activities beyond preliminary engineering until it has reviewed the project in accordance with the EPA transportation air quality conformity regulations (40 CFR Part 93) and has found that the project conforms. This regulation, which became effective in December 1993, establishes criteria for project conformity that cover all possible situations.
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1 Hour (Std. is 35 ppm)</td>
<td>8 Hour (Std. is 9 ppm)</td>
<td>1 Hour (Std. is 35 ppm)</td>
<td>8 Hour (Std. is 9 ppm)</td>
</tr>
<tr>
<td>Nobel/ Towne Center</td>
<td>Nearest residence</td>
<td>8.9</td>
<td>6.6</td>
<td>2.8</td>
<td>2.1</td>
</tr>
<tr>
<td></td>
<td>Station site</td>
<td>6.0</td>
<td>4.4</td>
<td>1.8</td>
<td>1.3</td>
</tr>
<tr>
<td>Clairemont/ I-5</td>
<td>Nearest residence</td>
<td>11.8</td>
<td>8.7</td>
<td>3.3</td>
<td>2.4</td>
</tr>
<tr>
<td></td>
<td>Station site</td>
<td>18.7</td>
<td>13.8</td>
<td>5.1</td>
<td>3.8</td>
</tr>
<tr>
<td>Balboa/ Morena</td>
<td>Nearest residence</td>
<td>8.5</td>
<td>6.3</td>
<td>2.4</td>
<td>1.8</td>
</tr>
<tr>
<td></td>
<td>Station site</td>
<td>13.6</td>
<td>10.1</td>
<td>3.7</td>
<td>2.7</td>
</tr>
</tbody>
</table>

* Ambient carbon monoxide concentration for 1998 is estimated at 4.3 ppm for the 1-hour and 3.2 ppm of the 8 hour.
** Ambient carbon monoxide concentration for 2015 is estimated at 1.27 ppm for the 1-hour and 0.95 ppm of the 8 hour.

The RTIP has been demonstrated by SANDAG to conform to the state air quality implementation plan (SIP) for the San Diego Air Basin. The carbon monoxide modeling results presented in Table 5.5-4 demonstrate that the Mid-Coast LRT Project, Balboa Extension and Nobel Drive Coaster Station will neither cause nor contribute to any carbon monoxide violations in the year 2010. The conformity criteria that the Mid-Coast LRT Project, Balboa Extension and Nobel Drive Coaster Station must satisfy and the status of the project in meeting these criteria are as follows.

• §93.110 The conformity determination must be based on the latest planning assumptions.

Assumptions used in the transportation and traffic analyses for this project, upon which the microscale carbon monoxide and regional criteria pollutant analyses are based, are derived from SANDAG's most recently adopted population, employment, travel, and congestion estimates. Travel forecasts are based on SANDAG's growth assumptions for the Year 2015.

• §93.111 The conformity determination must be based on the latest emission estimation model available.

All emissions estimates are based on the latest available version of the California Air Resources Board's model. Carbon Monoxide modeling was conducted using the EMFAC7F1.1 model.

• §93.112 The Metropolitan Planning Organization must make the conformity determination according to the consultation procedures of this rule and the implementation plan revision required by §51.390.

The Balboa LRT Extension/Nobel Drive Coaster Station Alternative was included in the most recent (2000) Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (RTIP). SANDAG has completed its conformity determination on the 2000 RTP and RTIP and followed the consultation procedures in 40 CFR Part 93, as amended, before making its conformity determination. The RTP and RTIP were available for public review prior to adoption.

• §93.114 There must be a currently conforming transportation plan and currently conforming TIP at the time of project approval.

The current transportation plan and TIP are, respectively, the 2000 Regional Transportation Plan (RTP) and the 2000 Regional Transportation Improvement Program (RTIP). In accordance with the EPA/DOT Guidelines on Conformity of December 1993, this plan and TIP were reviewed by SANDAG and the USDOT and were found to conform.

• §93.115 The project must come from a conforming transportation plan and program.

The Mid-Coast LRT Project, Balboa Extension and Nobel Drive Coaster Station is included in the 2000 Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (RTIP), which were found by FHWA and FTA to conform with the Clean Air Act, as documented in a joint letter from FHWA and FTA to SANDAG dated April 13, 2000.
• §93.116 The FHWA/FTA project must not cause or contribute to any new localized carbon monoxide or PM$_{10}$ violations or increase the frequency or severity of any existing carbon monoxide and PM$_{10}$ violations in carbon monoxide and PM$_{10}$ nonattainment and maintenance areas.

By its nature, the Balboa LRT Extension/Nobel Drive Coaster Station Alternative would result in changes in travel patterns and concentrations of motor vehicle traffic in the vicinity of the light rail station areas, which would cause small increases in pollutant concentrations for these road segments, but no standards would be violated. At the same time, both the Balboa LRT Extension/Nobel Drive Coaster Station and the TSM Alternatives would result in a decrease in regional vehicle trips and vehicle miles traveled, which would reduce the emission of criteria pollutants, when compared to the No-Build Alternative.

The microscale carbon monoxide analysis indicates that the project would neither cause nor contribute to new carbon monoxide violations during operation. The source of PM$_{10}$ emissions typically associated with transportation is the effect of tires stirring up dust on roadways. PM$_{10}$ is not associated with light rail transit operations. The project can be considered beneficial in terms of PM$_{10}$ in that it would remove vehicle trips from area roadways.

• §93.117 The FHWA/FTA project must comply with PM$_{10}$ control measures in the applicable implementation plan.

The project would comply with all PM$_{10}$ control measures in the most recent SIP document for the region. Although construction dust emissions are considered a contributor to PM$_{10}$ exceedences, SANDAG does not consider construction-related PM$_{10}$ in its regional emissions analysis, and the relevant SIP document for the San Diego Air Pollution Control District does not have any requirements for controlling construction-related PM$_{10}$.

• §93.118 The transportation plan and TIP must be consistent with the motor vehicle emissions budget(s) in the applicable implementation plan (or implementation submission).

The 2000 RTP is consistent with the motor vehicle emissions budget as contained in the most recent SIP document for the region. Documentation of the motor vehicle emissions budget analysis is provided in Appendix L of the 2000 RTP. Emissions forecasts were produced for three scenarios, consistent with the 2023 Revenue-Constrained Plan highway and transit network alternatives. Emissions analyses were prepared for the years 2010, 2020, and 2023, using SANDAG 2020 growth forecasts, travel forecasts developed with TRANPLAN, and the EMFAC7F1.1 emissions model. Results of the emissions analysis documented in Appendix L of the 2020 RTP showed that the projected emissions of carbon monoxide, oxides of nitrogen and reactive organic gases from the 2023 Revenue-Constrained plan are lower than the SIP emissions budgets. FTA and FHWA found the 2000 RTP to conform with the Clean Air Act in a joint letter to SANDAG dated April 13, 2000.
Given that applicable conformity criteria have been met, as described above, FTA makes an affirmative finding of conformity for the Balboa LRT Extension/Nobel Drive Coaster Station Alternative.

5.5.4 Cumulative Impacts

A reasonable assessment of cumulative air quality impacts of the various project alternatives can be made by comparing project impacts with the 2015 No-Build Alternative condition, which includes all other major planned transportation improvements for the Mid-Coast Corridor. Based on the impacts identified, it can be concluded that the Balboa LRT Extension/Nobel Drive Coaster Station Alternative would reduce the level of regional pollutants relative to the No-Build Alternative in 2015 and would, therefore, have no negative cumulative impacts on regional air quality.

The Balboa LRT Extension/Nobel Drive Coaster Station Alternative would reduce total regional emissions. The very slight decrease in regional emissions attributable to the TSM Alternative is not significant. No cumulative local, microscale carbon monoxide impacts were identified for any of the alternatives. Despite very slight increases in CO concentrations at the most heavily affected intersections, no exceedences of state or federal air quality standards were projected for any of the alternatives considered in this FEIS. Project construction emissions would be temporary and can be reduced through the mitigation measures identified in Section 5.13.4.

5.6 NOISE AND VIBRATION

The results of the noise and vibration impact analysis are presented in this section. Detailed technical information can be found in the Mid-Coast Corridor Noise and Vibration Report, January 26, 1994, which was prepared for the AA/DEIS/DEIR, and in technical memoranda dated November 1, 1995, and December 16, 1998, regarding supplemental noise measurements conducted for the FEIR and this FEIS. Since the 1994 analyses included monitoring sites appropriate to the Balboa LRT Extension and TSM improvements, and evaluated alternatives that would generate comparable noise, it was determined that the additional noise analysis required for the FEIS would be at the proposed Nobel Drive Coaster Station site. Short-term noise impacts associated with construction are discussed in Section 5.13.5.

5.6.1 Noise

A comparison of existing and 2010 noise levels for project alternatives is presented in this section. In the residential area where mitigation in the form of sound barrier walls is proposed, notification of meetings or public hearings occurred during AA/DEIS/DEIR circulation.

5.6.1.1 Noise Analysis Methodology

Noise Analysis Conducted for the AA/DEIS/DEIR. Tables 5.6-1 and 5.6-2 compare noise levels measured during the preparation of the AA/DEIS/DEIR and for a 1995 supplemental noise analysis.
to projected noise levels at locations where monitoring was conducted. These monitoring locations are shown on Figures 3.6-1 through 3.6-3 in Section 3.6. Noise levels are projected to increase for Year 2010 and 2015 conditions, primarily due to increased vehicular traffic volumes on I-5. Other contributors to increased noise levels, although to a much lesser extent, include increased local street traffic volumes, and planned increases in Amtrak and NCTD commuter rail service. The appropriate criteria for assessing the respective impacts of light rail noise generally are the FTA Noise Abatement Criteria (see Section 3.6.1).

Considerations Regarding FEIS Alternatives. The locations of improvements and bus routes proposed under the FEIS alternatives are entirely within the AA/DEIS/DEIR study area. Five of the AA/DEIS/DEIR noise monitoring sites are in the vicinity of the TSM or Balboa LRT Extension/Nobel Drive Coaster Station Alternatives. The AA/DEIS/DEIR TSM and commuter rail alternatives included, respectively, bus service comparable to the FEIS TSM Alternative, and a Coaster station at the Nobel Drive Station site for the FEIS Build Alternative. The results of noise analysis for these alternatives are shown on Table 5.6-1, along with the results from the 1995 supplemental noise analysis. The LRT alternatives evaluated in the AA/DEIS/DEIR included light rail along the Balboa LRT Extension alignment. The results of noise analysis for the AA/DEIS/DEIR LRT alternatives are shown on Table 5.6-2, along with the results from the 1995 supplemental noise analysis.

Where the AA/DEIS/DEIR analysis and 1995 supplemental noise analysis showed no impacts resulting from the TSM, commuter rail alternatives (shown on Table 5.6-1), or the LRT alternatives (shown on Table 5.6-2), no impacts would be expected for the FEIS alternatives.

5.6.1.2 No-Build and TSM Alternatives

Compared with the No-Build Alternative, the TSM Alternative would involve increased bus traffic in the project area. The increased bus traffic would likely change peak hour noise levels by no more than 1 dBA $L_{eq}$, which would be less than or equal to the increase projected as a result of future traffic volume increases. In addition to changes in traffic volumes, the TSM Alternative would involve P&R improvements at two locations. No noise impact would be likely as a result of these improvements. Projections indicate the TSM Alternative would not cause a perceptible change in ambient noise levels.
### Table 5.6-1

Noise Impacts of the AA/DEIS/DEIR TSM/Commuter Rail and Commuter Rail Tunnel Alternatives

<table>
<thead>
<tr>
<th>Location</th>
<th>Existing-Based on Measurement</th>
<th>Projected 2010L_{da}</th>
<th>No-Build</th>
<th>TSM, Both TSM/Commuter Rail</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>L_{da} Peak Hourly L_{eq}</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Littlefield and Morena (250'/76m from I-5)</td>
<td>70 [1] 71</td>
<td>71</td>
<td>71</td>
<td>71</td>
</tr>
<tr>
<td>2S. 2438 Denver Street (south of Clairemont Dr.) [2]</td>
<td>56 58</td>
<td>57</td>
<td>57</td>
<td></td>
</tr>
<tr>
<td>3. Toler Elementary School</td>
<td>63 [1] 62</td>
<td>64</td>
<td></td>
<td>64</td>
</tr>
<tr>
<td>4. Intersection Paul Jones/Brandywine (400'/122m from I-5)</td>
<td>64 [1] 63</td>
<td>66</td>
<td></td>
<td>66</td>
</tr>
<tr>
<td>4S. 3267 Paul Jones (north of Bunker Hill St.) - East Side [2]</td>
<td>65 64</td>
<td>66</td>
<td></td>
<td>66</td>
</tr>
<tr>
<td>4S. 3267 Paul Jones (north of Bunker Hill St.) - West Side [2]</td>
<td>70 (est.) 69 (est.)</td>
<td>71</td>
<td></td>
<td>71</td>
</tr>
<tr>
<td>19. La Jolla Point Apartments</td>
<td>65 61</td>
<td>66</td>
<td></td>
<td>66 [3]</td>
</tr>
</tbody>
</table>

**Note:** All noise levels are expressed as dBA.

[1] Estimated based on short-term measurement

[2] These supplemental measurements were conducted/estimated in 1995 by Harris Miller Miller & Hanson. All other measurements/estimates were done in 1993 and included in the AA/DEIS/DEIR.

[3] Not applicable to TSM and Commuter Rail Tunnel

dBA = decibels

L_{da} = changes in day/night sound levels

L_{eq} = energy equivalent level

L_{max} = maximum noise level (e.g., train passby)

**Sources:** ICF Kaiser Engineers and Harris Miller Miller & Hanson, Inc., 1993; Harris Miller Miller & Hanson, Inc., 1995
### Table 5.6-2
Noise Impact of LRT Alternative - South Segment

<table>
<thead>
<tr>
<th>Location</th>
<th>Existing, Based on Measurement</th>
<th>Project 2010 $L_{eq}$</th>
<th>$L_{eq}$ Increase with LRT</th>
<th>Impact Limits for LRT $L_{eq}$[1]</th>
<th>Proj. LRT $L_{eq}$</th>
<th>Degree of Impact [1]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Littlefield and Morena (250’ from I-5)</td>
<td>$L_{dn}$ Peak Hourly $L_{eq}$</td>
<td>No-Build</td>
<td>LRT</td>
<td>No-Build + LRT</td>
<td>Rel. To Exist</td>
<td>Impact</td>
</tr>
<tr>
<td>1. Littlefield and Morena (250’ from I-5)</td>
<td>70 [2] 71</td>
<td>71</td>
<td>57</td>
<td>71</td>
<td>1</td>
<td>65</td>
</tr>
<tr>
<td>2S. 2438 Denver Street (south of Clairemont Dr.) [3]</td>
<td>56</td>
<td>58</td>
<td>57</td>
<td>44</td>
<td>57</td>
<td>1</td>
</tr>
<tr>
<td>3. Toler Elementary School</td>
<td>63 [2] 62</td>
<td>64</td>
<td>58</td>
<td>65</td>
<td>2</td>
<td>65</td>
</tr>
<tr>
<td>4. Intersection Paul Jones/Brandywine (400’ from I-5)</td>
<td>64 [2] 63</td>
<td>66</td>
<td>60</td>
<td>67</td>
<td>3</td>
<td>61</td>
</tr>
<tr>
<td>4S. 3267 Paul Jones (north of Bunker Hill St.) - East Side [3]</td>
<td>65</td>
<td>64</td>
<td>66</td>
<td>53</td>
<td>66</td>
<td>1</td>
</tr>
<tr>
<td>4S. 3267 Paul Jones (north of Bunker Hill St.) - West Side [3]</td>
<td>70 (est.)</td>
<td>69 (est.)</td>
<td>71</td>
<td>54</td>
<td>71</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: All noise levels are expressed as decibels (dBA) $L_{dn} = \text{changes in day/night sound levels}$ $L_{eq} = \text{energy equivalent level}$ $L_{max} = \text{maximum noise level (e.g., train passby)}$

[1] Based on 1996 FTA Criteria (See Section 3.6)
[2] Estimate based on short term measurement
[3] These supplemental measurements were conducted/estimated in 1995 by Harris Miller Miller & Hanson. All other measurements/estimates were done in 1993 and included in the AA/DEIS/DEIR.

Sources: ICF Kaiser Engineer, Inc., and Harris Miller Miller & Hanson, Inc. 1993; Harris Miller Miller & Hanson, Inc., 1995

### 5.6.1.3 Balboa LRT Extension/Nobel Drive Coaster Station Alternative

**Impacts**

Due to existing noise from traffic on arterial roadways, I-5, and trains on the existing railroad tracks, the projected noise levels from the Balboa LRT Extension are not expected to exceed FTA noise impact criteria. Noise analysis results in the vicinity of the proposed Balboa Station indicated that the construction of new ramps to access the station may result in noise impacts. Additional analysis was conducted for the AA/DEIS/DEIR in this location. The results of this analysis are discussed below and shown in Table 5.6-3.

ENVIROMENTAL CONSEQUENCES

5-39
Table 5.6-3
Morena Boulevard/Balboa Avenue Interchange Noise Projections
Existing Vs. Year 2010 Conditions

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Projected Peak Hour L_{eq}(dB)</th>
<th>Increase Relative to Existing (dB)</th>
<th>Increase Relative to No-Build (dB)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EB-NB Ramp</td>
<td>NB-EB Ramp</td>
<td>Total</td>
</tr>
<tr>
<td>Existing (based on 1988 traffic counts)</td>
<td>61.3</td>
<td>61.4</td>
<td>64.4</td>
</tr>
<tr>
<td>No-build, 2010</td>
<td>63.2</td>
<td>63.1</td>
<td>66.2</td>
</tr>
<tr>
<td>Balboa LRT Extension, 2010</td>
<td>65.3</td>
<td>63.1</td>
<td>67.3</td>
</tr>
</tbody>
</table>

dB = decibels  
L_{eq} = energy equivalent level  
Source: Harris Miller Miller and Hanson, Inc., December 17, 1993

**Balboa Avenue LRT Station** - The Balboa Avenue Station would be constructed between I-5 and Morena Boulevard. The station would accommodate 272 P&R spaces and a bus drop-off/circulation area. Station activity areas would be approximately 92 meters (300 feet) from the closest residence. Activity at the Balboa Avenue Station would be concentrated around AM and PM peak-hour service. It is not likely that adverse noise impacts would result from LRT train operations at the Balboa Avenue Station, because the freeway/arterial system surrounding the station causes a high ambient noise level.

Assuming that horns are not used to warn patrons on the station platform, the only additional noise would be caused as trains brake entering the station and accelerate leaving the station. Based on an estimated L_{eq} of 68 dBA, the threshold for noise impact with the FTA criteria is a train L_{eq} of 63 dBA, well below the projected LRT L_{eq}. No significant adverse noise impacts are projected to occur at this station.

The Balboa Avenue LRT Station would require existing Balboa Avenue traffic destined to southbound Morena Boulevard to be redirected to the northbound loop-ramp. Analysis conducted for the AA/DEIS/DEIR indicated that this increase in traffic at the loop-ramp would cause an increase in noise levels of about 2 dB from the EB-NB ramp and about 1 dB increase in overall peak L_{eq} (Table 5.6-3). Although this is a small change, the projected noise levels are close to the FHWA noise abatement criteria of 67 dB L_{eq}. The analysis conducted for the AA/DEIS/DEIR concluded that a sound barrier along the northbound loop-ramp may be required. Based on the relatively limited area of potential impact and the limited specificity of existing noise models, MTDB has elected simply to provide noise attenuation walls along the top of the slope above the loop ramp, as shown in Figure 5.6-1.

**Tecolote and Clairemont LRT Stations** - No sensitive receptors were identified in the vicinity of the proposed Tecolote Station. In the Clairemont Station area, there is condominium development across Morena Boulevard and Clairemont Drive from the proposed station site. However, any noise generated by LRT station operations would be imperceptible due to existing traffic noise. No noise impacts are expected at these station locations.
Nobel Drive Coaster Station - Plans for this station area were revised during preliminary engineering, and the station platform is located further east than shown in the conceptual plans included in the AA/DEIS/DEIR. The revised location of the station platform is shown in Figure 2.4-33, in Chapter 2. As a result of the platform reconfiguration, the proximity to sensitive receptors changed, and additional noise analysis was required. The sensitive receptor nearest the proposed station is the Towne Centre Racquet Club Apartment complex, approximately 70 meter (230 foot) horizontal distance from the train tracks, and 12 meters (40 feet) above the tracks with a direct view of the tracks. Other sensitive receptors include the Renaissance residential development on the north side of Nobel Drive, approximately 120 meters (400 feet) from the tracks. Commuter rail activity would be concentrated around the AM and PM peak hour. A result of locating the station at this site is that neighboring residential areas could experience some increased noise exposure. The potential noise sources include:

- Horns sounded by Amtrak and freight train engineers, as required to warn people who may be on the station platform. Based on measurements just north of the Poinsettia Coaster Station, the Amtrak trains are only about 3 dBA louder when the horns are blown. Noise projections used in this analysis assume that the freight train horn noise is similar to that measured for Amtrak trains.

- The noise of accelerating Coaster locomotives - Tests of stationary locomotives connected to load cells have shown that under maximum load conditions, locomotive noise is approximately proportional to the throttle setting. Locomotives typically have eight throttle settings. Noise levels increase an average of about 2 dBA every time the throttle setting is increased one notch.

- Wheel/rail noise - The wheel/rail noise caused by the steel wheels rolling on steel tracks will be lower for Coaster trains than for through trains because the Coaster trains will be traveling at relatively low speeds as they approach and leave the station platform.

- Traffic noise generated by Coaster patrons entering and leaving the parking lot, and from buses servicing the station. The traffic associated with the station would have an insignificant effect on community noise levels.

The principal noise impacts associated with the Nobel Drive Station would be the sounding of horns by Amtrak and freight trains as they approach the station. Table 5.6-4 summarizes the projections of the $L_{eq}$ contribution for each type of train, based on the revised location of the Nobel Drive Station platform. The noise levels for southbound Amtrak trains have been increased 3 dBA over the average measured levels at Site 19S to account for sounding the horns prior to the station. In a similar manner, the total noise from freight trains has been increased by 2 dBA over the measured levels at Site 19S to account for the horn noise.

The projected future $L_{eq}$, including the contributions from all sources, is 63.4 dBA, which represents an increase of 1.4 dBA over the measured existing noise. Based on the existing noise of $L_{eq}$ 62 dBA, the threshold of impact with the FTA noise criteria is an increase of 1.7 dBA. The revised location
of the Nobel Drive Coaster Station would have only minor effects on the overall noise environment. These effects are well below the criteria for adverse noise impacts, presented in Section 3.6, and the revised location of the Nobel Drive Coaster Station therefore has no adverse noise impacts.

<table>
<thead>
<tr>
<th>Table 5.6-4</th>
<th>Summary of Noise Projection Calculations at Site 19S (Nobel Drive Station)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noise Sources</td>
<td>SEL at closest receptor [1]</td>
</tr>
<tr>
<td>Through Amtrak, no horns, NB [2]</td>
<td>83.0</td>
</tr>
<tr>
<td>Through Amtrak, horns, SB</td>
<td>86.0</td>
</tr>
<tr>
<td>Stopping Coaster trains, SB</td>
<td>83.0</td>
</tr>
<tr>
<td>Idling Coaster locomotive, NB</td>
<td>85.3</td>
</tr>
<tr>
<td>Idling Coaster locomotive, SB</td>
<td>85.3</td>
</tr>
<tr>
<td>Accelerating Coaster trains, NB</td>
<td>85.5</td>
</tr>
<tr>
<td>Total, Amtrak and Coaster</td>
<td></td>
</tr>
<tr>
<td>Freight (from measurements at Site 19S with a 2 dBA adjustment to account for the train horns)</td>
<td></td>
</tr>
<tr>
<td>Other noise</td>
<td></td>
</tr>
<tr>
<td>Future, Total</td>
<td></td>
</tr>
<tr>
<td>Future, Increase</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
[1] SEL is the Sound Exposure Level, a measure of the sound energy of an event. The SELs have been derived from the 24-hour measurements at Site 19S, the measurements at the Poinsettia Coaster Station, and file data on locomotive noise.
[2] Horns for northbound trains would not contribute to noise exposure at this receptor location.

Source: Harris Miller Miller and Hanson, Inc., December 1998

5.6.1.4 Mitigation Measures

Noise attenuation walls will be constructed along the top of the slope above the northbound loop ramp in the vicinity of Balboa Station, as shown in Figure 5.6-1.

5.6.2 Vibration

The potential for ground-borne vibration as a result of the FEIS alternatives is presented in this subsection. Relevant results of the AA/DEIS/DEIR vibration analyses are incorporated as appropriate.

5.6.2.1 No-Build and TSM Alternatives. Traffic, even heavy trucks and buses, rarely creates perceptible ground-borne vibration unless it is operating very close to buildings or there are irregularities, such as potholes or expansion joints, in the roadway. The pneumatic tires and suspension systems of normal automobiles, trucks and buses are sufficient to eliminate most ground-
borne vibration forces. The No-Build Alternative would have no impacts, and the TSM Alternative is not expected to result in any perceptible increase in ground-borne vibration of the No-Build condition.

5.6.2.2 Balboa LRT Extension/Nobel Drive Coaster Station Alternative. Measurements of ground-borne vibration caused by operations of San Diego Trolley trains were performed during preparation of the AA/DEIS/DEIR. Even at the closest measurement position, the data at tie-and-ballast track were only slightly over the impact limit of 72 VdB. The embedded track data averaged 3 to 4 VdB higher than the tie-and-ballast track data. This difference could be due to variations in geology and track condition and may not represent the difference between vibration levels with embedded and ballasted track. Even allowing a 5 VdB safety factor, these data indicate that ground-borne vibration is unlikely to exceed the impact limits for residential land uses at distances greater than 15 meters (50 feet) from the track. All residential buildings along the Balboa LRT Extension are more than 15 meters (50 feet) from the tracks.

The Nobel Drive Coaster Station would be located on an existing commuter rail line. Operations of the proposed station would not generate a noticeable increase in vibration levels. No vibration impacts are expected and no mitigation is necessary.

5.6.3 Cumulative Impacts

The predominant future noise source within the Mid-Coast Corridor is I-5 traffic. I-5 is an eight lane freeway currently carrying an two-way traffic volumes of 9,800 to 15,800 vehicles per hour during peak hour operations (Table 3.2-7, with 8 percent of traffic in peak hour). In the heaviest peak-direction of peak flow, the existing four lanes can carry a maximum of 8,800 vehicles per hour, or 2,200 vehicles per hour per lane. I-5 freeway forecasts indicate that I-5 daily traffic volumes will increase by 23 to 55 percent by 2015. For the areas bordering I-5, this traffic change is not expected to result in a peak hour L_{eq} increase of more than 1-2 dBA.

5.6.3.1 TSM Alternative. As discussed in Section 5.6.1, TSM Alternative operations would not cause adverse noise impacts to surrounding areas. In the vicinity of the FEIS alternatives, the overwhelming noise source is projected to be traffic associated with I-5. In this environment the TSM Alternative would not have cumulative noise impacts.

5.6.3.2 Balboa LRT Extension/Nobel Drive Coaster Station Alternative. As noted above, the overwhelming noise source in the vicinity of the FEIS alternatives is projected to be traffic associated with I-5. Noise levels for the Balboa LRT Extension would cause only a minor impact to the already adverse noise environment established by I-5 and the adjoining major arterial roadways. In addition, within the SDNR right-of-way additional noise from AMTRAK, commuter rail, and Burlington Northern-Santa Fe (BNSF) freight service would occur. The additional noise from LRT trains is considered minor and would not have an adverse cumulative impact to the noise environment.
5.7  NATURAL RESOURCES

This section provides a summary of permanent impacts to vegetative communities, special status plant and animal species, and wetlands and other waters of the U.S., identified in the Updated Biology Technical Report (December 1998). A discussion of temporary construction-related impacts is provided in Section 5.13.6.

5.7.1  Special Status Species

A natural resources study area was defined, and consists of areas within the San Diego River Channel, along the Balboa LRT Extension, and in the vicinity of the Nobel Drive Coaster Station. These areas are shown in Figures H-1 through H-16 in Appendix H. Adverse impacts are identified wherever project facilities would displace habitats expected to support protected species (as shown in Table 3.7-1 in Chapter 3), potentially threatening the continued existence of any special status plant or animal species. An explanation of criteria used to identify wetlands, other waters of the U.S., habitat/communities, and special status plant and animal species in the project area is provided in Section 3.7, along with descriptions of each identified resource.

A full discussion of protected species that may occur in the study area is provided in Section 3.7.3.3. It was determined that two special status species occur within the project area, based on review of the California Natural Diversity Database (CNDDB), the California Native Plant Society (CNPS) list, updated habitat maps, a 1998 listing of endangered, threatened and candidate species and species of concern requested from the USFWS, and field reconnaissance. Detail regarding these species, and species not detected in the study area, is provided in Section 3.7.3.3, and in the Updated Biology Technical Report (December 1998). A summary of impacts to special status species is provided below.

5.7.1.1  Impacts to Special Status Species

No-Build and TSM Alternatives. The No-Build and TSM alternatives would have no impact on project area natural resources. The areas disturbed by construction of the TSM Alternative P&R lots contain only ruderal/horticultural communities or non-wetlands vegetative communities that do not provide habitat for protected species.

Balboa LRT Extension/Nobel Drive Coaster Station Alternative (Build Alternative). Impacts are shown on Table 5.7-1. This alternative would encroach upon 1.157 hectares (2.86 acres) of coastal sage scrub, which provides habitat for California gnatcatcher and San Diego black-tailed jackrabbit, and 0.356 hectares (0.88 acres) of non-native grassland, which provides foraging habitat for raptors. Impacts are quantified in Table 5.7-1 and shown on figures H-9, H-15, and H-16 in Appendix H.
<table>
<thead>
<tr>
<th>Habitat</th>
<th>Affected Area</th>
<th>Mitigation Type and Ratio</th>
<th>Total Mitigation Area (ha/acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hectares</td>
<td>Acres</td>
<td>In Preserve Area</td>
</tr>
<tr>
<td><strong>Balboa Extension Alignment</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coastal Sage Scrub</td>
<td>0.117</td>
<td>0.29</td>
<td>Tier II or higher 1:1</td>
</tr>
<tr>
<td><strong>Nobel Drive Coaster Station Area</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coastal Sage Scrub</td>
<td>1.04</td>
<td>2.57</td>
<td>Tier II or higher 1:1</td>
</tr>
<tr>
<td>Non-native Grassland</td>
<td>0.356</td>
<td>0.88</td>
<td>Tier III or higher 0.5:1</td>
</tr>
<tr>
<td><strong>Total Coastal Sage Scrub</strong></td>
<td>1.157</td>
<td>2.86</td>
<td></td>
</tr>
<tr>
<td><strong>Total Non-native Grassland</strong></td>
<td>0.356</td>
<td>0.88</td>
<td></td>
</tr>
</tbody>
</table>

Note: calculations were performed using English measurements (square feet).
California Gnatcatcher. The California gnatcatcher, a federally listed threatened species, was detected at the Nobel Drive Coaster Station area during the vegetation mapping site visits. Figures H-14 through H-16 in Appendix H identify the locations of the sightings. Coastal sage scrub is an important habitat for this species. The project would result in a loss of 1.04 hectares (2.57 acres) of coastal sage scrub in the Nobel Drive Coaster Station area. The areas of impact are shown in figures H-15 and H-16. This is an increase of 0.07 hectare (0.13 acre) over the coastal sage scrub impact reported in the AA/DEIS/DEIR, which was based on an earlier design of the Nobel Drive Coaster Station. As discussed in Section 5.7.1.2, the new design reduces the wetland impact by 0.41 hectare (1.02 acre). A small area (0.12 hectare, or 0.29 acre) of poor-quality coastal sage scrub habitat would also be affected in the Balboa LRT Extension right-of-way. This area is shown in Figure H-9. This habitat is not suitable for the gnatcatcher, due to its small size and degraded condition.

San Diego Black-Tailed Jackrabbit. This is a state and federal species of special concern. It was detected in the Nobel Drive Coaster Station area during the California gnatcatcher surveys, described above. This subspecies is restricted to the Pacific slope from Santa Barbara County to northwestern Baja California. Localities on the eastern edge of its range, within San Diego County, include the Jacumba and San Felipe valleys. At present, the San Diego black-tailed jackrabbit is fairly common in coastal southern California; habitat loss is the primary reason for it has been identified as a species of special concern. Coastal sage scrub is a valuable habitat for this species. The area of suitable habitat is identical to that for the gnatcatcher, described above. The 0.12 hectare (0.29 acre) area of coastal sage scrub along the LRT right-of-way is not suitable for this species, due to its inadequate size and poor condition.

Non-Native Grassland. Although the dominant species are exotic, non-native grasslands provide important raptor foraging habitat. Under the Multiple Species Conservation Program (MSCP) for the City of San Diego, mitigation is required for impacts to non-native grassland. At the Nobel Drive Coaster Station area there would be impacts to non-native grassland (0.36 hectare/0.88 acre). These areas are shown in figures H-15 and H-16.

Least Bell’s Vireo. As noted in Section 3.7, there is a low potential for the federally and state listed endangered least Bell’s vireo to occur in the study area, due to high levels of urbanization and ambient noise. Telephone communication with Patrice Ashfield of USFWS, however, indicated that this species has been expanding its habitat, and focused surveys to determine its presence or absence within the San Diego River floodway will be required no more than one year prior to construction. Since this is a wetland species, it is not covered by the MSCP.

5.7.1.2 Special Status Species Mitigation Measures

Impacts to special status species will be in accordance with the City of San Diego, USFWS, and CDFG implementation agreement for the MSCP, which provides mitigation area and prescribes mitigation ratios. Mitigation for impacts to coastal sage scrub and non-native grasslands will occur at ratios shown in Table 5.7-1, above. The MTD will purchase area credits from a USFWS-approved mitigation bank, located in the City of San Diego, that has been established in accordance with the Official Policy on Conservation Banks (California Resources Agencies, 1995) and the
Supplemental Policy regarding Conservation Banks with the NCCP Area of Southern California (USFWS and CDFG, 1996). Mitigation Banks are privately or publicly held lands that sell mitigation credits instead of fee title for habitat areas on which a conservation easement has been placed. Under this method of mitigation, a large site can be acquired over time by multiple projects that each have relatively small mitigation needs. Purchase of area credits from an established bank is acceptable as long as the required acreage is subtracted from the remaining credits in the bank and is not made available for future projects. All banks must have provisions approved for long-term management, be part of a regional habitat preserve system and upon request provide an updated record of the areas (credits) purchased from the bank and those that are remaining (City of San Diego, 1997, Land Development Manual - Biology Guidelines).

Focused surveys for least Bell’s vireo will be conducted in the San Diego River channel in accordance with USFWS protocol within one year prior to construction. Should the presence of least Bell’s vireo be detected, FTA and MTDB will initiate consultation with USFWS in accordance with Section 7 of the Endangered Species Act. Mitigation for any impacts to this species will be established in consultation with USFWS.

5.7.1.3 Consultations in Accordance with the Implementation Agreement for the MSCP.

Mitigation requirements for impacts to California gnatcatcher habitat are shown in Table 5.7-1, and have been determined in accordance with the City of San Diego’s Section 10(a) incidental take permit, pursuant to the 1997 Implementing Agreement among the USFWS, CDFG, and the City of San Diego to establish a Multiple Species Conservation Program (MSCP) for the Conservation of Threatened, Endangered, and Other Species in the Vicinity of San Diego, CA. Informal consultation also occurred with USFWS. On August 30, 1999 a Biologist with USFWS, stated that it is appropriate for the Mid-Coast Corridor Project to use the MSCP (Patrice Ashfield, USFWS, telephone communication with Mark Thomsen, MTDB). MTDB has consulted with the City of San Diego regarding the use of the MSCP, as documented in a letter from the City of San Diego dated February 12, 2001. This letter is included in Appendix I and states that projects that comply with the policies of the MSCP are afforded Third Party Beneficiary status under the City’s MSCP through the permit process. The MSCP Implementing Agreement is included in Appendix I. See also Section 7.3.1 for more information regarding agency consultations.

5.7.2 Wetlands and Other Waters of the U.S.

Adverse impacts are identified wherever project facilities would cause the placement of fill in wetlands or other waters of the U.S. An explanation of criteria used to identify wetlands and other waters of the U.S. is provided in Section 3.7.

5.7.2.1 Impacts to Wetlands and Other Waters of the U.S.

No-Build and TSM Alternatives. The No-Build and TSM alternatives would have no impact on wetlands or waters of the U.S. The areas disturbed by construction of the TSM Alternative P&R lots contain only ruderal/horticultural communities or non-wetlands vegetative communities that do not provide habitat for protected species.
Balboa LRT Extension/Nobel Drive Coaster Station Alternative (Build Alternative). The Build Alternative would result in unavoidable impact to a total of 0.30 hectare (0.74 acre) of wetlands, and 0.104 hectare (0.26 acre) of other waters of the U.S., as shown in Tables 5.7-2 and 5.7-3. MTDB requested ACOE's determination regarding these wetlands in a letter dated December 2, 1998. ACOE verified the delineation of wetlands and other waters of the U.S. in its letter dated February 24, 2000, included in Appendix I. Impacts to jurisdictional wetlands and other waters of the U.S. are shown on figures H-17 through H-21 in Appendix H.

Within the San Diego River crossing, there would be adverse impacts to wetland functions and values within other waters of the U.S. (0.02 hectare/0.05 acre) and southern cottonwood-willow riparian habitat (0.23 hectare/0.58 acre). Field surveys of vegetation communities in this area indicate that shrub and woodland vegetation communities have not developed under the I-5, Morena Boulevard and SDNR bridges, which vary from approximately 6 to 12 meters (20 to 40 feet) in height. Rather, low-growing herbaceous plant species dominate the vegetation. Shading from the bridges is considered to have affected the vegetation communities. Because the actual shading impacts would vary with the new bridge's height and orientation to the sun, maximum long-term ("worst-case") impacts where the rail is elevated over wetlands have been calculated for analysis.

Along the Balboa LRT Extension, fill in wetlands would consist of encroachments into coastal brackish marsh (0.02 hectare/0.04 acre), freshwater marsh (0.006 hectare/0.014 acre), and other waters of the U.S. (0.083 hectare/0.206 acre). Areas of coastal brackish marsh and waters of the U.S. (a drainage ditch) are located at the proposed Tecolote Station parking lot site. A bridge would be constructed over Tecolote Creek (waters of the U.S.) just north of the Tecolote Station. No columns would be placed within the waters, but some shading impacts would occur, as discussed above.

There would also be impacts to wetlands in the Nobel Drive Coaster Station area, however, considerable avoidance has been achieved. The original design of the Nobel Drive Coaster Station placed the park-and-ride lot at the base of a steep slope, and would have resulted in 0.46 hectare (1.14 acres) of impacts to riparian habitat. During preliminary engineering, informal consultation with ACOE, and other resource agencies, led to the current design (as shown in Figure 2.4-33 in Chapter 2), which avoids 90 percent of these wetlands. The new design places the park-and-ride lot at street level, supported by a retaining wall. With the new design wetland impacts have been reduced to 0.05 hectare (0.12 acre), consisting of southern cottonwood-willow riparian forest, sycamore-alder riparian woodland, and freshwater marsh.
<table>
<thead>
<tr>
<th>Habitat</th>
<th>Affected Area</th>
<th>Type of Impact</th>
<th>Mitigation Type and Ratio</th>
<th>Total Mitigation Area</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hectares</td>
<td>Acres</td>
<td>Hectares</td>
<td>Acres</td>
</tr>
<tr>
<td>San Diego River Crossing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Riparian</td>
<td>0.003</td>
<td>0.007</td>
<td>Permanent (pillars)</td>
<td>Creation 3:1</td>
</tr>
<tr>
<td>Riparian</td>
<td>0.178</td>
<td>0.44</td>
<td>Permanent (shading)</td>
<td>Creation 3:1</td>
</tr>
<tr>
<td>Riparian</td>
<td>0.053</td>
<td>0.13</td>
<td>Temporary (const.)</td>
<td>Create 2:1 and Restore 1:1</td>
</tr>
<tr>
<td></td>
<td>0.234</td>
<td>0.577</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUBTOTAL: S.D. RIVER CROSSING</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Balboa LRT Extension Area</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coastal Brackish Marsh</td>
<td>0.016</td>
<td>0.04</td>
<td>Permanent</td>
<td>Out of kind 1:1</td>
</tr>
<tr>
<td>SUBTOTAL: BALBOA EXT. AREA</td>
<td>0.016</td>
<td>0.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nobel Drive Coaster Station Area</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Riparian</td>
<td>0.028</td>
<td>0.07</td>
<td>Permanent</td>
<td>In kind 10:1</td>
</tr>
<tr>
<td>Sycamore-Alder Riparian</td>
<td>0.018</td>
<td>0.045</td>
<td>Permanent</td>
<td>In kind 3:1</td>
</tr>
<tr>
<td>Freshwater Marsh</td>
<td>0.002</td>
<td>0.005</td>
<td>Permanent</td>
<td>In kind 10:1</td>
</tr>
<tr>
<td>SUBTOTAL: NOBEL STA. AREA</td>
<td>0.049</td>
<td>0.12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Affected Wetlands</td>
<td>0.298</td>
<td>0.737</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: calculations were performed using English measurements (square feet).
### Table 5.7-3
Impacts to Waters of the U.S. Resulting from the Build Alternative

<table>
<thead>
<tr>
<th>Habitat</th>
<th>Affected Area</th>
<th>Type of Impact</th>
<th>Mitigation Type and Ratio</th>
<th>Total Mitigation Area</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hectares</td>
<td>Acres</td>
<td></td>
<td>Hectares</td>
</tr>
<tr>
<td><strong>San Diego River Crossing</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>San Diego River</td>
<td>0.016</td>
<td>0.04</td>
<td>Permanent (shading)</td>
<td>Creation 3:1</td>
</tr>
<tr>
<td>San Diego River</td>
<td>0.004</td>
<td>0.01</td>
<td>Temporary (const.)</td>
<td>Create 2:1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>and Restore 1:1</td>
</tr>
<tr>
<td>SUBTOTAL: S.D. RIVER CROSSING</td>
<td>0.020</td>
<td>0.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Balboa LRT Extension Area</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tecolote Creek</td>
<td>0.0124</td>
<td>0.035</td>
<td>Permanent</td>
<td>In-kind 1:1</td>
</tr>
<tr>
<td>Stormdrain</td>
<td>0.071</td>
<td>0.176</td>
<td>Permanent</td>
<td>In-kind 1:1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUBTOTAL: BALBOA EXT. AREA</td>
<td>0.083</td>
<td>0.206</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Affected Other Waters of U.S.</strong></td>
<td>0.104</td>
<td>0.256</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* 0.071 ha (0.176 ac) of this area is a stormdrain near Tecolote Station. Per ACOE letter (February 24, 2000), replacement of stormdrain is sufficient mitigation.

Note: calculations were performed using English measurements (square feet).
5.7.2.2 Mitigation for Wetlands and Other Waters of the U.S. MTDB will provide full mitigation of all impacts to wetlands and other waters of the U.S. required by the relevant Nationwide permit. The mitigation measures described in this section are subject to revision by the ACOE during final design. The project will avoid or minimize impacts to wetland habitats where avoidance alternatives exist, or mitigate impacts to achieve no net loss. Impacts to wetlands and other waters of the U.S. will be mitigated by creating or restoring wetlands to compensate for the loss of these habitats. As determined through consultation with the ACOE, mitigation will be at the ratios shown in Tables 5.7-2 and 5.7-3, above. The Updated Biology Technical Report (December 1998) includes a conceptual mitigation plan, which is summarized below. Detail regarding the site evaluation process and the conceptual mitigation plan is provided in the technical report, Updated Biology Technical Report (December 1998).

On-site wetland mitigation will occur at the LRT San Diego River crossing. This will consist of restoration of areas within the project limits affected by temporary construction impacts. In addition, special measures shall be considered to salvage and replant existing vegetation in order to preserve, as much as possible, the existing canopy and shrub cover.

Off-site mitigation of the Build Alternative wetland impacts will be accomplished by wetland creation or restoration. As part of the permit process with the resource and regulatory agencies, a qualified biologist and revegetation specialist shall prepare a detailed site-specific creation, restoration and enhancement mitigation plan and mitigation monitoring plan. The plan shall detail all impacts to wetland habitats and specify either in-kind replacement of habitat quality prior to the initiation of construction, or mitigation after initiation of construction at higher replacement ratios. The objective of the mitigation and monitoring plan will be to protect and enhance existing resource values and to ensure no net loss of wetland habitat.

Mitigation may involve wetland creation, restoration and enhancement. Wetlands can be created by grading down upland or disturbed areas and revegetating with riparian species. Water tables must be within 10 feet of the soil surface to support riparian tree species such as Fremont cottonwoods and within about three feet of the soil surface to support willow species. Degraded or low quality wetlands can be enhanced by replacing exotic species such as Giant Reed or Pampas Grass with riparian species such as willows or mulefat. Wetlands may be restored following construction impacts by planting native riparian species.

The objectives of the revegetation effort will be to create quality riparian habitat suitable for least Bell's vireo wherever possible because this habitat provides the highest benefit to wildlife species. MTDB shall submit a final mitigation plan to the ACOE for review and final approval at least 30 days before initiating wetland impacts. The plans shall include the following:

- Mitigation at the ratios described in Tables 5.7-2 and 5.7-3, with an exact delineation of where temporary impacts shall be mitigated on-site at the San Diego River crossing.
- Final topographic-based grading, irrigation and landscape/planting plans (with one-foot contours) for all mitigation areas;

- Five year maintenance and monitoring plans (including sampling methods);

- Success criteria (including statistical analysis) and contingency measures for unforeseen mitigation problems or failures;

- A detailed water quality monitoring and maintenance plan; and

- A schedule that shows when each mitigation phase (i.e., grading, planting, irrigation, monitoring, maintenance) will begin and be completed in relation to wetland impacts.

In conjunction with the plan elements listed above, permitting requirements will likely include:

- Restriction of brushing, grading and construction during the avian breeding season (February 15 to September 1), unless otherwise approved by the USFWS and CDFG;

- Submittal of annual mitigation progress reports;

- Placement of the mitigation site in a permanent biological open space easement recorded with the city of San Diego or other appropriate entity; and

- Posting of a performance bond or irrevocable letter of credit with ACOE.

The precise level of mitigation must be formulated with the state and federal resource agencies during the permitting process. Consultations with the agencies have determined that mitigation requirements for this project likely will be similar, if not identical to those required for the bridge crossing of the Mission Valley West Light Rail Transit project:

- Permanent impacts (i.e., fill and shading) shall be mitigated at a 3:1 ratio through creation of habitat.

- Areas temporarily affected by construction activities shall be mitigated at a 2:1 ratio through the creation of high quality riparian woodland at a pre-approved mitigation site. In addition, areas of temporarily impact shall be restored to high quality riparian woodland. These requirements have been incorporated in Tables 5.7-2 and 5.7-3.

Off-site mitigation is proposed at three sites: Tecolote Canyon, the Handlery Site, and the Tijuana River Valley (Figure 5.7-1).
**San Diego River.** Many City of San Diego departments, including the Water Utilities Department, Metropolitan Wastewater Department and the Environmental Services Department, are conducting restoration efforts on the Lower San Diego River. MTDB currently is restoring 20 acres on the Warner Ranch property (west of the Riverwalk golf course) as partial mitigation for impacts resulting from the Mission Valley West Trolley Line.

Much of the remaining areas with restoration potential, including Giant Reed (Arundo donax) removal, are small in size and have difficult access. The USFWS recently has encouraged mitigation efforts in the San Diego River upstream from Mission Trails Regional Park. The Carlton Oaks Golf Course is required to remove 2 acres of Giant Reed from its property and is willing to have other entities mitigate by removing Giant Reed on the remainder of its property. Mitigation in this location would have excellent access and the added advantage of reducing the likelihood of reinestation of Giant Reed in Mission trails regional park, where an effective removal project has been on-going for several years.

A mitigation site on the San Diego River, approximately one acre in size, is available in Mission Valley on a property associated with the Handlery Hotel. Another site on the San Diego River in the vicinity of the Mission Valley West LRT mitigation site (Warner Ranch) and a site in the vicinity of SR 6 in Lakeside also provide mitigation opportunities that could coincide with future MTDB mitigation for the Mission Valley East LRT line.

**Tecolote Canyon Park.** Mitigation opportunities exist in Tecolote Canyon parks. The lower portions of Tecolote Canyon Park were also reconnaissanced to determine whether the potential for wetland creation exists there. The University of San Diego recently built a new parking structure on campus, which has resulted in an increase in the amount of stormwater and urban runoff emanating from the campus and flowing down the canyon wall into Tecolote Park. This increase in runoff may be adequate to support the construction of at least one acre of wetland in the location shown in Figure 5.7-1. Tri-Canyon Senior Parks Ranger Tracey Walker indicated that construction of a wetland in this area would help alleviate the washout of the access road and provide an opportunity to tie into the existing creek in Tecolote Canyon Park.

**Tijuana River.** Approximately 5.5 linear miles of the Tijuana River are located within the United States. Of this area, approximately four miles are bordered on one or both sides by the Tijuana River National Estuarine Sanctuary or the Tijuana River County Open Space Preserve. Two-thirds of the river valley is estimated to be in public ownership.
The County plans to establish a 1,100 acre regional park in the river valley. Much of the land adjacent to the river is under the County’s jurisdiction, particularly the County Parks and Recreation Department (CPRD). The CPRD generally charges $11,000 per acre to public entities that wish to mitigate on its land. It holds the monies in an interest-bearing fund, using the interest for management of the land as biological open space in perpetuity. The CPRD is currently terminating an agricultural lease on a 13-acre site and is giving restoration of this site its highest priority in the area. The City recently mitigated project impacts of a pipeline by restoring 14 acres of County-owned land. County land contiguous to the east of the City’s restoration site also has restoration potential.

MTDB has conducted informal consultations with ACOE and the City Park and Recreation Department regarding each of these sites. These discussions indicate that the proposed creation/restoration of wetlands, described above, will serve as adequate mitigation of wetlands impacts. See Section 7.3 regarding agency consultations.

5.7.2.3 Consultations in Accordance with Section 404 of the Clean Water Act. Given the small area (0.41 hectare/1.01 acres) of affected wetlands and other waters of the U.S., the project is expected to require a Nationwide Section 404 permit, rather than an individual permit, as indicated in the ACOE letter dated February 24, 2000, included in Appendix I. Consultation with the ACOE is on-going, as described in more detail in Section 7.3.1 of this document. Because the ACOE letter was written prior to the final notice of ACOE’s issuance and modification of Nationwide permits (published in the Federal Register on March 9, 2000), MTDB will consult further with ACOE early in the final design of the project to confirm the appropriate Section 404 permit requirements.
5.7.2.4 Least Environmentally Damaging Practicable Alternative. MTDB initiated consultations with the ACOE, USEPA, USFWS, and NMFS during the development of the AA/DEIS/DEIR, pursuant to the Western States Memorandum of Understanding (MOU) for Integrated NEPA/404 Processing. This MOU applies to projects that require an individual Section 404 permit, and sets forth a NEPA/404 process that requires coordination with the ACOE, USEPA, USFWS, and (where applicable) NMFS, and the concurrence of these agencies in a Least Environmentally Damaging Practicable Alternative (LEDPA). Pursuant to the integrated NEPA/404 process, the AA/DEIS/DEIR included correspondence from the ACOE, USEPA, and USFWS concurring with the project purpose and need and the alternatives to be evaluated. The National Marine Fisheries Service also gave project concurrence verbally (August 24, 1994).

In October 1995, after a comprehensive evaluation of Mid-Coast Corridor alternatives, the MTDB selected the Preferred Investment Strategy/Locally Preferred Alternative (LPA), based on numerous criteria, including practicability and minimizing environmental impacts. The LPA included the LRT I-5 alignment, which had a lower total wetland impact than the other LRT alignment option (the Genesee alignment). A full description of the LPA is provided in Section 2.1.1.

Also in October 1995, MTDB directed staff to proceed with preliminary engineering and the FEIS for the Balboa LRT Extension and the Nobel Drive Coaster Station, as the principal component of the first phase of the LPA. During preliminary engineering and the preparation of this FEIS, MTDB continued to consult with the ACOE and other regulatory agencies regarding avoiding, minimizing and mitigating environmental impacts, as discussed in Section 7.2. As a result, MTDB has reduced the wetlands impact of the Nobel Drive Coaster Station from 0.46 hectare (1.14 acres), as reported in the AA/DEIS/DEIR, to 0.05 hectare (0.12 acre), as reported in Section 5.7.1.2. The total wetland impact of the Build Alternative is 0.41 hectare (1.01 acre), as shown in tables 5.7-2 and 5.7-3. A more detailed explanation of wetland avoidance at the Nobel Drive Coaster Station is provided in Section 5.7.2.1.

Based on this reduced level of impact, it appears that an individual project permit will not be required under Section 404 of the Clean Water Act (CWA), and the NEPA/404 process was not continued. The only alternatives that have less wetlands impact than the Balboa LRT Extension/Nobel Drive Coaster Station Alternative are the No-Build and TSM Alternatives. These alternatives are not practicable, however, because they do not meet the Mid-Coast Corridor Project’s purpose and need, as documented in Chapter 6. For this reason, the Build Alternative would be the least environmentally damaging practicable alternative. MTDB will be applying to ACOE for a 404 permit pursuant to the CWA during the final design phase of the project (see Section 7.3).
5.8 **WATER RESOURCES**

This section presents a summary of the water resource impacts associated with transportation improvement alternatives evaluated in this FEIS. Detailed technical information can be found in the Water Resources Report, January 26, 1994, and the Preliminary Drainage Assessment, April 1997, on file at MTDB’s offices, incorporated by reference into this FEIS.

5.8.1 **Surface Water**

Impacts and associated mitigation measures for the TSM Alternative and the Balboa LRT Extension/Nobel Drive Coaster Station Alternative are discussed below.

**Impact**

Long-term water quality impacts and increased runoff would be a consequence of new impervious surfaces associated with new facilities constructed under the TSM or the Balboa LRT Extension/Nobel Drive Coaster Station Alternatives. At P&R lots and station areas impermeable pavement surfaces would replace existing permeable surfaces, increasing the storm water runoff in the immediate vicinity. New storm drainage facilities would be included in the construction of new stations, P&R lots, and LRT tracks, as described in the Preliminary Engineering Report for the Mid-Coast LRT Project, Balboa Extension (October 1997), which is hereby incorporated into this FEIS by this reference. Those facilities would be sized and located during final design in such a manner as to ensure that the 100-year design storm runoff is adequately directed offsite and into appropriate downstream drainage facilities.

**Mitigation Measures**

To mitigate the potential impacts resulting from an increase in runoff, new storm drainage facilities will be constructed as part of the new stations, parking lots, and LRT tracks, as shown in the preliminary engineering drawings and described in the Preliminary Engineering Report (October 1997). At several locations on the Balboa Extension, new storm drains would cross under the new LRT tracks and the existing SDNR tracks, to connect drainage systems that have been interrupted by the SDNR tracks. Drainage facilities will be designed to accommodate project-generated runoff and prevent runoff from exceeding existing conditions. Drainage facilities may include on-site storm detention to attenuate the increased peak runoff to below the predeveloped condition.

Permits from the U.S. Army Corps of Engineers and the U.S. Coast Guard will be required for new bridge construction under the Balboa LRT Extension/Nobel Drive Coaster Station Alternative. The conditions connected with the issuance of these permits will ensure that surface water impacts are minimized.
5.8.2 Increase in Non-Point Source Pollutants

Impact

The No-Build Alternative is the baseline, against which other alternatives are compared. Both the TSM Alternative and the Balboa LRT Extension/Nobel Drive Coaster Station Alternative would result in increases of non-point source pollutants. As bus mileage increases for the TSM Alternative, amounts of non-point source pollutants directly related to the use of buses would increase in proportion to the increased vehicle miles traveled (VMT) by buses. However, this increase would be almost imperceptible since the total pollution load would be spread along the bus route corridors. Additionally, non-point source pollution associated with increased bus VMT would be off-set by decreases in automobile VMT, described in Chapter 4. There would be local impacts resulting from the concentration of motor vehicles and buses at P&R lots. Petroleum-based fuel, oil, and lubricants would deposit over time in these areas of concentration.

The operation of the Balboa LRT Extension/Nobel Drive Coaster Station Alternative would result in additional non-point source pollution, concentrated in locations where LRT vehicles are to be stopped for extended periods, i.e., at sidings and stations. Again, these impacts would be off-set by reductions in automobile-generated non-point source pollution, related to the reduced automobile VMT described in Chapter 4.

Mitigation Measures

Increases in urban pollutants would occur in localized areas for either the Balboa LRT Extension/Nobel Drive Coaster Station Alternative or the TSM Alternative. For the Balboa LRT Extension/Nobel Drive Coaster Station Alternative, these impacts will be mitigated through compliance with the State Water Resources Control Board’s (SWRCB’s) requirements for storm water quality, as included in National Pollution Discharge Elimination System (NPDES) permitting requirements (Clean Water Act). NPDES provisions require that a Storm Water Prevention Plan (SWPPP) be developed and implemented for projects that disturb more than 2.1 hectares (5 acres) of land. The Balboa LRT Extension/Nobel Drive Station Alternative would disturb more than 2.1 hectares, and a SWPPP will be prepared, and will include best management practices (BMPs), such as the following:

- Ensure that new storm water inlets at parking lots include trash grates and maintainable silt traps or oil/grit separators.
- Ensure that outlet structures provide for proper energy dissipation in accordance with standard specifications for storm drainage.
- Ensure that regular maintenance of parking facilities includes a program to clean curbside pavement areas of litter, fuel and oil spills. Storm drain inlet traps will be inspected at least annually and cleaned as required.
Under the TSM Alternative, less than 2.1 hectares (5 acres) of land would be disturbed, and a SWPPP would not be required. However, minor increases in urban pollutants associated with the P&R areas would be mitigated through the use of BMPs such as those described above.

5.8.3 Encroachment Into FEMA Defined Floodway

This section addresses the impacts of the Build Alternatives on FEMA defined floodways in the vicinity of improvements under the FEIS alternatives. Regulations governing the National Flood Insurance Program (23 CFR 650, Subpart A Section 650) were used, in part, as guidance for the evaluation of floodway impacts. Section 650.111 calls for location hydraulic studies to be performed with detailed engineering design drawings, and lists five location considerations to be examined for floodplain encroachments:

1. Risks associated with implementation of the action.
2. Impacts on the natural and beneficial floodplain values.
4. Measures to minimize impacts associated with the action.
5. Measures to restore and preserve the natural and beneficial floodplain values impacted by the action.

Impacts of each alternative with respect to the five location considerations are included in the discussions which follow.

5.8.3.1 No-Build and TSM Alternatives. Neither the No-Build nor the TSM Alternative would affect any FEMA defined floodways.

5.8.3.2 Balboa LRT Extension/Nobel Drive Coaster Station Alternative.

Impact

Two new bridges across existing channels would be required: one at the San Diego River (the San Diego River/Friars Road Bridge), and one at Tecolote Creek (the Tecolote Creek Bridge). Preliminary engineering indicates that nine columns within the San Diego River floodway would be required for the San Diego River/Friars Road Bridge, and no columns within the Tecolote Creek floodway would be required for the Tecolote Creek Bridge. The new bridges would be adjacent to existing San Diego Northern Railway bridges, and abutments and columns of the new bridges would be aligned with those of the existing bridges.

The Tecolote LRT station is proposed on the south side of Tecolote Creek. This area is a collector basin for drainage from the commercial development immediately south and from the south-east along West Morena Boulevard. The track and station area would be constructed above the 100 year flood elevation.
Permits for the bridge construction will be obtained as part of the Balboa LRT Extension/Nobel Drive Coaster Station Alternative prior to construction. A location hydraulic study was conducted for the San Diego River/Friars Road Bridge pursuant to 23 CFR 650 (Bridges, Structures, and Hydraulics). The following items were considered, commensurate with the significance of the risk or environmental impact of the encroachment.

1. **The risks associated with implementation of the action.** The risks associated with this site are very low. The columns supporting the San Diego River/Friars Road Bridge will be aligned with the existing SDNR bridge. The probability of flooding attributable to the encroachment of these columns is low. By aligning the columns of the new bridge with those of the existing, further constriction of the channel is avoided. Because of the available right-of-way and topographic features, the bridges and station must be located as indicated in this document.

2. **The impacts on natural and beneficial floodplain values.** The bridge used will be multi-span and simply supported. Columns will be aligned with columns of the San Diego Northern Railway bridge, immediately to the west. No long-term impact on natural beauty, outdoor recreation, aquaculture, natural moderation of floods, or water quality is anticipated. Short-term construction impacts will be mitigated by scheduling activities in the floodplain during the dry season, and by implementing erosion control practices, as discussed in Section 5.13.6.

3. **The support of probable floodplain development.** The bridge passes over the floodplain, with its supporting columns comprising the only floodplain encroachments. The bridge is unlikely to induce any development in the floodplain.

4. **The measures to minimize floodplain impacts associated with the action.** The San Diego River/Friars Road Bridge, the Tecolote Bridge, and the Tecolote Station all had potential to encroach upon the 100 year floodplain. The Tecolote Bridge and Tecolote Station were designed to avoid any encroachment on the floodplain. It was not practicable, however, to avoid all encroachment with respect to the San Diego River/Friars Road Bridge. In this case, encroachment was minimized by aligning the columns with the existing railroad bridge to the west. The floodplain performance will be maintained or enhanced with these improvements.

5. **The measures to restore and preserve the natural and beneficial floodplain values impacted by the action.** The columns have been designed to limit the encroachment and to align with the existing railroad bridge to the west. Construction will occur during the dry season, to the extent that this does not interfere with the breeding season of protected species. A vegetation plan would be prepared and would incorporate like species of plants to ensure that the channel capacity is maintained. The channel capacity aspect of the vegetation plan would be reviewed and approved by a qualified civil engineer prior to construction.
Mitigation Measures

Activities will be timed so the construction encroachments occur during the dry season, to the extent that this does not interfere with the breeding season of protected species. Construction operations will be timed so the total elapsed time of encroachment into the channel is minimized; no temporary or permanent storage or deposition of materials into the channel will be allowed. The channel bottom will be returned to its original 'natural' condition as soon as possible after the bridge is built. To achieve this, a revegetation plan will be incorporated into this project. This vegetation plan will addresses water quality/flood control only. It will be coordinated with any vegetation specified in Section 5.7, Natural Resources, and subject to approval by ACOE, USFWS, the California Coastal Commission, the Regional Water Quality Control Board, and the City of San Diego (pursuant to Implementing Agreement with USFWS, described in Section 5.7.3). The vegetation plan will incorporate like species of plants to ensure that the channel capacity is maintained. The channel capacity aspect of the vegetation plan will be reviewed and approved by a qualified civil engineer prior to construction.

5.8.4 Cumulative Impacts

As with all urbanization, peak storm water runoff flows would continue to increase until buildout. It would be necessary to upgrade undersized facilities based on flooding impacts. Current design techniques assure that facilities constructed today would handle ultimate design flows based on conditions at buildout. However, there would be a cumulative impact of increased runoff as development continues. This cumulative impact would be mitigated as the study area's storm drainage system is extended and improved.

A recent shift in the philosophy of governing agencies has resulted in more stringent requirements to detain increased runoff on-site and release it to the existing storm drain system at flow rates equal to or less than predeveloped rates. This is a cumulative impact mitigating measure and significantly helps to protect both the capacity of natural stream channels and biological resources, by maintaining existing stream characteristics. It also serves to extend the capacity of the existing storm drain system.

Although there may be some localized impacts to surface and groundwater quality, regulations requiring NPDES permitting would work to improve, or at a minimum hold steady, the region's water quality. It is the intent of MTDB to comply with the requirements for non-point source pollution control.

5.9 CULTURAL RESOURCES

5.9.1 No-Build Alternative

No known archaeological or historic resources would be affected by the No-Build Alternative.
5.9.2  TSM and Balboa LRT Extension/Nobel Drive Coaster Station Alternatives

Impact

No historic architectural or archaeological resources were identified in the project area of potential effects (APE) for the TSM or Balboa LRT Extension/Nobel Drive Coaster Station Alternatives. Monitoring during construction is recommended for the possible foundation remains noted in Section 3.10.3.2.

Mitigation Measures

The site identified in Section 3.10.3.2 will be monitored during construction. Based on the field reconnaissance and archival research conducted for this project, it is not anticipated that construction activities will disturb buried cultural materials. If such materials are unearthed during construction, work in the vicinity of the discovery will be suspended until the significance of the cultural material has been determined by a qualified archaeologist. If human remains are unearthed during construction, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code 5097.88. In either instance, MTDB shall be immediately notified.

5.9.3  Paleontological Impacts

Impact

Impacts to important paleontological resources occur when earth work activities, such as large excavation projects, cut into geological deposits (formations) within which fossils are buried. These impacts are in the form of physical destruction of fossil remains. Since fossils are the remains of prehistoric animal and plant life, they are considered to be nonrenewable.

The rock and soil units within the study area have been assigned a paleontological potential that indicates a likelihood of fossil discovery during development work. This is not a measure of importance of the individual fossils because it is impossible to gauge in advance what fossils are present at a site or to measure their significance until they have been excavated, collected, cleaned, and studied. All fossils are assumed to be important to the regional resource data base. Therefore, for the purpose of environmental impact studies, paleontologists measure the potential for discovery of any fossil remains.

For all alternatives under consideration, sites in the Mid-Coast Corridor indicate a range from a high potential to a moderate paleontological potential. Grading on the sites could expose fossil material. However, the grading that would expose fossils would also destroy them. This would be an adverse impact on regional paleontological resources. Proper mitigation measures can reduce these adverse impacts.
Mitigation Measures

The following measures are required to reduce the adverse impacts of project development and to protect the paleontological resources in the area. These mitigation measures are drawn from past efforts and have proven successful in protecting paleontological resources while allowing timely completion of developments in San Diego County.

- A qualified Paleontologist will be retained to monitor the sites during excavation of formations rated high and/or moderate potential. These formations include Ardath Shale and Scripps formation (high resource significance) and Lindavista formation (moderate resource significance). This Paleontologist will salvage exposed fossils, and if necessary direct of divert grading activities to accomplish this goal.

- In areas where fossils are abundant, full-time monitoring and salvage efforts will be undertaken.

- To salvage microvertebrates it will be necessary to collect matrix for processing through fine screens. The archivists will in particular require matrix samples to be processed. A series of matrix samples will be collected. If microvertebrates are present, an additional matrix will be collected. To facilitate grading, matrix will be stockpiled to one side of the project at the direction of the Paleontologist.

- All fossils and their contextual stratigraphic data will go to an institution with research interest in the materials such as the San Diego Museum of Natural History.

- Provisions for preparation and identification of any fossils collected will be made before donation to a suitable repository.

5.9.4 Coordination with the State Historic Preservation Office (SHPO)

The field and archival research conducted for this project have resulted in a negative findings Historic Properties Survey Report (HPSR). This report has been forwarded to FTA, which concurred in the findings therein and transmitted the report to the State Historic Preservation Officer (SHPO). A copy of this FEIS will also be sent to SHPO. Since there are no resources potentially eligible for the NRHP within the APE for this project, no further consultation with SHPO is required. SHPO’s concurrence in the negative findings HPSR, on January 25, 1999, completes Section 106 consultation. A copy of correspondence with SHPO is included in Appendix I.

5.9.5 Cumulative Impacts

Since no impacts on cultural resources are anticipated to occur with the TSM or the Balboa LRT Extension/Nobel Drive Coaster Station Alternative, no cumulative impacts with the effects of other projects are estimated. If unanticipated cultural resources are encountered during the construction phase, cumulative effects would be minimized through avoidance, data recovery, and monitoring of cultural resources.
5.10 PARKLANDS

This section describes potential impacts to parklands from the alternatives described in Chapter 2. Neither the No-Build nor the TSM Alternative would have impacts to parklands.

The Balboa LRT Extension/Nobel Drive Coaster Station Alternative would have minor visual impacts on Mission Bay Park, as discussed in Section 5.4. Views from this park would be altered, due to the introduction of a retaining wall in the rail right-of-way. However, for viewers to notice this changed view, they would be looking across a major freeway (I-5), which is currently the major viewing element when looking east from this park.

The Nobel Drive Coaster Station would be constructed within and north of the SDNR right-of-way. The new Coaster station, parking area, and ancillary facilities would adjoin the Rose Canyon Open Space Park, which is a City-owned, 113 hectare (278 acre) dedicated open space park area. Figure 5.10-1 shows the proposed commuter station area and the boundaries of the Open Space Park, which lies immediately south of the rail right-of-way. No land area within Rose Canyon Open Space Park would be acquired as part of the commuter rail station. Visual changes would occur for viewers looking from the Park north to the station, as described in Section 5.4.

Development of the rail station would offer benefits to the Open Space Park. Provision of access to the commuter rail station platform would serve as access to Rose Canyon Open Space Park, which, at this point in time, is not readily accessible.

MTDB has coordinated with the Park and Recreation Department\(^3\) of the City of San Diego, owner of the Open Space Park. The Park and Recreation Department stated that station development would provide access across the rail right-of-way to the Open Space Park. The Park and Recreation Department noted that station development would have visual effects and requested several mitigation measures, which MTDB has agreed to provide. These measures are described in the mitigation measures section below.

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\(^3\) Meeting on April 13, 1998 with: (1) Dennis Wahl, MTDB, (2) Don Steele and Jeffrey Harkness of the San Diego Park and Recreation Department, and (3) Bob Sergeant and Dave Mansen of the PTG-De Leuw, Cather & Co. PE/FEIS consulting team.
Boundary between railroad right-of-way and Rose Canyon Open Space Park (dedicated park)

Figure 5.10-1

Nobel Drive Station Area and Rose Canyon Park Boundaries

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A portion of the property that would be taken for station development is undeveloped City-owned land, designated as open space, managed by the Park and Recreation Department. The Park and Recreation Department has written a letter, dated January 19, 1999, and included in Appendix I, which states that any park, recreation, or refuge activities that may occur within this area are incidental to its primary purpose as open space and visual amenity for the community. The area is not dedicated parkland, and the Park and Recreation Department does not consider it significant open space, due to the condition of existing vegetation at this site (described in Section 3.7.3.1), and the fact that the site is surrounded by development on three sides and separated from the Rose Canyon Open Space Park by the existing railroad right-of-way. A portion of the land (approximately 0.6 hectare, or 1.5 acres) that would be acquired is a mitigation area for the Renaissance La Jolla Project. Discussion of and mitigation for the impact to this designated mitigation area are provided in Section 5.7.

FTA has concluded that the Nobel Drive Coaster Station (under the Build Alternative) does not constitute a Section 4(f) use under the Federal Transportation Laws for the following reasons: (1) development of the commuter rail station would not include acquisition of any Rose Canyon Open Space Park property, (2) the new rail station would provide needed access across the rail right-of-way to the Open Space Park, and (3) MTDB has identified mitigation measures for visual impacts, which do not substantially impair the qualities of the park that qualify it for the protections of Section 4(f). The San Diego Park and Recreation Department agreed to these mitigation measures in its letter dated December 16, 1999, which is included in Appendix I.

Mitigation Measures

To mitigate the impacts to the Rose Canyon Open Space Park from the Nobel Drive Coaster Station, MTDB will provide the following measures, consistent with the requests of the San Diego Park and Recreation Department:

1. MTDB will provide one or more interpretive displays along the walkway leading down to the station, preferably at location(s) offering views of the Rose Canyon Open Space Park. MTDB and the San Diego Park and Recreation Department shall jointly agree to the type of case to be provided, and the Park and Recreation Department shall determine the type of information to be displayed. If the case allows for changes to the display, access to this display case shall be provided to the San Diego Park and Recreation Department so that it can provide display information regarding the Park.

2. The retaining wall to be constructed south of the station parking area shall be a natural color, shall be a terraced wall allowing for extensive landscaping of the wall, and shall be landscaped by MTDB with vegetation native to the immediate area. Concurrence by staff of the City Park and Recreation Department will be obtained.
5.11 ENERGY

5.11.1 Setting

Until recently, electricity in San Diego County had been provided primarily by San Diego Gas and Electric Company (SDG&E). Power is generated at a number of sources and from various fuels, including natural gas and nuclear fuels. With deregulation of the electric utility industry, new suppliers of electricity for both business and residential users are entering the market. The sources of power may be from points throughout the western United States and electricity itself generated from any potential commercial fuel or other power-generating activity. In this open, competitive market, supply of electrical power in the San Diego region is expected to meet growth in demand for the foreseeable future.

Fossil fuels, primarily petroleum-based fuels such as gasoline, diesel fuel, and natural gas, are provided by numerous suppliers. SDG&E is the primary distributor of natural gas to businesses and residences. Various firms supply gasoline and diesel fuel, which are used by the majority of on-road vehicles. In the future, more on-road vehicles are projected to use compressed natural gas (CNG) and electricity for motive power.

Public transit vehicles in the region, including those required for operation of each project alternative under consideration, use both electric power and fossil fuels. LRT vehicles are electrically powered; commuter rail locomotives use diesel fuel as the primary fuel (generating electricity for drive train and auxiliary power); and transit buses currently use mainly diesel fuel although by 2015, according to the MTDB, all bus fleets will be CNG-powered.

5.11.2 Methodology for Evaluating Potential Impacts

Energy is consumed in the construction, operation and maintenance of transportation systems. Energy used to construct improvements includes not only the energy expended by equipment at the work site but also that used to manufacture equipment, materials and supplies and transport them to the work site. Energy consumed in the operation of transportation systems is mainly the fuel used by vehicles transporting people or goods—termed propulsion energy. Energy for maintenance includes that for day-to-day upkeep of systems and any energy used to manufacture and supply replacement equipment, materials and supplies.

Energy used in construction is typically referred to an indirect energy, as is also the energy consumed in system maintenance. Energy used in system operations is referred to as direct energy. Over the life of a transportation project, direct energy consumption is usually the largest component of the total energy requirement.\(^4\)

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\(^4\) Energy and Transportation Systems, Caltrans, Division of Engineering Services, July 1983
From an energy conservation standpoint, therefore, direct energy impacts are of more importance than indirect energy impacts. The energy analysis consequently focuses on the direct energy impacts of project alternatives, comparing total energy consumption for the operation of major highway and public transit systems in the San Diego region for the year 2015. Although data is presented for one year, it is important to note that direct energy consumption of this order of magnitude would occur over the life of a project, 20 years or more in the case of the Build Alternative.

Direct energy consumption was estimated based upon projections of vehicle miles of weekday travel by mode prepared by SANDAG. This estimate was factored to estimate annual consumption. An average fuel efficiency factor for each mode was applied to convert miles of travel to energy use. To accurately account for the total propulsion energy requirement by mode, and the fact that certain energy forms consume additional energy in processing and during transport to the point of final consumption, estimated energy use is adjusted to include the processing and transport energy component. For a common basis of comparison, direct energy consumption for all modes and fuel types is expressed in terms of kilojoules (a metric measure of energy, equivalent to 0.95 British thermal units) and British thermal units, or Btu’s. (A Btu is the unit of heat required to raise the temperature of one pound of water one degree Fahrenheit, or about 252 calories.)

For example, one kWh of electricity has an energy content equivalent to 3,600 kilojoules (3,412 Btu’s), but to generate and transmit it and then to convert it between AC and DC for consumption by a light rail vehicle requires on the order of 7,800 kilojoules (7,400 Btu’s) of additional energy. Thus the total energy content of one kWh for light rail vehicle propulsion is approximately 13,500 kilojoules (12,800 Btu’s). Similarly, one gallon of diesel fuel has energy content of 146,300 kilojoules (138,700 Btu’s) but requires an additional 9,300 kilojoules (8,800 Btu’s) for refining and delivery. Its total energy content is approximately 155,700 kilojoules (147,600 Btu’s).

Energy consumed is estimated for all major highway and public transit systems in the region. The modal breakdown helps identify the effect of proposed improvements in one mode on other modes of transportation.

5.11.3 Direct Energy Consumption by Alternative by Mode

Table 5.11-1 summarizes the estimated direct energy requirements of the three project alternatives, including the No-Build Alternative, in 2015. Roadway motor vehicles (non transit) dominate weekday vehicle miles of travel, and as a result energy consumption, under all alternatives.

5.11.3.1 No-Build Alternative. In the No-Build Alternative, over 99 percent of vehicle miles of travel in the region would be generated by autos and trucks, approximately 99.5 million each weekday. These vehicles would also consume approximately 99 percent of the total direct energy on a daily and an annual basis. Total daily energy consumption for non-transit motor vehicles is estimated to be on the order of 555 billion kilojoules (526.1 billion Btu’s) in 2015; total annual consumption is on the order of 183.2 trillion kilojoules (173.6 trillion Btu’s). Transit vehicle miles of travel would total approximately 99,200 on the typical weekday in 2015. The propulsion energy
consumed by transit vehicles amounts to approximately 5.3 billion kilojoules (5.0 billion Btu’s) each weekday and 1.6 trillion kilojoules (1.5 trillion Btu’s) annually.

The combined energy consumption of motor vehicle and transit modes would be on the order of 560.4 billion kilojoules (531.1 billion Btu’s) daily and 184.8 trillion kilojoules (175.2 trillion Btu’s) annually.

5.11.3.2 **TSM Alternative.** The TSM Alternative is projected to generate the most vehicle miles of travel and consume the most propulsion energy of the three project alternatives. Non-transit motor vehicle miles of travel and energy consumption would remain about the same as under the No-Build Alternative. However, bus miles and energy use due to the proposed expansion in the San Diego Transit Corporation’s (SDTC) Express Bus and Local Bus services under the TSM Alternative would increase. (No significant change in vehicle miles for other transit modes relative to the No-Build Alternative would occur.) The net result is total weekday vehicle miles of travel for all motor vehicle and transit modes would be approximately 99.4 million in 2015, with a corresponding daily energy consumption of on the order of 559.8 billion kilojoules (530.6 billion Btu’s). Annual energy consumption would be on the order of 184.6 trillion kilojoules (175.0 trillion Btu’s).

**Balboa LRT Extension/Nobel Drive Coaster Station.** The Balboa LRT Extension/Nobel Drive Coaster Station Alternative (or Build Alternative in Table 5.11-1) is projected to generate the least vehicle miles of travel and consume the least propulsion energy. This results from a reduction in non-transit motor vehicle miles and energy use resulting from a shift of travelers from autos to light rail and feeder bus modes and to commuter rail. A reduction in Express Bus vehicle miles and energy use is also anticipated with rail improvements. The moderate increase in light rail vehicle miles and energy use and slight increase in SDTC Local Bus miles and energy use resulting from the Balboa Extension would not have a significant effect on daily or annual propulsion energy consumption.

The addition of a Nobel Station stop on the Coaster would not increase vehicle miles of travel on the commuter rail service compared to either the No-Build or TSM Alternative.\(^5\)

Table 5.11-1 includes a line item indicating the vehicle miles and energy use attributable to the Balboa Extension, under Light Rail Line 510. Compared to the No-Build or TSM Alternative, the extension would add approximately 800 light rail vehicle miles of travel to the system on the typical weekday, equivalent to a 24.1 billion kilojoule (22.8 billion Btu) increase in total propulsion energy consumption annually for this mode. The vehicle miles decrease for SDTC Bus is projected to be approximately 600 daily in comparison to the No-Build Alternative, equivalent to a 6.9 billion (6.6 billion Btu) decrease in propulsion energy consumption annually. The reduction in non-transit

\(^{5}\) The additional energy required for deceleration and acceleration to serve an additional Coaster stop would not be significant overall and has not been quantified.

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## Table 5.11-1

**Direct Energy Consumption by Alternative (2015)**

<table>
<thead>
<tr>
<th>Alternative/Mode</th>
<th>Weekday VMT (000s)</th>
<th>Propulsion Energy Consumption per Mile</th>
<th>kJs (Btu's) per Energy Unit</th>
<th>Total Propulsion Energy in kJs / Btu's per Mile</th>
<th>Total Daily Energy Consumption in millions of kJs / Btu’s</th>
<th>Total Annual Energy Consumption in millions of kJs / Btu’s</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NO-BUILD</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motor Vehicles</td>
<td>99,456.8</td>
<td>0.04 gal.</td>
<td>139,537 / 132,250</td>
<td>5,581 / 5,290</td>
<td>555,116 / 526,127</td>
<td>183,188,312 / 173,621,753</td>
</tr>
<tr>
<td>Commuter</td>
<td>1.2</td>
<td>2.20 gal.-diesel</td>
<td>155,733 / 147,600</td>
<td>342,612 / 324,720</td>
<td>422 / 400</td>
<td>130,957 / 124,118</td>
</tr>
<tr>
<td>Light Rail</td>
<td>11.6</td>
<td>8.00 kWh</td>
<td>11,395 / 10,800</td>
<td>91,161 / 86,400</td>
<td>1,053 / 998</td>
<td>326,570 / 309,516</td>
</tr>
<tr>
<td>Buses</td>
<td>86.5</td>
<td>0.39 Therm-</td>
<td>112,368 / 106,500</td>
<td>43,945 / 41,650</td>
<td>3,798 / 3,600</td>
<td>1,177,307 / 1,115,824</td>
</tr>
<tr>
<td><strong>Total All</strong></td>
<td>99,556.0</td>
<td></td>
<td></td>
<td></td>
<td>560,390 / 531,125</td>
<td>184,823,145 / 175,171,212</td>
</tr>
<tr>
<td><strong>TSM ALTERNATIVE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motor Vehicles</td>
<td>99,336.1</td>
<td>0.04 gal.</td>
<td>139,537 / 132,250</td>
<td>5,581 / 5,290</td>
<td>555,442 / 525,488</td>
<td>182,965,978 / 173,411,030</td>
</tr>
<tr>
<td>Commuter</td>
<td>1.2</td>
<td>2.20 gal.-diesel</td>
<td>155,733 / 147,600</td>
<td>342,612 / 324,720</td>
<td>422 / 400</td>
<td>130,957 / 124,118</td>
</tr>
<tr>
<td>Light Rail</td>
<td>11.6</td>
<td>8.00 kWh</td>
<td>11,395 / 10,800</td>
<td>91,161 / 86,400</td>
<td>1,053 / 998</td>
<td>326,570 / 309,516</td>
</tr>
<tr>
<td>Buses</td>
<td>88.4</td>
<td>0.39 Therm-</td>
<td>112,368 / 106,500</td>
<td>43,945 / 41,650</td>
<td>3,886 / 3,683</td>
<td>1,204,648 / 1,141,738</td>
</tr>
<tr>
<td><strong>Total All</strong></td>
<td>99,473.3</td>
<td></td>
<td></td>
<td></td>
<td>559,804 / 530,570</td>
<td>184,628,152 / 174,986,402</td>
</tr>
<tr>
<td><strong>BUILD ALTERNATIVE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motor Vehicles</td>
<td>99,373.5</td>
<td>0.04 gal.</td>
<td>139,537 / 132,250</td>
<td>5,581 / 5,290</td>
<td>554,651 / 525,686</td>
<td>183,034,835 / 173,476,291</td>
</tr>
<tr>
<td>Commuter</td>
<td>1.2</td>
<td>2.20 gal.-diesel</td>
<td>155,733 / 147,600</td>
<td>342,612 / 324,720</td>
<td>422 / 400</td>
<td>130,957 / 124,118</td>
</tr>
<tr>
<td>Light Rail</td>
<td>12.4</td>
<td>8.00 kWh</td>
<td>11,395 / 10,800</td>
<td>91,161 / 86,400</td>
<td>1,131 / 1,072</td>
<td>350,676 / 332,363</td>
</tr>
<tr>
<td>Buses</td>
<td>85.9</td>
<td>0.39 Therm-</td>
<td>112,368 / 106,500</td>
<td>43,945 / 41,650</td>
<td>3,775 / 3,579</td>
<td>1,170,373 / 1,109,253</td>
</tr>
<tr>
<td><strong>Total All</strong></td>
<td>99,473</td>
<td></td>
<td></td>
<td></td>
<td>559,980 / 530,736</td>
<td>184,686,840 / 175,042,024</td>
</tr>
</tbody>
</table>

Btu = British thermal unit; kJ = kilojoule

1 Vehicle miles of travel (VMT) by mode estimated by SANDAG for the region; motor vehicle totals include autos, trucks and other roadway vehicles.

2 Average energy consumed per mile of operation; based on average fuel or electrical energy efficiency.

3 Total energy consumed accounts for energy required to refine petroleum fuels and generate, transmit and convert electrical energy.

4 Annualized from weekday estimates using a factor of 330 for motor traffic and 310 for transit modes. These factors are based on 1998 weekday/weekend service levels operated by the major regional operators.

motor vehicle miles is projected to be approximately 83,000 on the average weekday, equivalent to a 153.5 billion kilojoule (145.5 billion Btu) decrease in energy consumption annually. Overall, the Build Alternative would consume 560.0 billion kilojoules (530.7 billion Btu’s) daily and 184.7 trillion kilojoules (175.0 trillion Btu’s) annually for motor vehicle and transit vehicle propulsion.

5.11.4 Mitigation Measures

The Balboa LRT Extension/Nobel Drive Coaster Station Alternative would consume less direct energy for operations than either the No-Build or TSM Alternative, both in 2015 and over the life of the project. No mitigation measures for energy use will be required.

Nonetheless, measures to improve the energy efficiency of LRT vehicles are under consideration. Regenerative braking, which supplies power back to the traction power system when a vehicle brakes, would reduce net propulsion energy consumption. Automatic vehicle control systems can also produce benefits in energy consumption. These features will be included in future light rail vehicles whenever possible. Increasing transit ridership on light rail and commuter rail systems would also reduce energy consumption assuming new riders shift from more energy intensive motor vehicle modes. Marketing and other promotional efforts will be undertaken to increase ridership growth associated with the Balboa LRT Extension/Nobel Drive Coaster Station Alternative.

5.12 HAZARDOUS MATERIALS

This section presents a summary of the potential hazardous materials and waste impacts associated with the alternatives evaluated in this FEIS. Detailed technical information can be found in the following technical reports: Hazardous Materials (January 17, 1994), and Phase I Site Assessment for the Mid-Coast Light Rail Transit Project and Commuter Rail Stations (August 1996).

Findings of the 1994 Investigation

The 1994 analysis entailed a regulatory agency data record search and site survey of facilities that use, generate, transport, or store hazardous materials and/or wastes within 0.8 kilometer (one-half mile) of the alternatives studied. The survey included an assessment of potentially significant hazardous materials and waste impacts resulting from the disturbance, transport, emission, and disposal of hazardous materials and/or wastes during construction and maintenance and operation the proposed alternatives. Mitigation measures are recommended.

Impacts associated with the AA/DEIS/DEIR alternatives, due to the presence or potential presence of hazardous materials and/or wastes, were identified and are generally categorized in the following three areas:

- Disposal of utility poles coated with creosote and PCBs;
- Past/future releases of oils/greases from trains on the SDNR tracks into surface soils; and
- Possible encounter of hazardous wastes from sources not anticipated.
Impacts associated with the AA/DEIS/DEIR alternatives as a result of past releases of hazardous materials and wastes were not expected. The majority of the facilities with identified releases have already been mitigated through the removal of contaminated soils at their sources. Twenty two (22) sites were identified in the full Mid-Coast Corridor. In the south segment (the general vicinity of the Balboa LRT Extension), 19 sites experienced releases of hazardous materials and/or wastes, primarily from underground storage tanks (USTs). Twelve of these sites were mitigated and are considered No Further Action (NFA). Seven sites are unresolved (UNR) and are being investigated by property owners as of July 1992 (no new information is available). In the center segment (the general vicinity of the Nobel Drive Coaster Station), two sites with UST leaks were identified at UCSD Scripps Benthic Lab and UCSD Mayer Hall. Impacts for these sites were classified as no impact. The distance of these sites from improvements related to the FEIS alternatives is considerable, and no impacts are expected. Detailed information and locations of these sites can be found in the technical report and its appendices. Reference is made here and not included within the document because impacts are unlikely.

Findings of the Initial Site Assessment

After visually inspecting the project study area during a site reconnaissance and thoroughly reviewing regulatory records and previous reports and investigations, no evidence was found that migration of any contaminants to the soil and/or ground water underlying the LRT alignment corridor has occurred since the January 1994 investigation. The locations of permitted facilities with respect to the LRT alignment and the vigorous regulatory agency oversight evident for the records review reduce the potential for future impacts on the soil and/or groundwater underlying the alignment. Records review and site reconnaissance at the proposed Nobel Drive Coaster Station site showed that the existing SDNR railway is the only development that may affect the subject site. The minor leakage of lubricating oils and hydraulic fluids used to maintain trains are not considered, however.

5.12.1 TSM Alternative

Impacts. The TSM Alternative would have no significant direct or indirect adverse impacts from hazardous materials or wastes within in the vicinity of improvements under the FEIS alternatives.

Mitigation Measures. If unanticipated sources of hazardous materials and/or wastes are encountered during construction activities, the following mitigation measures will be implemented:

- Notify San Diego Hazardous Materials Management Division (HMMD) and/or the San Diego Fire Department within 24 hours;
- Prepare a Work Plan and a Health and Safety Plan to characterize encountered contamination. Appropriate health and safety precautions as specified by Title 8 California Code of Regulations (Section 5194) of California Occupational Safety and Health (Cal/OSHA) must be followed;
- Implement Work Plan and Health & Safety Plan; and
- Properly identify and remove any contaminated soils and/or groundwater encountered.
5.12.2 Balboa LRT Extension/Nobel Drive Coaster Station Alternative

**Impacts.** The Balboa LRT Extension/Nobel Drive Coaster Station Alternative would have no adverse impacts from hazardous materials or wastes. Minor impacts may result due to the presence within the SDNR right-of-way of utility poles that may contain creosote and PCB-containing “tacky” oils. Although not expected, impacts may also result if unanticipated sources of hazardous wastes are encountered during construction.

**Mitigation Measures.** Appropriate mitigation for PCBs and creosote-containing wastes include handling of the utility poles with appropriate protective gloves and coveralls and removal to an appropriate hazardous waste disposal facility by a licensed waste transporter. If the poles are relocated rather than replaced, they may not be considered as hazardous waste, and therefore may not be required to be disposed.

Analysis of the “tacky” oil on the utility poles will be performed to determine whether PCBs and metals are present and at what concentration. According to the California Department of Health Services (DHS) Guidelines (April 1991) for PCB handling, treatment and disposal, the utility poles may be a hazardous waste if a PCB concentration of 50 mg/kg, or greater, is present. As a hazardous waste, the poles will be subject to the Land Disposal Restrictions (LDRs) which require that the poles either be disposed of as hazardous waste at a disposal facility such as Kettlemen Hills Landfill in Kettlemen City, California, or incinerated at an approved facility outside California. LDRs may also apply to the utility poles and any wood debris containing creosote.

If unanticipated sources of hazardous materials and/or wastes are encountered during construction activities, the mitigation measures identified above (Section 5.12.1) will be implemented.

5.12.3 Cumulative Impacts

The TSM Alternative would have no significant adverse cumulative impacts relating to hazardous wastes. Cumulative hazardous waste impacts could result from the Balboa LRT Extension/Nobel Drive Coaster Station Alternative due to the presence of utility poles within the SDNR right-of-way. As previously addressed, these utility poles may have been treated with creosote and a PCB, containing “tacky” oil. Minor cumulative impacts may result due to the relocation of the utility poles and the respective power lines and transformers. These impacts are not considered significant. Mitigation measures for handling the utility poles are discussed above (Section 5.12.2).

5.13 CONSTRUCTION IMPACTS

This section describes construction impacts associated with the alternatives evaluated in this FEIS. Detailed technical information can be found in the following technical reports: Preliminary Engineering, October 1997; Traffic Impact, January 1994; Land Use, January 1993; Air Quality Impacts, December 1993; Neighborhood Impacts, February 1994; Water Resources, January 1994; and Geotechnical Resources, December 1993.
Construction of any of the projects included in the No-Build Alternative would be approved and permitted separately, and therefore this analysis assumes there would be no impacts. Construction of the TSM or Balboa LRT Extension/Nobel Drive Coaster Station Alternatives would involve a number of activities. The following construction sequence would likely be used for either of these alternatives, and the analysis of construction impacts assumes this approach.

Traffic Management Plan: A traffic management plan will be developed and agreed upon by MTDB, the City of San Diego, the California Department of Transportation, and other appropriate agencies. The plan will include ways to maintain emergency access, traffic, bus service, and pedestrian activity while allowing for the construction activities and access. The magnitude of traffic disruption would depend on the nature of the street and any local constraints.

Utility Relocation: This would be the first activity and would involve localized excavation in the street to enable relocation of existing underground utilities and/or the burying of existing aerial utilities. The work would generally be undertaken by crews from the various utility owners.

Construction of Track Bed and Foundations: The LRT track bed foundation would generally consist of a 0.6-meter (two-foot) layer of crushed stone. LRT bridges and aerial sections would be constructed of reinforced concrete structures supported by single or dual piers.

Construction of LRT Guideway: The rail would be pre-welded at local staging areas and installed in sections up to 366 meters (1,200 feet) in length. Signals and electrical power lines would be installed along the rail line.

Stations: For the Balboa LRT Extension/Nobel Drive Coaster Station Alternative, on-street station construction would maximize the use of pre-cast elements to minimize disruption and accelerate on-site construction activity. Where necessary, additional construction work space would be segregated, in accordance with a traffic management plan to minimize disruption to traffic, pedestrian activity, and bus service.

Roadway Restoration: Upon completion of any activity, the roadway would be restored.

5.13.1 Construction Impacts: Transportation and Circulation

5.13.1.1 Rail and Bus Transit

Impacts

No-Build Alternative. The No-Build Alternative would not result in any construction impacts to future rail and bus service.

TSM Alternative. Two P&R facilities would be built under the TSM Alternative: a 113-space P&R lot at the intersection of Balboa Avenue and Morena Boulevard, and a 114-space P&R lot at the
intersection of Clairemont Drive and Morena Boulevard. Buses would serve the lots after they open. With proper traffic handling measures, lot construction would not be expected to affect adjoining roadways or require detours around work activity. Disruption of bus transit would be minimal as a result.

**Balboa LRT Extension/Nobel Drive Coaster Station Alternative.** Construction of the Balboa LRT Extension/Nobel Drive Coaster Station Alternative would include three LRT stations and a Coaster station with parking areas, track, catenary, substations, and other ancillary facilities. Buses would serve the lots after they open. With proper traffic handling measures, lot construction would not be expected to affect adjoining roadways or require detours around work activity. Disruption of bus transit would be minimal as a result.

This Balboa LRT Extension would connect at-grade with the existing Old Town and Mission Valley LRT lines at the south end of the Balboa Extension. Construction of this connection has the potential to affect LRT revenue service. To avoid significant disruption of current LRT operations, construction of track turnouts and related junction improvements would be scheduled during non-revenue hours.

The Balboa LRT Extension track would be located in SDNR right-of-way, which is owned by MTDB. A portion of existing SDNR track will be relocated from just north of the San Diego River/Friars Road Bridge to just south of the Tecolote Station, a distance of approximately 800 meters (2,625 feet). Three existing turnouts will be replaced with a single turnout south of Tecolote Station. The proximity of LRT track construction to the existing tracks that serve Amtrak, Coaster commuter rail, and freight rail traffic may result in occasional impacts to rail service.

**Mitigation Measures**

For either the TSM Alternative or the Balboa LRT Extension/Nobel Drive Coaster Station Alternative, a traffic management plan will be developed and agreed upon by MTDB, the City of San Diego, the California Department of Transportation, and other appropriate agencies. The plan will include traffic handling measures, and will address vehicular traffic, bus service, and pedestrian activity while allowing for the delineation of a construction area. MTDB will notify the public and transit riders of any temporary changes in stop locations and bus service that may result from P&R lot development.

The following additional mitigation measures will be implemented to reduce rail and bus transit impacts of the Balboa LRT Extension/Nobel Drive Coaster Station Alternative: construction staging plans will be developed to minimize impact on existing rail services. MTDB will coordinate construction staging plans with the users of the adjacent tracks. The contractor will be required to provide advance notice of any potential disruptions in service.
5.13.1.2 Vehicular Traffic.

Impacts

TSM Alternative. Traffic in the vicinity of the proposed P&R facilities could be disrupted by construction equipment and traffic.

Balboa LRT Extension/Nobel Drive Coaster Station Alternative. Construction of LRT stations would have traffic impacts similar to those of the TSM Alternative. Traffic in the vicinity of the proposed stations could be disrupted by construction equipment and traffic. Roadway improvements would occur in the vicinity of Clairemont and Balboa LRT Stations and the Nobel Drive Coaster Station. At Clairemont Station, the southbound lanes of Morena Boulevard would be shifted slightly east, reducing the width of the existing median. At Balboa Station, the ramp from eastbound Balboa Avenue to Morena Boulevard would be reconfigured, which would allow the elimination of the existing southbound on-ramp from Balboa to Morena. At the Nobel Coaster Station the median in Nobel Drive would be modified to allow left turn access to/from the station. Other impacts to roadways are related to the construction of spur tracks, which would affect Lovelock Street and Cudahy Place, roadways south of Tecolote Station.

Mitigation Measures

As described in Section 5.13.1.1, a traffic management plan will be developed and will include measures to address bus service and other transportation issues. Construction staging plans will be developed to minimize impact on existing roadways. MTDB will coordinate with Caltrans and the City of San Diego to provide the public advance notice of proposed traffic detours and their duration.

5.13.1.3 Bicycle and Pedestrian Circulation

Impacts

TSM Alternative. Bicycle traffic on the undesignated bikeway on Morena Boulevard would be disrupted in the vicinity of the proposed P&R facilities, at various times during construction. Sidewalks along Morena Boulevard in the vicinity of the P&R facilities would not be available for pedestrian use at various times during construction.

Balboa LRT Extension/Nobel Drive Coaster Station Alternative. Construction of LRT and Coaster stations would have bicycle and pedestrian impacts similar to those of the TSM Alternative. Temporary closures of sidewalks would occur in the station area. Roadway improvements in the vicinity of Clairemont and Balboa LRT Stations and Nobel Drive Coaster Station would require temporary lane closures; however, bicyclists could use the remaining open lanes, or designated detours.
Mitigation Measures

As described in Section 5.13.1.1, a traffic management plan will be developed and will include measures to address pedestrian and bicycle issues. Construction staging plans will be developed to minimize impact on existing roadways, bikeways, and sidewalks. MTDB will coordinate with Caltrans and the City of San Diego to provide the public advance notice of proposed traffic detours and their duration.

5.13.1.4 Parking

Impacts. Construction activities for either the TSM or Balboa LRT Extension/Nobel Drive Coaster Station Alternative are not expected to have any substantial impact on availability of parking. On-street parking is available on a number of major roadways in the vicinity of the TSM Alternative P&R lots, and the Balboa LRT Extension/Nobel Drive Coaster Station Alternative stations.

Construction workers would be expected to park on-site. As shown in Table 5.2-1, the on-site job creation potential is estimated at 16 total positions (person year equivalent, or PYE) for the TSM Alternative, and 439 PYE positions for the Balboa LRT Extension/Nobel Drive Coaster Station Alternative. These employees, however, would be working at different sites during different time periods. For the TSM Alternative, there would be sufficient on-street parking available. For the Balboa LRT Extension/Nobel Drive Coaster Station Alternative, construction workers would typically park on-site in designated areas of the SDNR right-of-way, or proposed station and P&R lot areas. Where the construction site would not accommodate worker parking, there would be some minor temporary inconvenience to local businesses and residents from the additional parking demand.

Mitigation Measures. Provisions will be incorporated into the construction contracts to designate areas for construction worker parking, and to avoid substantial parking impacts to residential or business areas.

5.13.1.5 Rail Freight and Amtrak Services

Impacts. Construction activities for the Nobel Coaster Station and the LRT extension will occur in or adjacent to the SDNR right-of-way and will require flagmen and, if track conditions are affected, potential speed restrictions (slow orders). Conditions for rail freight or Amtrak would be similar to those experienced during the construction of the Old Town LRT extension. No impacts that would disrupt rail freight or Amtrak service are anticipated.

Mitigation Measures. Contractors will be required to coordinate with rail dispatch to avoid disruption of rail service in the corridor.
5.13.2 Construction Impacts: Accessibility

**Impacts.** Access to land uses is to be maintained to the greatest extent possible for all alternatives. The TSM Alternative would not block access to any land uses. As discussed in Section 5.13.1, there would be short-term impacts on roadways adjacent to the proposed TSM P&R lots. Mitigation for these roadway impacts is addressed in Section 5.13.1.

Construction of the Balboa LRT Extension/Nobel Drive Coaster Station Alternative would have short-term accessibility impacts on the retail nursery adjacent to the Tecolote LRT Station (if it does not relocate), the Union Tribune warehouse, and other warehouse facilities fronting on the freight spur track relocation areas (shown in Figures 2.4-25 through 2.4-31). As discussed in Section 5.1, MTDB would construct a new rail spur and entrance for the Union Tribune warehouse, and modify the nursery's yard area. The Balboa LRT Extension/Nobel Drive Coaster Station Alternative would also have construction-related impacts on roadways, as discussed in Section 5.13.1. Mitigation for these roadway impacts is addressed in Section 5.13.1.

**Mitigation Measures.** Construction staging, traffic management and control plans will be prepared during engineering design, to clearly identify land use access and safety measures for all modes of travel. These plans will be based on MTDB, City and State guidelines and procedures, and will be followed by the contractor. Additional construction traffic control plans may be required of the contractor and will be reviewed and approved prior to construction activities. MTDB will coordinate with owners of properties and businesses whose access would be affected during construction of the LRT project and the freight spur relocation.

5.13.3 Construction Impacts: Neighborhoods

**Impacts.** For the TSM and Balboa LRT Extension/Nobel Drive Coaster Station Alternatives, anticipated short-term impacts to neighborhoods are primarily construction-related noise, dust, and traffic.

Under the TSM Alternative, construction activities would have the potential for associated localized air quality and noise impacts on residential areas near the proposed Clairemont Drive and Balboa Avenue P&R lots.

Under the Balboa LRT Extension/Nobel Drive Coaster Station Alternative, construction activities would have the potential for associated localized air quality and noise impacts on residential areas near the Nobel Drive Coaster Station, the Clairemont and Balboa LRT Stations, and east of the LRT alignment between Clairemont and Balboa Stations.

**Mitigation Measures.** Mitigation measures as described in the following sections for possible noise and air quality impacts will limit the negative effects of construction on adjoining neighborhoods. Construction staging plans will be developed to minimize impact on existing roadways, including provisions to minimize conflicts from staging areas (traffic), such as limiting the number of access points to construction sites.
5.13.4 Construction Impacts: Air Quality

Impacts. During the construction phase of either the TSM or Balboa LRT Extension/Nobel Drive Coaster Station Alternatives, nitrogen dioxide, carbon monoxide, hydrocarbons, oxides of sulfur, and particulate matters would be emitted from construction equipment and exhausts of workers' vehicles. These are considered short-term emissions. Additional dispersion of particulate matter would occur through grading and vehicular travel on the unpaved areas.

The TSM would involve relatively little construction activity related to the construction of the two P&R lots. The Balboa LRT Extension/Nobel Drive Coaster Station Alternative has greater potential to generate air quality impacts, as it would involve more construction activity. The majority of these activities would be within or adjacent to existing transportation corridors. However, there would be some localized impacts on adjacent residential areas in the vicinity of the Nobel Drive Coaster Station, the Clairemont and Balboa LRT Stations, and east of the LRT alignment between Clairemont and Balboa Stations.

Mitigation Measures. All traffic mitigation measures identified in the Construction Impacts: Transportation and Circulation, Section 5.13.1, will be implemented to reduce congestion and resultant localized CO concentrations. In addition, dust control measures, including watering, and covering materials hauled in trucks, will be used during construction to minimize fugitive dust. Construction equipment will also be tuned and in good working condition.

5.13.5 Construction Impacts: Noise

Impacts. Under TSM and the Balboa LRT Extension/Nobel Drive Coaster Station Alternative, construction activities would occur near residential and commercial areas. It is noted that the areas in which most construction would occur are adjacent to I-5, a major source of existing noise in the vicinity of the FEIS alternatives.

Noise levels resulting from construction activities would vary depending on the type of equipment used, the number of concurrent activities, and the distance to a particular receptor. Through proper noise control measures, some impacts can be avoided or reduced.

Mitigation Measures. The following methods will be implemented to minimize construction noise impacts:

- Require that all engine-driven equipment be in good operating condition and have mufflers installed according to the manufacturers' specifications.
- Locate stationary construction equipment as far from sensitive noise receivers as possible.
- Shut off idling equipment.
- Notify nearby residents of the construction schedule and expected times and duration of maximum noise impacts.
• Consider the use of spread footings or cast in place piles instead of driven piles (if necessary).
• Construct noise barriers early in the project to shield residents from construction noise.

5.13.6 Construction Impacts: Natural and Water Resources

Increased Erosion and Sedimentation. During construction of the facilities associated with the TSM Alternative and the Balboa LRT Extension/Nobel Drive Coaster Station Alternative there would be the potential for increased erosion and sedimentation while the construction sites are denuded. This potential impact can be mitigated through compliance with the storm water permitting regulations, as discussed in Section 5.8.

Both the TSM or Balboa LRT Extension/Nobel Drive Coaster Station Alternatives, require construction within the Coastal Zone. During this construction, MTDB will actively manage and monitor control of erosion and sedimentation. Projects would use the EPA document “Guidance Specifying Management Measures for Sources of Non-point Pollution in Coastal Waters” as a guide in developing the preliminary and final plans and specifications for the project.

Floodplain. A portion of the Balboa LRT Extension/Nobel Drive Coaster Station Alternative would be constructed within the 100-year floodplain, in the vicinity of the San Diego River. As discussed in Section 5.8, the columns of the San Diego River/Friars Road Bridge would be located in the floodplain area. Storm drainage ways would be maintained at all times during the construction period, so the project would not affect the efficiency of storm drainage systems.

Vegetation Communities and Wetlands. Indirect impacts to biological resources may result from construction. These impacts include increased dust, increased erosion, or movement of excavated or other materials into protected habitats and wetlands (as identified in Section 3.7). Because construction activities are temporary and ambient noise levels adjacent to Interstate 8 and I-5 are high, potential construction noise-related effects would not result in adverse impacts.

Mitigation Measures. Impacts can be mitigated through the incorporation of appropriate construction site erosion control measures. Since 1992 these erosion control measures have been required as part of the SWRCB’s General Construction Activity Storm Water Permit (Part of the United States Environmental Protection Agency’s Clean Water Act). The permit is required for all storm water discharges associated with a construction activity that results in a land disturbance of 2.1 hectares (5 acres) or more. The Balboa LRT Extension/Nobel Drive Coaster Station Alternative would disturb more than 2.1 hectares (5 acres) and would be subject to the State’s General Construction Activity Storm Water Permit.

In addition, various run-off and erosion control practices will be used by MTDB:

• Write erosion and sediment control requirements into plans, specifications, and estimates for Federal aid construction projects for highways and bridges (FHWA, 1991) and develop erosion control plans for earth disturbing activities.
• Coordinate erosion and sediment controls with FHWA, AASHTO, and State guidelines.
• Install permanent erosion and sediment control structures at the earliest practicable time in the construction phase.
• Coordinate temporary erosion and sediment control structures with permanent practices;
• Vehicles entering or leaving the site with trash or other loose materials will be covered to prevent transport of dust, dirt, and debris. Install and maintain mud and silt traps.
• Minimize the area that is cleared for construction.
• Construct cut-and-fill slopes in a manner that will minimize erosion.
• Minimize runoff entering and leaving the site through perimeter and on-site sediment controls.
• Inspect and maintain erosion and sediment control practices (both on-site and perimeter) until disturbed areas are permanently stabilized.
• Divert and convey off-site runoff around disturbed soils and steep slopes to stabilized areas in order to prevent transport of pollutants off site.
• After construction, remove temporary control structures and restore the affected area. Dispose of sediments in accordance with State and Federal regulations.
• All storm drain inlets that are made operable during construction will be protected so that sediment-laden water will not enter the conveyance system without first being filtered or otherwise treated to remove sediment.

Construction methods will be designed to have minimal disturbance to existing native vegetation. Excavated material will be hauled out and stockpiled in disturbed areas without native vegetation. Construction access will be from existing roads through disturbed areas or within the designated 18.3-meter (60-foot) construction corridor; no culverts will be placed in the river for access roads. Stockpile areas, staging areas, and construction access will be described on the final grading plans and/or standard specifications. A qualified biologist will review plans and specifications in the design phase of the project. These construction-related areas shall be restricted to previously disturbed areas within the project site. Prior to the start of construction, a qualified biologist shall delineate on grading plans all areas that contain federally- and state-protected biological resources that are not to be disturbed.

On-site mitigation at the San Diego River crossing will consist of restoration of areas within the project limits affected by temporary construction impacts. In addition, special measures will be considered to salvage and replant existing vegetation in order to preserve, as much as possible, the existing canopy and shrub cover.

MTDB’s final natural resources mitigation plan (described in Section 5.7.2) will include the restriction of brushing, grading and construction during the avian breeding season (February 15 to September 1), unless otherwise approved by the USFWS and the CDFG.

5.13.7 **Construction Impacts: Geotechnical.**

Potential construction impacts and mitigation associated with geotechnical/seismic conditions are discussed below.
5.13.7.1 **TSM Alternative.** Construction impacts related to geotechnical conditions associated with the TSM Alternative would occur at the P&R lot sites, at Clairemont Drive and Balboa Avenue. Grading would be required to create areas for the P&R lots. Artificial fill and soils of the Bay Point Formation may be present at these sites. The Foundation Report: Mid-Coast Light Rail presented the findings of subsurface evaluations in the vicinity of the Clairemont Drive and Balboa Avenue P&R lots. Recommendations relating to both the TSM and Balboa LRT Extension/Nobel Drive Coaster Station Alternatives are provided below.

5.13.7.2 **Balboa LRT Extension/Nobel Drive Coaster Station Alternative.**

**Impacts.** Construction impacts related to geotechnical conditions associated with the Build Alternative would occur at the Nobel Drive Coaster Station, three LRT stations, and the length of the Balboa LRT Extension. Cut-and-fill and grading activities would be required to develop the station sites. The Scripps Formation may be present in the Nobel Drive Coaster Station area, and slope stability of cut or fill slopes would need to be assessed.

Construction of the Balboa Extension would include new bridges across the San Diego River, Tecolote Creek, and Balboa Avenue. The Foundation Report identified alluvium soils in the vicinity of the Tecolote Creek bridge, which will make necessary the use of cast-in-drilled-hole (CIDH) foundations and ground improvement measures. The Balboa Avenue bridge and retaining walls north of Tecolote Creek can be founded on more traditional foundations. Other geotechnical concerns in the southern portion of the Balboa Extension include the potential susceptibility of catenary poles to liquefaction (in the event of a major earthquake), and consolidation settlement in the underlying compressible alluvium. Some site soils may also be severely corrosive to ferrous materials and concrete.

In addition, there are minor impacts associated with space limitations within the SDNR right-of-way between Clairemont Drive and Balboa Avenue. It is anticipated that cuts would be required to be made into existing slopes in this area exposing Bay Point formational soils. Excavated slopes and fill slopes constructed of materials derived from the Bay Point Formation are highly susceptible to erosion and surficial slope instabilities.

**Mitigation Measures.** The following recommendations of the Foundation Report will be implemented for the TSM or Balboa LRT Extension/Nobel Drive Coaster Station alternatives:

- Submit approved construction plans to a geotechnical consultant to evaluate adherence to Foundation Report recommendations.
- Hold a pre-construction conference with the owner or agency representative, geotechnical consultant, civil engineer, structural engineer, and contractor.
- Prior to placement of any fill, clear surface of debris and obstructions, pavement and concrete structures, brush and vegetation. Areas of soft, saturated, or otherwise unsuitable subgrade soils will be removed to competent material, to the extent possible.
- Fill will be placed in horizontal lifts and compacted by appropriate mechanical methods.
Material imported to the project, if any, will consist of clean, low expansive, low corrosive, granular material.

Subsurface conditions interpolated by the Foundation Report will be evaluated in the field during construction. A geotechnical consultant will observe the implementation of Foundation Report recommendations in the field.

5.13.8 Construction Impacts: Utilities

Detailed information regarding each of the utilities affected by the project is provided in the Preliminary Engineering Report, October 1997, incorporated in this FEIS by reference. A brief description of impacts and proposed mitigation follows.

Impacts. The TSM Alternative would affect a 1.83 meter (72 inch) interceptor sewer line that runs through the Balboa Avenue P&R lot.

The Balboa LRT Extension/Nobel Drive Coaster Station Alternatives would affect an underground fiber optic line owned by MFS, telephone utility poles owned by Pacific Bell, a 1.83 meter (72 inch) interceptor sewer line, a 508 millimeter (20 inch) water line, a 406 millimeter (16 inch) gas line.

Mitigation Measures. Utilities conflicting with the alignments will either be relocated prior to construction or maintained and protected in place during construction, as recommended by the Preliminary Engineering Report. Discussions will be held with affected utility operators to determine specific measures to minimize disruptions and maintain system integrity. MTDB policy is to share utility relocation expenses, but in cases where facility improvements are involved, financing will be subject to negotiation.

5.14 RELATIONSHIP BETWEEN LOCAL SHORT-TERM USE OF RESOURCES AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Interstates 5, 8 and 805, and SR-52 are major traffic routes within the Mid-Coast Corridor providing access throughout the San Diego region. The lack of available traffic carrying capacity and the increase in population and job growth in the Mid-Coast Corridor and the San Diego region would generate future transportation demands that cannot be met by the existing highway and transit systems. To provide acceptable levels of mobility in the long-term, additional transit improvements are required. The TSM and Balboa LRT Extension/Nobel Drive Coaster Station Alternatives would help to reduce traffic congestion within the Mid-Coast Corridor, particularly in the vicinity of improvements proposed with the FEIS alternatives. Any transit improvement would reduce vehicle miles traveled within the Corridor and throughout the region. In addition, implementation of a transit improvement alternative would assist in increasing the long-term economic productivity of the area in terms of providing greater access between employment centers, residential areas, educational centers, and downtown San Diego. The TSM Alternative would intensify the current
short-term use of existing facilities, while the Balboa LRT Extension/Nobel Drive Coaster Station Alternative provides long-term solutions for the future of the region.

5.15 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The alternatives analyzed require an irretrievable commitment of energy resources. Construction and operational activities would consume petroleum fuels, natural gases, and electricity. The Balboa LRT Extension/Nobel Drive Coaster Station Alternative would reduce net fuel consumption in the FEIS study area and the Mid-Coast Corridor by diverting automobile trips to transit trips. The TSM and Balboa LRT Extension/Nobel Drive Coaster Station Alternatives both represent, in most cases, an irretrievable commitment of construction materials, funding, and human resources. Construction materials (such as steel, cement, lumber, and fabricated materials) once used cannot be retrieved. Financial resources committed to the proposed alternatives cannot be recovered. Human resources expended to design, construct, and operate the alternative transit systems are not recoverable. An irreversible commitment of land resources would occur because land, except in the case of joint development used for the selected alternative would then be unavailable for other uses such as parks, housing, or commercial development.
CHAPTER 6: FINANCIAL ANALYSIS AND EVALUATION OF ALTERNATIVES

This chapter summarizes the financial analysis and evaluation of the No-Build, TSM, and Balboa LRT Extension/Nobel Drive Coaster Station Alternatives. In accordance with FTA guidelines, the evaluation of alternatives addresses the following categories:

- **Financial Feasibility** — the feasibility of financing the construction and operation of each alternative. A financial analysis and discussion of financial feasibility are provided in Section 6.1.

- **Efficiency - Cost Effectiveness** — how effectively each alternative attracts transit ridership compared with its capital and operating costs. Efficiency/cost-effectiveness measures are included in Section 6.1.

- **Effectiveness - Goals Attainment** — how well each alternative meets the stated project goals and the purpose of the project. Section 6.2 outlines the project goals and objectives and presents a comparison of alternatives, including a summary of equity considerations.

6.1 FINANCIAL ANALYSIS

This section reviews the financial capacity of the San Diego regional transit system to build and operate the proposed project. Two transit development boards (Boards) oversee the operation of the public transit services: the Metropolitan Transit Development Board (MTDB) and the North San Diego County Transit Development (NCTD) Board.

Eight fixed route systems serve the MTDB area and comprise the Metropolitan Transit System (MTS): (1) Chula Vista Transit, (2) County Transit System, East County Suburban Service, (3) MTDB Contract Services, (4) National City Transit, (5) San Diego Transit Corporation, (6) San Diego Trolley, Inc., (7) County Transit System Express Bus, and (8) County Transit System Poway Service. Door-to-door services are contracted by MTDB in four districts. NCTD is responsible for fixed route bus, Coaster commuter rail service, and dial-a-ride service.

The following subsections discuss revenue sources, costs, cash flow analysis, risk analysis, and conclusions for these regional transit services.

6.1.1 Revenue Sources

An important function of the financial capacity assessment is a review of present and future revenue sources and amounts available to the San Diego regional transit operators/owners to build, operate, and maintain the future transit service. These revenues must then be compared to forecasts of both
operating and capital costs to ascertain that the regional transit operators/owners will be able to support the proposed FEIS Alternatives, while continuing their ongoing transit service commitment to the region.

Anticipated funding sources for future transit operations and transit capital projects include:

**Federal**
- Section 5307 of the federal Transportation Equity Act for the 21st Century (TEA21).
- Congestion Mitigation and Air Quality Funding (CMAQ).
- Clean Fuels Program.
- Fixed Guideway Modernization.
- Discretionary/New Starts funds (under TEA21).
- Transportation Enhancement Activities, previously authorized under the Intermodal Surface Transportation Efficiency Act (ISTEA).

**State**
- State Transit Assistance (STA).
- State Highway Account/Public Transportation Account (SHA/PTA).
- Traffic Congestion Relief Program of 2000

**Local**
- Fare Revenues.
- TransNet Sales Tax Revenues.
- Air Pollution Control District (APCD) AB 2766 Vehicle Registration Fee.
- Transportation Development Act (TDA).
- ADA Subsidy (TDA 4.5 and TransNet)
- Contributions from San Diego State University.
- Miscellaneous Local Funds.

Specific funding sources and amounts for the planning and construction of the Balboa LRT Extension/Nobel Coaster Station Alternative are listed in Table 6.1-1. The amounts are escalated to the year of expenditure. About 60 percent of the capital funding is expected to come from the local TransNet sales tax. Federal sources will provide most of the remainder of the capital costs.

Operating costs of the Balboa LRT Extension/Nobel Coaster Station Alternative are estimated to be $2.1 million per year in 1999 dollars. Approximately 54 percent of the operating funds is expected to come from farebox revenues. The remainder of the operating funds is expected to come from the state Transportation Development Act (TDA) and the local TransNet sales tax.
Table 6.1-1
Capital Cost Funding
Balboa LRT Extension and Nobel Drive Coaster Station

<table>
<thead>
<tr>
<th>Proposed Funding Source</th>
<th>Amount (escalated to year of expenditure)</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Section 5309 New Starts</td>
<td>$49,164,000</td>
<td>$781,000 appropriated through FY00</td>
</tr>
<tr>
<td>Section 5307 funds</td>
<td>$519,000</td>
<td>Appropriated in FY98</td>
</tr>
<tr>
<td>State</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TCI</td>
<td>$873,000</td>
<td>Existing</td>
</tr>
<tr>
<td>Local</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TransNet Tax</td>
<td>$75,073,000</td>
<td>$8,597,000 existing, rest committed</td>
</tr>
<tr>
<td>Total</td>
<td>$125,740,000</td>
<td></td>
</tr>
</tbody>
</table>

Source: MTDB, December 2000

6.1.2 Costs
6.1.2.1 Capital Costs

Tables 6.1-2 and 6.1-3 show the capital costs for TSM Alternative and the Balboa LRT Extension/Nobel Drive Coaster Station Alternatives. In 1999 dollars, capital costs are estimated to be $9,706,000 for the TSM Alternative, $96,507,000 for the Balboa LRT Extension, and $8,356,400 for the Nobel Drive Coaster Station. When calculated for the beginning year of construction, which would be FY 2001 for the TSM Alternative, FY 2005 for the LRT, and FY 2001 for the Nobel Drive Station, these costs are estimated to be $10,385,000 for the TSM Alternative, $116,707,000 for the Balboa LRT Extension, and $9,025,000 for the Nobel Drive Coaster Station.
Table 6.1-2
Mid-Coast Corridor Project
TSM Alternative Cost Summary by Major Category (1999 $)

<table>
<thead>
<tr>
<th>Category</th>
<th>Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning/PE</td>
<td>$128,000</td>
</tr>
<tr>
<td>Final Design</td>
<td>$143,000</td>
</tr>
<tr>
<td>Right of Way</td>
<td>$4,590,000</td>
</tr>
<tr>
<td>Major Procurement (including rolling stock)</td>
<td>$2,652,000</td>
</tr>
<tr>
<td>Construction</td>
<td>$1,346,000</td>
</tr>
<tr>
<td>Construction &amp; Project Administration</td>
<td>$469,000</td>
</tr>
<tr>
<td>Start-Up</td>
<td>$41,000</td>
</tr>
<tr>
<td>Contingency</td>
<td>$337,000</td>
</tr>
<tr>
<td>Total</td>
<td>$9,706,000</td>
</tr>
</tbody>
</table>

Source: MTDB, PTG-De Leuw, Cather & Co. March 2000

Table 6.1-3
Mid-Coast Corridor Project
Capital Cost Summary by Major Category (1999 $)

<table>
<thead>
<tr>
<th>Category</th>
<th>LRT to Balboa</th>
<th>Nobel Drive Station</th>
<th>Total Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning/PE</td>
<td>$1,995,000</td>
<td>$393,500</td>
<td>$2,388,500</td>
</tr>
<tr>
<td>Final Design</td>
<td>$4,460,000</td>
<td>$796,300</td>
<td>$5,256,300</td>
</tr>
<tr>
<td>Right of Way</td>
<td>$15,170,000</td>
<td>$648,100</td>
<td>$15,818,100</td>
</tr>
<tr>
<td>Major Procurement (including rolling stock)</td>
<td>$19,045,000</td>
<td>$134,300</td>
<td>$19,179,300</td>
</tr>
<tr>
<td>Construction</td>
<td>$40,030,000</td>
<td>$4,588,000</td>
<td>$44,618,000</td>
</tr>
<tr>
<td>Construction &amp; Project Administration</td>
<td>$6,900,000</td>
<td>$1,115,700</td>
<td>$8,015,700</td>
</tr>
<tr>
<td>Start-Up</td>
<td>$580,000</td>
<td>$115,700</td>
<td>$695,700</td>
</tr>
<tr>
<td>Contingency</td>
<td>$8,327,000</td>
<td>$564,800</td>
<td>$8,891,800</td>
</tr>
<tr>
<td>Total</td>
<td>$96,507,000</td>
<td>$8,356,400</td>
<td>$104,863,400</td>
</tr>
</tbody>
</table>

Source: MTDB, PTG-De Leuw, Cather & Co. March 2000

6.1.2.2 Operating Costs

Annual operating costs were projected by the Mid-Coast AA/DEIS/DEIR for the No-Build Alternative. Subsequent studies have estimated the comparable cost of the proposed TSM and Build alternatives. Table 6.1-4 shows the transit operating costs for the San Diego region, adjusted for inflation at a rate of 2.5 percent per year from 1992 to 1999.
### Table 6.1-4
2015 Transit System Operating Costs — No Build, TSM, and Build Alternatives
(1999 $)

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Estimated Operating Costs</th>
<th>With Respect to No-Build</th>
</tr>
</thead>
<tbody>
<tr>
<td>No-Build</td>
<td>$188,016,000</td>
<td>$0</td>
</tr>
<tr>
<td>TSM</td>
<td>$188,716,000</td>
<td>$700,000</td>
</tr>
<tr>
<td>Balboa LRT Extension and Nobel Drive Coaster Station</td>
<td>$190,117,000</td>
<td>$2,101,000</td>
</tr>
</tbody>
</table>

Source: Mid-Coast AA/DEIS/DEIR, 1995; MTDB, PTG - De Leuw, Cather & Co., 2000

#### 6.1.3 Cash Flow Analysis

A cash flow analysis is used to determine MTDB’s financial capacity. This analysis projects the revenues and expenditures, both operating and capital, that MTDB is likely to incur in continuing current transit services with the addition of the Balboa LRT Extension/Nobel Drive Coaster Station Alternative. Table 6.1-5 provides a summary of anticipated revenues and costs for the period of Fiscal Year (FY) 2000 through FY 2018. A more detailed discussion of this financial analysis can be found in the 2000 20-Year Financial Plan Update (MTDB, October 2000), located at the MTDB offices and incorporated herein by reference. The current project costs have been escalated about $9 million more than included in the 2000 update, but there are sufficient funds identified in the capital account to cover the additional capital costs.

The 20-Year Plan reflects the August 10, 2000 approval of the MTD Board of Directors of a new approach to funding not only the services provided by it and its subsidiary agencies, San Diego Transit Corporation and San Diego Trolley, Inc., but for all transit operators in the MTDB service area. The additional operators include Chula Vista Transit, San Diego County Transit System, La Mesa Dial-a-Ride, and National City Transit. The 20-Year Plan has not yet been adopted by the MTD Board, pending the conclusion of ongoing study of the extent of planned investment in future transit services and capital.

As shown in Table 6.1-4, sufficient funds appear to be available for the combined transit operations and transit capital expenditures for the FY 2000 through FY 2019, including the construction and operation of the Balboa LRT Extension/Nobel Drive Coaster Station Alternative described in this FEIS. As with the previous 20-Year Plan, this plan assumes any surpluses to occur in the capital program. That assumption and the current efforts of MTDB to identify additional minor sources of operating funds in the early years of the plan lead to small operating deficits. As the 20-Year Plan...
Table 6.1-5
Mid-Coast Project (Millions of Inflated Dollars)

<table>
<thead>
<tr>
<th>Operating and Maintenance Costs</th>
<th>FY00-2009</th>
<th>FY2010-19</th>
<th>Total FY00-2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Diego Transit/MTDB Contract</td>
<td>$878.29</td>
<td>$1,262.55</td>
<td>$2,140.84</td>
</tr>
<tr>
<td>San Diego Trolley</td>
<td>$411.06</td>
<td>$655.83</td>
<td>$1,066.89</td>
</tr>
<tr>
<td>ADA Services</td>
<td>$78.13</td>
<td>$129.13</td>
<td>$207.26</td>
</tr>
<tr>
<td>Other MTS Operators</td>
<td>$163.26</td>
<td>$266.63</td>
<td>$429.89</td>
</tr>
<tr>
<td><strong>Total O&amp;M Costs</strong></td>
<td>$1,530.75</td>
<td>$2,314.13</td>
<td>$3,844.88</td>
</tr>
</tbody>
</table>

Source of Funds

**Federal Funds:**
- FTA Section 5307: $49.41 | $76.44 | $125.85
- Clean Fuels Program: $0.00 | $0.00 | $0.00
- Congestion Mitigation & Air Quality (CMAQ): $1.98 | $4.41 | $6.39

**State Funds:**
- State Transit Assistance (STA): $51.03 | $73.04 | $124.07

**Local Funds:**
- Fare Revenues: $688.90 | $1,202.75 | $1,891.65
- ADA Subsidy (TDA 4.5 & TransNet): $5.59 | $0.00 | $5.59
- Air Pollution Control District Funds: $2.03 | $0.00 | $2.03
- Contingency Reserve: $11.85 | $3.50 | $15.35
- San Diego State University Contribution: $1.64 | $4.10 | $5.74
- Transportation Development Act (TDA): $622.65 | $882.20 | $1,504.85
- TransNet Sales Tax: $44.68 | $0.00 | $44.68
- Miscellaneous Local Funds: $50.96 | $67.67 | $118.63

**Total — Operating Funding Sources:** $1,530.72 | $2,314.12 | $3,844.84

Transit Capital Projects

**Anticipated Capital Expenditures**

**Major Capital Projects:**
- LRT Extensions Under Construction/Operation: $12.89 | $0.00 | $12.89
- Mission Valley East: $392.90 | $0.00 | $392.90

**Capital Improvements:**
- Buses/Vans/Components: $0.00 | $0.00 | $0.00
- Other Capital: $494.21 | $1,191.03 | $1,685.25

**New Rail Extensions:**
- Park Boulevard/I-15: $0.00 | $0.00 | $0.00
- Mid Coast: $106.33 | $0.00 | $106.33

**Financing:**
- Debt Service, Issue Expense, Reserve: $191.60 | $0.00 | $191.60

**Total — Use of Capital Funds:** $1,197.93 | $1,191.03 | $2,388.97

FINANCIAL ANALYSIS/EVALUATION OF ALTERNATIVES

6-6
Table 6.1-5
Mid-Coast Project (Millions of Inflated Dollars)

<table>
<thead>
<tr>
<th>Source of Funds</th>
<th>FY2009</th>
<th>FY2010-19</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Federal Funds:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• FTA Section 5307</td>
<td>$301.32</td>
<td>$504.52</td>
<td>$805.84</td>
</tr>
<tr>
<td>• Other Federal (TE, STP, Bus 5309)</td>
<td>$13.43</td>
<td>$10.00</td>
<td>$23.43</td>
</tr>
<tr>
<td>• Fixed Guideway Modernization</td>
<td>$96.62</td>
<td>$160.53</td>
<td>$257.15</td>
</tr>
<tr>
<td>• Discretionary/New Starts</td>
<td>$377.68</td>
<td>$0.00</td>
<td>$377.68</td>
</tr>
<tr>
<td>• Congestion Mitigation &amp; Air Quality (CMAQ)</td>
<td>$82.64</td>
<td>$101.13</td>
<td>$183.77</td>
</tr>
<tr>
<td><strong>State Funds:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• State Transit Assistance</td>
<td>$5.40</td>
<td>$0.00</td>
<td>$5.40</td>
</tr>
<tr>
<td>• STP/PUBLIC TRANSIT/Existing TCI</td>
<td>$63.90</td>
<td>$30.58</td>
<td>$94.48</td>
</tr>
<tr>
<td>• Traffic Congestion Relief Program of 2000</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td><strong>Local Funds:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Transportation Development Act (TDA)</td>
<td>$54.14</td>
<td>$425.10</td>
<td>$479.24</td>
</tr>
<tr>
<td>• Air Pollution Control District Funds</td>
<td>$15.54</td>
<td>$17.88</td>
<td>$33.42</td>
</tr>
<tr>
<td>• San Diego State University Contribution</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>• TransNet Sales Tax</td>
<td>$469.56</td>
<td>$0.00</td>
<td>$469.56</td>
</tr>
<tr>
<td>• Miscellaneous Local Funds</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>• Unspecified Additional Funds</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td><strong>Total — Capital Funding Sources</strong></td>
<td>$1,480.23</td>
<td>$1,249.74</td>
<td>$2,729.97</td>
</tr>
</tbody>
</table>


is finalized for Board adoption, these deficits will be eliminated. Over the 20-year period, the combined operating and capital balances have a projected surplus of about $341 million in year-of-expenditure dollars, which is more than adequate to build and operate the proposed project. Additionally, FTA’s summary of the FY 2000 New Starts gives the project a “high” finance rating based on the evaluation of the project’s local financial commitment, as measured by the stability and reliability of the project’s capital and operating plan and the proposed non-Section 5309 share of project costs.

6.1.4 Sensitivity Analysis

Sensitivity analysis tests the financial impact due to the uncertainty of cost and revenue projections. It measures the risk associated with the assumptions used in the financial analysis. Sensitivity analysis involves changing assumptions about major cost and revenue items (e.g., increases in inflation rates) to assess their effect on financial results. Sensitivity tests were performed for the following key assumptions: (1) inflation rates, (2) fare increases, (3) operating and maintenance costs, (4) taxable sales estimates. Based on the results of the sensitivity analysis, changes in assumptions regarding the inflation rate and fare increases would pose the largest financial risk to
MTDB. If inflation is higher than expected or MTDB does not increase fares as specified by Board Policy 29, MTDB’s ability to implement the Mid-Coast Corridor Alternatives would be adversely affected.

With respect to inflation, an annual inflation rate of three percent was assumed in the base financial analysis. The sensitivity to inflation was tested with a rate of four percent. For the 20-year analysis period, the modified inflation rate would result in a combined ending balance for the No-Build Alternative of $221.1 million compared with $393.5 million under the initial inflation assumption, a decrease of 44 percent. There would also be an operating shortfall of $5.8 million in FY2015, the last year of the analysis. If these inflation rates were applied to the build alternatives, the shortfall would be increased.

With respect to fare increases, fares were assumed to increase with inflation in the base financial analysis, or six percent every two years. The sensitivity to fare revenue was tested by assuming that fares would be increased at a rate of 1.5 percent per year, half the expected rate of inflation. Over 20 years, the modified fare increase assumption would result in fare revenue of $1.26 billion compared with $1.38 billion under the initial assumption, a difference of $124 million or nine percent. For the No-Build Alternative, the lower fare increases would result in a FY2015 operating ending balance of -$4.1 million compared with a zero operating balance for the initial fare increase assumption.

6.1.5 Cost Effectiveness

This section compares the economic performance of the Balboa LRT Extension/Nobel Drive Coaster Station Alternative with both the TSM and No-Build Alternatives. To objectively compare these statistics, cost efficiency and cost-effectiveness ratios have been determined. Section 6.2 presents a statistical summary of the three alternatives for providing future transit service in the Mid-Coast Corridor, including data contrasting existing performance with the projected future performance.

A performance measure that includes (annualized) capital costs, operating costs, and ridership is the Federal Transit Administration’s (FTA) cost-effectiveness index. This index is a means of comparing the marginal cost per new rider of the Balboa LRT Extension/Nobel Drive Coaster Station Alternative to the TSM and No-Build Alternatives. Calculation for the cost-effectiveness index requires three inputs for each of the alternatives: (1) capital costs, (2) operating costs, and (3) linked passenger transit trips.

FTA’s formula for the cost-effectiveness index is as follows:

\[
\text{Cost-Effectiveness Index} = \frac{\Delta \text{Capital Costs} + \Delta \text{Operating Costs}}{\Delta \text{Riders}}
\]

For this formula, the differences (\(\Delta\)) between the annualized capital costs for the Balboa LRT Extension/Nobel Drive Coaster Station and the TSM and No-Build alternatives are calculated. In 1999 dollars, the capital cost for the Balboa LRT Extension/Nobel Drive Coaster Station Alternative
is estimated to be $104.863 million more than the No-Build capital costs. When each capital cost category is annualized (using FTA annualization factors based on a seven percent discount rate), this capital costs translates into an annual capital cost of $8.341 million more than the No-Build. TSM capital costs (for the park-and-ride lots and additional buses) are approximately $9.706 million more than the No-Build Alternative. This amount translates to an annual capital cost of $0.870 million.

For the Build Alternative compared with the No-Build Alternative, the change in annual capital costs ("Δ Capital Costs" in the formula) is therefore = $8.341 million - $0 million = $8.341 million. For the Build Alternative compared to the TSM Alternative, the change in annual capital costs ("Δ capital costs" in the formula) is therefore = $8.341 million - $0.870 million = $7.471 million.

Differences (Δ) between annualized operating costs for the Balboa LRT Extension/Nobel Drive Coaster Station and the TSM and No-Build alternatives are also calculated for the cost-effectiveness formula. Annual operating costs for each alternative were provided in either the Mid-Coast AA/DEIS/DEIR or subsequent studies and are shown in Section 6.1.2.2 of this FEIS. Operating costs are for fixed route service (bus and rail) only. Americans with Disabilities Act (ADA)/paratransit costs are excluded since they are the same for all alternatives.

The Balboa LRT Extension/Nobel Drive Coaster Station Alternative has an estimated annual operating cost of $190.117 million, which is $1.401 million ("Δ operating costs" in the formula) more than the TSM annual operating cost of $188.716 million. The Build Alternative’s estimated annual operating costs are $2.101 million ("Δ operating costs" in the formula) more than the No-Build annual operating cost of $188.016 million. The TSM Alternative annual operating costs are estimated at $0.700 million more than the No-Build Alternative.

The difference in transit riders ("Δ riders" in the formula) is the difference in the annual number of linked passenger trips\(^1\) associated with the Balboa LRT Extension/Nobel Drive Coaster Station Alternative as compared with the No-Build and the TSM Alternatives. The number of linked trips is estimated from the SANDAG travel demand model (Series 8) for an average weekday. This number is then annualized by multiplying by 320, which represents the ratio of typical weekday trips to annual trips based on prior ridership statistics. For the Build Alternative, 72,317 million annual trips are forecast, as compared with 69,897 million annual trips for the TSM Alternative, and 69,035 million annual trips for the No Build Alternative. The Build Alternative therefore is projected to have 2,420 million more annual transit trips ("Δ riders" in the formula) than the TSM Alternative and 3,282 million more annual transit trips ("Δ riders" in the formula) than the No-Build Alternative.

When these calculated values are placed into the cost-effectiveness formula, the cost-effectiveness indexes for the Build Alternative are as follows:

- $3.67 per new rider for comparison of the Build Alternative with the TSM Alternative.

\(^1\) Linked trips adjust for the fact that some transit riders may transfer during the course of their trip and, consequently, produce more than one boarding per complete trip. Thus, each rider is counted only once, even though the rider may use more than one bus or train to make one trip.
$3.18 per new rider for comparison of the Build Alternative with the No-Build alternative.

The following formula shows this calculation for comparison of the Build Alternative with the TSM Alternative. A similar calculation is performed to develop the comparison with the No-Build Alternative:

\[
\Delta \text{ Capital Costs} = \text{Annualized Balboa LRT Extension/Nobel Drive Coaster Station Capital Costs} - \text{Annual TSM Capital Costs} = 8.341 \text{ million} - 0.870 \text{ million}
\]

\[
\Delta \text{ Operating Costs} = \text{Annual Balboa LRT Extension/Nobel Drive Coaster Station Operating Cost} - \text{Annual TSM Operating Cost} = 190.120 \text{ million} - 188.716 \text{ million}
\]

\[
\Delta \text{ Riders} = \text{Annual transit between Balboa LRT Extension/Nobel Drive Coaster Station and TSM} = 2.420 \text{ million}
\]

\[
\text{TSM Annual Linked Transit Trips} = 69.897 \text{ million}
\]

\[
\text{Balboa LRT Extension/Nobel Drive Coaster Station Annual Linked Transit Trips} = 72.317 \text{ million}
\]

Using the same calculation techniques as above, the cost-effectiveness index for a comparison of the TSM with the No-Build Alternative is $1.82 per new transit rider.

6.1.6 Financial Feasibility

The analyses presented herein (cash flow, risk, and cost effectiveness) verify that MTDB can afford to build and operate the Balboa LRT Extension/Nobel Drive Coaster Station Alternative, and that this alternative is highly cost effective.

6.2 COMPARISON OF ALTERNATIVES

Table 6.2-1 presents a comparison of the alternatives in the year 2015 using quantitative measures for all but two measures. The comparison of alternatives is a summary of more detailed information included in the preceding chapters. Not every goal category is represented by a measure, but an attempt has been made to provide balance among the measures presented. The following subsections discuss the selected measures by category of impact shown on Table 6.2-1.
<table>
<thead>
<tr>
<th>Category</th>
<th>No Build</th>
<th>TSM</th>
<th>Balboa LRT/Coaster Sta.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Costs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimated Capital Cost (Millions, Current $, Start of Construction)</td>
<td>$0</td>
<td>$10.4</td>
<td>$125.7</td>
</tr>
<tr>
<td>Estimated Capital Cost (Millions, 1999 $)</td>
<td>$0</td>
<td>$9.7</td>
<td>$104.9</td>
</tr>
<tr>
<td>Estimated Annual Operating Cost (Millions, 1999 $)</td>
<td>$0</td>
<td>$0.70</td>
<td>$2.1</td>
</tr>
<tr>
<td>FTA Cost-Effectiveness Index -- difference with respect to No-Build Alternative (see Section 6.1.5)</td>
<td></td>
<td>$1.82</td>
<td>$3.18</td>
</tr>
<tr>
<td>FTA Cost-Effectiveness Index -- difference with respect to TSM Alternative (see Section 6.1.5)</td>
<td></td>
<td></td>
<td>$3.67</td>
</tr>
<tr>
<td><strong>Travel, Mobility, and Accessibility</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increase in Projected Weekday Linked Transit Trips in the Region compared with the No-Build Alternative</td>
<td>0</td>
<td>2,700</td>
<td>10,300</td>
</tr>
<tr>
<td>Increase in the Projected Daily Unlinked Transit Trips in Region compared with the No-Build Alternative</td>
<td>0</td>
<td>4,400</td>
<td>13,400</td>
</tr>
<tr>
<td>ADT on I-5 between Nobel Drive and Gilman Drive</td>
<td>182,200</td>
<td>182,700</td>
<td>182,800</td>
</tr>
<tr>
<td>ADT on I-5 between Sea World Drive and I-8</td>
<td>239,300</td>
<td>239,900</td>
<td>238,500</td>
</tr>
<tr>
<td>ADT on I-805 between I-5/I-805 Junction and La Jolla Village Drive</td>
<td>196,000</td>
<td>195,800</td>
<td>195,700</td>
</tr>
<tr>
<td>Daily Regional Total Vehicle Miles Traveled (VMT) -- change from No-Build</td>
<td>-120,700</td>
<td></td>
<td>-83,300</td>
</tr>
<tr>
<td><strong>AM Peak Period Transit Travel Time (min)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>From Towne Centre Drive/Nobel Drive (Nobel Station) to Centre City San Diego</td>
<td>63</td>
<td>60</td>
<td>53</td>
</tr>
<tr>
<td>From Tecolote Station to Centre City San Diego</td>
<td>43</td>
<td>43</td>
<td>30</td>
</tr>
<tr>
<td>From Towne Centre Drive/Nobel Drive (Nobel Station) to Grossmont</td>
<td>92</td>
<td>89</td>
<td>59</td>
</tr>
<tr>
<td>From Tecolote Station to Grossmont</td>
<td>48</td>
<td>48</td>
<td>39</td>
</tr>
<tr>
<td><strong>Traffic</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intersections with LOS D or Worse in PM Peak Hour before Mitigation</td>
<td>3</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**FINANCIAL ANALYSIS/EVALUATION OF ALTERNATIVES**

6-11
Table 6.2-1  
Comparison of Alternatives in 2015

<table>
<thead>
<tr>
<th>Category</th>
<th>No Build</th>
<th>TSM</th>
<th>Balboa LRT/Coaster Sta.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Environmental</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acquisitions and Relocations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parking Spaces Acquired</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>City of San Diego Property Acquired (Hectares/Acres)</td>
<td>0</td>
<td>1.46/3.63</td>
<td>2.95/7.33</td>
</tr>
<tr>
<td>State Property Acquired (Hectares/Acres)</td>
<td>0</td>
<td>0</td>
<td>0.01/0.04</td>
</tr>
<tr>
<td>Private Property Acquired (Hectares/Acres)</td>
<td>0</td>
<td>0</td>
<td>0.62/1.52</td>
</tr>
<tr>
<td>Residential or Non-residential Relocations (units)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Land Use</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consistent with Objectives of General Plans$^1$</td>
<td>0</td>
<td>+</td>
<td>++</td>
</tr>
<tr>
<td><strong>Economic Development</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temporary Jobs from Construction Investment in addition to No-Build (person years of employment)</td>
<td>0</td>
<td>37</td>
<td>1,009</td>
</tr>
<tr>
<td>Jobs for Operations in addition to No-Build</td>
<td>0</td>
<td>44</td>
<td>131</td>
</tr>
<tr>
<td><strong>Visual and Aesthetic Resources</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impacts</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td><strong>Air Quality</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impacts$^2$</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Noise and Vibration</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impacts</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td><strong>Natural Resources</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact on Wetlands (Hectares/Acres)</td>
<td>0</td>
<td>0</td>
<td>0.30/0.75</td>
</tr>
<tr>
<td>Impact on Waters of the U.S. (Hectares/Acres)</td>
<td>0</td>
<td>0</td>
<td>0.10/0.26</td>
</tr>
<tr>
<td>Impact on Other Special Status Species or Habitat (Hectares/Acres, excluding wetlands and waters of the U.S.)</td>
<td>0</td>
<td>0</td>
<td>1.514/3.74</td>
</tr>
<tr>
<td><strong>Cultural Resources</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impacts on Archaeological and Historic Architectural Resources</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Equity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influence on equity$^3$</td>
<td>0</td>
<td>+</td>
<td>++</td>
</tr>
</tbody>
</table>

$^1$ Consistency with transit objectives of MTDB and San Diego Community Plans is rated from 0 (does not) to + or ++ (does) promote a transit system that influences development into efficient and coherent patterns.

$^2$ There are slight air quality improvements with the Balboa LRT Extension/Nobel Drive Coaster Station Alternatives.

$^3$ Rated from 0 (neutral) to + or ++ (improves equity).

Source: PTG--De Leuw, Cather and Co., January 1999

6.2.1 Capital and Operating Costs

The capital costs of the build alternatives at the start-point of construction range from $10.4 million for the TSM Alternative to $125.7 million for the Balboa LRT Extension/Nobel Drive Coaster Station Alternative. The annual operating costs for the two alternatives are expected to be $0.70 million and $2.1 million more in 1999 dollars, respectively, than the No-Build Alternative. Both the TSM and Build Alternatives are highly cost effective, each costing less than four dollars per new
transit rider. In comparison to the No-Build Alternative, the TSM Alternative has a lower cost per rider ($1.82) than the Build Alternative ($3.18). In comparison to the TSM Alternative, the Build Alternative has a cost per rider of $3.67.

6.2.2 Travel, Mobility, and Accessibility

The 2015 travel, mobility, and accessibility measures include the daily unlinked and linked transit trips in the region, average daily traffic (ADT) on key roadways, region-wide vehicle miles traveled (VMT), peak-period transit travel times from the corridor, and intersection levels of service (LOS). The Build Alternative is expected to generate three to four times as many transit trips as the TSM Alternative, indicating a much greater improvement in transit travel and mobility with the Build Alternative than the TSM Alternative. The Build Alternative also improves transit mobility and accessibility more than the TSM Alternative in reducing peak-period transit travel times from the corridor by 9 to 33 minutes compared with reductions of 0 to 3 minutes by the TSM Alternative.

The ADT and VMT projections indicate that there is likely to be little reduction in 2015 congestion from either alternative. ADT reductions on I-805 (both alternatives) and I-5 (Build Alternative only) would be small and, for I-5, confined to the south end of the corridor. Both alternatives would achieve a slight reduction in regional VMT. Because of the increased drive access to stations with the Build Alternative, the number of congested intersections in the vicinity of the future rail stations would also increase from three to four by 2015.

6.2.3 Overall Environmental Assessment

6.2.3.1 Acquisitions and Relocations. The acquisition and relocation measures indicate potential displacements from the acquisition of land for the TSM and Build Alternatives. No displacements would occur under the TSM Alternative, and one displacement (a retail nursery) may occur under the Build Alternative. The TSM Alternative would require very little land (a total of 1.46 hectares, or 3.63 acres); the Build Alternative’s acquisition requirements are also modest (a total of 4.42 hectares, or 10.95 acres).

6.2.3.2 Land Use. A scale is shown in Table 6.2-1 to indicate the level of consistency of the alternatives with the Community Plans of Community Planning Areas in the vicinity of improvements proposed under the FEIS alternatives. The alternatives are rated from 0 (neutral) to + or ++ (positive) on their promotion of Community Plan objectives, which include policy statements promoting the development of transit improvements.

6.2.3.3 Socioeconomics. Economic development is rated by the provision of temporary construction-related jobs. As discussed in Section 6.1, a sizeable proportion of funding for either the TSM or Build Alternatives would come from outside the local economy, through state or federal funds. This would represent a net gain to the region.
6.2.3.4 **Visual and Aesthetic Resources.** Neither the No-Build nor TSM Alternative would result in any visual impacts. The three visual impacts of the Build Alternative would be mitigated, as discussed in Section 5.4.3.2.

6.2.3.5 **Air Quality.** No air quality impacts would result from any of the alternatives evaluated for the FEIS. The Build Alternative shows slight beneficial air quality effects, as a result of reduced emissions due to a reduction in regional vehicle miles traveled (VMT).

6.2.3.6 **Noise and Vibration.** No noise or vibration impacts would result from the No-Build or TSM Alternatives. One potential noise impact resulting from the Build Alternative would be mitigated by the use of sound walls, as described in Section 5.6.1.4.

6.2.3.7 **Natural Resources.** The No-Build and TSM Alternatives would have no impact on natural resources. Impacts of the Build Alternative on wetlands, waters of the U.S., and other special status habitats would be mitigated, as described in Section 5.7.2.

6.2.3.8 **Cultural Resources.** There would be no impacts to cultural resources, which include both archaeological and historic architectural resources.

6.2 **Equity**

Equity was measured in terms of the accessibility of project benefits to low-income households. Of the three alternatives, the Build Alternative showed the greatest improvement in equity of transportation benefits, and the No-Build the least. As shown in Table 6.2-2, the Build Alternative would provide improved accessibility to 402 low income households. This constitutes 8 percent of the households within a 0.8-kilometer (half-mile) radius of the new LRT and Coaster stations. As discussed in Section 3.3, for the two subregional areas in which the new stations are located, the percentages of the population living in low-income households are 9.0 and 11.7 percent.

<table>
<thead>
<tr>
<th>Station</th>
<th>Number of total Households within 0.8 km. (¼ mile)</th>
<th>Number of Low Income Households within 0.8 km. (¼ mile)</th>
<th>Percent of Low Income Households</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tecolote LRT Station</td>
<td>575</td>
<td>73</td>
<td>5.7</td>
</tr>
<tr>
<td>Clairemont LRT Station</td>
<td>1,210</td>
<td>33</td>
<td>2.7</td>
</tr>
<tr>
<td>Balboa LRT Station</td>
<td>1,742</td>
<td>149</td>
<td>8.6</td>
</tr>
<tr>
<td>Nobel Coaster Station</td>
<td>1,400</td>
<td>147</td>
<td>10.5</td>
</tr>
<tr>
<td><strong>Total for Build Alternative</strong></td>
<td><strong>4,928</strong></td>
<td><strong>402.8</strong></td>
<td><strong>8.2</strong></td>
</tr>
<tr>
<td><strong>Total for TSM Alternative</strong></td>
<td><strong>2,952</strong></td>
<td><strong>182</strong></td>
<td><strong>6.2</strong></td>
</tr>
</tbody>
</table>

*Source: MTDB 1997*
6.2.5 Key Trade-Offs among Alternatives

Key considerations regarding the selection of a Mid-Coast Corridor transportation alternative are mobility improvements, cost effectiveness, minimizing environmental impact, and goals attainment.

**Mobility Improvements.** As shown in Table 6.2-1, the Build Alternative would result in the greatest increase in transit trips and reduction in regional vehicle miles traveled (VMT).

**Cost Effectiveness.** While the No-Build is the least costly alternative, both the TSM and Build Alternatives are highly cost effective, each costing less than five dollars per new transit rider. The TSM Alternative has a lower cost per rider ($1.73) than the Build Alternative ($3.91).

**Minimizing Environmental Impact.** With respect to environmental impacts, the Build Alternative shows the greatest air quality benefits, although it does result in some wetland, visual, and parkland impacts. Under this alternative these impacts will be mitigated.

**Goals Attainment.** As discussed in Section 6.2.7, the Build Alternative performs best in terms of project goals attainment, by increasing transit ridership, reducing VMT, providing regional connectivity, and influencing land use development patterns.

6.2.6 Community Involvement

As discussed in Chapter 7, community involvement was sought throughout project development. Comments by the public were considered in the evaluation of Mid-Coast project alternatives. Overall, the Mid-Coast LRT Project, Balboa Extension and Nobel Drive Coaster Station is consistent with the needs and desires of the community, as expressed in the community involvement process, and documented in Volume II, Comments and Responses.

6.2.7 Locally Important Goals

This section summarizes the goals and objectives of the project, and discusses the alternatives’ attainment of those goals.

6.2.7.1 **Summary of Project Goals.** Section 1.1 of this FEIS defines the purpose of the Mid-Coast LRT Project as the following:

- Improve public transit services in the rapidly growing Interstate 5 (I-5)/Mid-Coast Corridor by providing increased transit capacity, and faster, convenient access to Centre City San Diego, and major corridor activity centers;

- Accommodate future travel demand in the corridor by expanding modal options;

- Alleviate growing traffic congestion and bottlenecks in the I-5 and Interstate 805 (I-805) coastal corridors between Centre City and Old Town San Diego and the communities of
Mission Bay, Pacific Beach, La Jolla, University City, Clairemont Mesa, and Carmel Valley, and on major parallel north-south arterials in the area, such as Morena Boulevard, Clairemont Drive, and Genesee Avenue;

- Enhance regional connectivity through expanded, interconnected light rail transit (LRT) services along the primary travel corridors in San Diego County, including I-5, Interstate 8 (I-8), and State Route 94, and enhance connections to AMTRAK and Coaster Commuter Rail service.

- Alleviate growing parking demand and the congestion and circulation impacts resulting from increased peak hour traffic in Centre City San Diego;

- Improve regional air quality by reducing automobile emissions;

- Improve mobility options to employment, education, medical, and retail centers for corridor residents and visitors; and

- Support local economic and land development goals.

6.2.7.2 **Attainment of Project Goals.** As shown in Table 6.2-1, both the TSM and the Mid-Coast LRT Project, Balboa Extension and Nobel Drive Coaster Station Alternatives would accomplish the following in attainment of the project goals:

- Both alternatives would increase transit capacity in the I-5/Mid-Coast Corridor by providing new transit options for travel.

- The alternatives would accommodate future travel demand by increasing the daily linked and unlinked transit trips.

- The Build Alternative would help alleviate growing traffic congestion by reducing vehicle miles traveled (VMT).

- The TSM Alternative would enhance regional connectivity by providing enhancements to existing bus lines. The Build Alternative would provide new connections via LRT along the I-5 corridor and a new Coaster Station at Nobel Drive.

- The Build Alternative would alleviate growing parking demand and congestion and circulation impacts in Centre City San Diego by increasing the transit mode share for Centre City trips.

- The Build Alternative would improve regional air quality by reducing VMT and thereby reducing vehicle emissions.

- Both the TSM and Build Alternatives would provide transit connections to employment, education, medical, and retail centers for Corridor residents and visitors.
• Support local economic and land development goals through siting transit stations in areas capable of supporting higher-intensity development.

Overall, the Build Alternative would be more effective in attaining the above-listed goals. It would result in a higher number and greater proportion of transit riders, and have a stronger influence on land development patterns.
CHAPTER 7
Consultation and Coordination
CHAPTER 7: CONSULTATION AND COORDINATION

This environmental document was prepared on the basis of coordination and consultation with various federal, state, and local agencies, and with elected officials, community leaders, organizations, and other individuals from the neighborhoods and communities within San Diego and the Mid-Coast Corridor. Coordination and public involvement were achieved through a variety of means, including formal public hearings and circulation of draft documents, mailings, focus group meetings, workshops, and individual/group contacts.

This chapter provides a summary of the consultation and coordination activities that have occurred throughout the development of the Mid-Coast Corridor LRT Project, including the preparation of this FEIS. This chapter is organized according to the following categories of consultation and coordination: public involvement, agency coordination, and permitting and approvals.

7.1 PUBLIC INVOLVEMENT

Active public involvement is critical to the success of any project with potential adverse impacts on the human environment. An effective public involvement program ensures that critical community concerns and technical issues are identified early in the study and addressed in the engineering, environmental, economic, and financial analyses, in order to respond effectively to community needs and preferences and satisfy local, state, and federal environmental clearance requirements. More detail regarding the public involvement program is provided in the Public Involvement Report (August 1995), which is incorporated into this FEIS by reference.

7.1.1 Public Involvement Program

Throughout the development of the Mid-Coast LRT Project, the public involvement program has consisted of five different elements. They include:

- Project Sponsors;
- A Community Participation List;
- Formal Public Meetings;
- Public Information Program; and
- Public Involvement Activities.

A description of each follows.
7.1.2 Project Sponsors

The U.S. Department of Transportation, Federal Transit Administration (FTA) is the federal lead agency for the project. At the local level, the San Diego Metropolitan Transit Development Board (MTDB) is the joint lead agency. In addition, a Project Advisory Committee (PAC) was formed to discuss and provide input on policy matters relating to the study. The committee included representatives from the MTDB, City of San Diego, County of San Diego, SANDAG, California Department of Transportation (Caltrans), neighborhood groups, and the University of California, San Diego. The PAC met 12 times over the course of the AA/DEIS/DEIR study to provide comments and guidance regarding technical issues, including LRT alignment options, as key decisions were made. During the subsequent preliminary engineering and Final EIS phase, two PACs were formed and met 10 times.

7.1.3 Community Participation List

To facilitate community participation, a list of individuals, agencies, and organizations was developed. This list included persons who had indicated an interest in transportation planning projects during previous public information efforts and was focused on the Mid-Coast Corridor. Project information and response forms were distributed to the persons on this list in conjunction with public meetings and workshops, to solicit comments and recommendations.

7.1.4 Formal Public Meetings

Two formal scoping meetings were held in April 1990. In accordance with the Council on Environmental Quality Regulations, these meetings were announced in the Federal Register Vol. 55, No. 70, April 11, 1990, and in local publications. Persons and organizations on the project mailing list were also notified. A summary report including meeting minutes, significant findings and comments, and a list of attendees was prepared and distributed. This report is available for review at the MTDB offices, and is hereby incorporated into this FEIS.

A public hearing on the AA/DEIS/DEIR was held on April 27, 1995, during the AA/DEIS/DEIR comment period. In accordance with the Council on Environmental Quality Regulations, this meeting was announced in the Federal Register Vol. 60, No. 47, March 10, 1995, and in local publications. Persons and organizations on the project mailing list were also notified. A transcript of the proceedings and responses to comments made at the hearing are provided in Volume II, Comments and Responses. A public hearing was also held on October 27, 1995 at which the MTD Board approved the Preferred Investment Strategy/Locally Preferred Alternative (LPA) and certified the Final Environmental Impact Report for this project.

7.1.5 Public Information Program

The public information program was established to inform the community of factors related to transportation planning and the Mid-Coast Corridor Study. The public information program is distinguished from the rest of the public involvement program in that its activities are designed primarily to inform the public and not necessarily to elicit interaction. The information program
included briefings for the news media, informational meetings, presentations to include community and professional associations and educational institutions, and public forums.

A series of presentations to community and professional associations and neighborhood groups was conducted over an eight-year period during the study process. Approximately 85 presentations were given to organizations such as Citizen Advisory Committees, Neighborhood Boards, Rotary Clubs, and developer organizations. The chronology of these meetings, as well as other community coordination activities, is detailed in Table 7.1-1, below.

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**Table 7.1-1**

Schedule of Community Coordination Activities
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<td>October 9, 1991</td>
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<td>May 4, 1995</td>
<td>North County Transit District Board</td>
</tr>
<tr>
<td>162</td>
<td>May 9, 1995</td>
<td>UCPG</td>
</tr>
<tr>
<td>163</td>
<td>May 16, 1995</td>
<td>Clairemont Mesa Planning Group</td>
</tr>
<tr>
<td>164</td>
<td>May 22, 1995</td>
<td>La Jolla Village Square Management</td>
</tr>
<tr>
<td>165</td>
<td>May 24, 1995</td>
<td>Pacific Beach Planning Group</td>
</tr>
<tr>
<td>166</td>
<td>June 1, 1995</td>
<td>Mission Bay Recreation Council Chairwoman Helen Duffy</td>
</tr>
<tr>
<td>167</td>
<td>June 13, 1995</td>
<td>University Towne Centre General Manager James Martin del Campo</td>
</tr>
<tr>
<td>168</td>
<td>June 22, 1995</td>
<td>MTD Board - Contract Amendment</td>
</tr>
<tr>
<td>169</td>
<td>June 27, 1995</td>
<td>La Jolla Village Homeowners Association President Adam Milgram</td>
</tr>
<tr>
<td>170</td>
<td>July 18, 1995</td>
<td>La Jolla Colony Homeowners Association</td>
</tr>
<tr>
<td>171</td>
<td>July 19, 1995</td>
<td>PAC Meeting</td>
</tr>
<tr>
<td>172</td>
<td>July 20, 1995</td>
<td>SANDAG Regional Transportation Advisory Committee</td>
</tr>
</tbody>
</table>
### Table 7.1-1
Schedule of Community Coordination Activities

<table>
<thead>
<tr>
<th>NO.</th>
<th>DATE</th>
<th>MEETING/ACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>173</td>
<td>July 26, 1995</td>
<td>La Jolla Village Association</td>
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<tr>
<td>174</td>
<td>August 15, 1995</td>
<td>Clairemont Mesa Planning Group</td>
</tr>
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<td>175</td>
<td>September 18, 1995</td>
<td>Public Meeting re: LPA in Clairemont</td>
</tr>
<tr>
<td>176</td>
<td>September 20, 1995</td>
<td>Pacific Beach Town Council</td>
</tr>
<tr>
<td>177</td>
<td>September 22, 1995</td>
<td>North City TMA</td>
</tr>
<tr>
<td>178</td>
<td>September 22, 1995</td>
<td>La Jolla Village Square Management</td>
</tr>
<tr>
<td>179</td>
<td>September 25, 1995</td>
<td>Public Meeting re: LPA at La Jolla Village Square</td>
</tr>
<tr>
<td>180</td>
<td>September 28, 1995</td>
<td>MTD Board - Release of Draft LPA Report</td>
</tr>
<tr>
<td>181</td>
<td>October 5, 1995</td>
<td>Mission Bay Park Committee</td>
</tr>
<tr>
<td>182</td>
<td>October 10, 1995</td>
<td>UCPG re: LPA</td>
</tr>
<tr>
<td>183</td>
<td>October 17, 1995</td>
<td>Regents Park Property Manager Bill Kennedy</td>
</tr>
<tr>
<td>184</td>
<td>October 19, 1995</td>
<td>North County Transit District Board - LPA Presentation</td>
</tr>
<tr>
<td>185</td>
<td>October 23, 1995</td>
<td>Golden Triangle Republican Women Federated</td>
</tr>
<tr>
<td>186</td>
<td>October 24, 1995</td>
<td>Regents Park Property Manager Bill Kennedy</td>
</tr>
<tr>
<td>187</td>
<td>October 26, 1995</td>
<td>MTD Board - Approval of LPA</td>
</tr>
<tr>
<td>188</td>
<td>April 14, 1997</td>
<td>Clairemont Project Advisory Committee (PAC)</td>
</tr>
<tr>
<td>189</td>
<td>April 30, 1997</td>
<td>University City Project Advisory Committee (PAC)</td>
</tr>
<tr>
<td>190</td>
<td>May 8, 1997</td>
<td>Clairemont PAC</td>
</tr>
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<td>191</td>
<td>May 19, 1997</td>
<td>Clairemont PAC</td>
</tr>
<tr>
<td>192</td>
<td>June 2, 1997</td>
<td>University City PAC</td>
</tr>
<tr>
<td>193</td>
<td>June 26, 1997</td>
<td>Clairemont PAC</td>
</tr>
<tr>
<td>194</td>
<td>July 10, 1997</td>
<td>University City PAC</td>
</tr>
<tr>
<td>195</td>
<td>August 6, 1997</td>
<td>University City PAC</td>
</tr>
<tr>
<td>196</td>
<td>September 11, 1997</td>
<td>University City PAC</td>
</tr>
<tr>
<td>197</td>
<td>September 30, 1997</td>
<td>Clairemont PAC</td>
</tr>
</tbody>
</table>

#### 7.1.6 Public Involvement Activities

Public involvement has been structured to permit both active, continuous participation and informal dialogue to ensure a maximum exchange of information and concerns. Both formal and informal scoping and information meetings were held throughout the Mid-Coast Corridor study and project development. Formal public meetings held are discussed in Section 7.1.4.

The public involvement program has gone beyond the requirements of NEPA and CEQA to ensure that the Mid-Coast LRT project reflects community goals and concerns. Following the completion and FTA acceptance of the Detailed Definition of Alternatives report, a public meeting was held to report to the community on the status and progress of the Mid-Coast Corridor AA/DEIS/DEIR.
Informal public meetings were also held in two local neighborhoods prior to the April 27, 1995 public hearing on the AA/DEIS/DEIR. Meeting participants were encouraged to complete comment cards, copies of which are included in Volume II, Comments and Responses, along with responses to these comments. Similarly, the MTDB held two public meetings on a draft Preferred Investment Strategy/Locally Preferred Alternative (LPA), prior to its formal approval of the LPA October 26, 1995.

A Project Advisory Committee (PAC), including representatives of neighborhood organizations, was formed to provide comments and guidance regarding technical issues, as discussed in Section 7.1.2. During preliminary engineering two neighborhood project advisory committees were formed, in Clairemont and University City. These groups provided input regarding engineering design issues for project components in their respective neighborhoods. Other public participation opportunities included MTDB meetings, general public meetings, presentations to planning and community groups, and bus tours for Board members and the general public. Almost 200 community coordination activities were conducted during project development, as shown in Table 7.1-1.

7.2 AGENCY COORDINATION

7.2.1 Scoping

Two formal scoping meetings were held on April 26, 1990. In accordance with NEPA, federal, state, and local agency representatives, as well as other interested parties, were invited to participate in the scoping process. Details and results of the scoping process for this project are summarized in a separate technical report, which is available for review at the MTDB and incorporated into this FEIS by reference. A Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) on Transit Improvements in the City of San Diego, appeared in the Federal Register, Vol. 55, No. 70, April 11, 1990. Two EIR Notice of Preparation (NOP) packages were prepared and distributed: one on October 25, 1990 and a revised NOP on March 25, 1991. Agencies that responded in writing to these notices are listed below.

- City of San Diego, City Administration;
- City of San Diego, City Operations;
- City of San Diego, Engineering Division;
- City of San Diego, Executive Office;
- City of San Diego, Fire Department;
- City of Santee;
- County of San Diego, Department of Planning and Land Use;
- Federal Highway Administration;
- North County Transit District;
- San Diego County Archaeological Society;
- San Diego County, Bicycle Coalition;
- State of California, Office of Planning and Research;
- State of California, Public Utilities Commission;
State of California, Department of Fish and Game;
State of California, Department of Parks;
State of California, Department of Transportation;
United States Department of Agriculture;
United States Department of the Navy; and
University of California, San Diego.

7.2.2 Coordination During the Preparation of the AA/DEIS/DEIR

Extensive agency coordination and consultation occurred during the preparation of the AA/DEIS/DEIR. Coordination has served the following functions:

- Data collection/identification of resources;
- Compliance with regulatory requirements; and
- Review of and input to analysis results.

The agencies consulted and the topics of discussion are summarized in Table 7.2-1 below.

<table>
<thead>
<tr>
<th>Agency Coordination and Consultation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Agency</strong></td>
</tr>
<tr>
<td><strong>Federal</strong></td>
</tr>
<tr>
<td>Federal Highway Administration</td>
</tr>
<tr>
<td>Federal Transit Administration</td>
</tr>
<tr>
<td>NAS Miramar (now MCAS Miramar)</td>
</tr>
<tr>
<td>U.S. Army Corps of Engineers</td>
</tr>
<tr>
<td>U.S. Department of Agriculture</td>
</tr>
<tr>
<td>U.S. Fish and Wildlife</td>
</tr>
<tr>
<td>United States Coast Guard</td>
</tr>
<tr>
<td>United States Department of Interior, Fish &amp; Wildlife Service</td>
</tr>
<tr>
<td>United States Postal Service</td>
</tr>
<tr>
<td>U.S. Environmental Protection Agency</td>
</tr>
<tr>
<td>National Marine Fisheries</td>
</tr>
<tr>
<td><strong>State</strong></td>
</tr>
<tr>
<td>California Air Resources Board</td>
</tr>
<tr>
<td>Public Utilities Commission</td>
</tr>
<tr>
<td>California Coastal Commission</td>
</tr>
</tbody>
</table>

CONSULTATION AND COORDINATION
7-10
### Table 7.2-1
Agency Coordination and Consultation

<table>
<thead>
<tr>
<th>AGENCY</th>
<th>TOPIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>California Department of Transportation</td>
<td>Environmental coordination, HOV design, Section 4(f), (freeway operations, air quality modeling)</td>
</tr>
<tr>
<td>State of California, Department of Fish and Game</td>
<td>Biological resources</td>
</tr>
<tr>
<td>State of California, Office of Historic Preservation</td>
<td>Section 4(f) process</td>
</tr>
<tr>
<td>State of California, Regional Water Quality Control Board</td>
<td>Water resources</td>
</tr>
<tr>
<td>State Historic Preservation Office</td>
<td>Historical and archaeological resources</td>
</tr>
<tr>
<td>City of San Diego, Planning Department</td>
<td>Land use, neighborhoods, significance Determinations, Local Coastal Program</td>
</tr>
<tr>
<td>City of San Diego, City Council Staff</td>
<td>Study issues</td>
</tr>
<tr>
<td>City of San Diego, Park and Recreation Department</td>
<td>City parks</td>
</tr>
<tr>
<td>City of San Diego, Public Works Department</td>
<td>Municipal utilities, right-of-way</td>
</tr>
<tr>
<td>City of San Diego, Traffic Engineering Department</td>
<td>Traffic Operations</td>
</tr>
<tr>
<td>County of San Diego, Air Pollution Control District</td>
<td>Air quality compliance/coordination</td>
</tr>
<tr>
<td>County of San Diego, Park and Recreation Department</td>
<td>County parks</td>
</tr>
<tr>
<td>North County Transit District</td>
<td>Commuter rail coordination, bus transit system coordination</td>
</tr>
<tr>
<td>San Diego Association of Governments</td>
<td>Modeling coordination, long range plan coordination, financing and programming, previous planning</td>
</tr>
<tr>
<td>San Diego Gas and Electric</td>
<td>Electromagnetic radiation</td>
</tr>
<tr>
<td>University of California,</td>
<td>Coordination with UCSD planning, alignment planning</td>
</tr>
<tr>
<td>San Diego, California (UCSD)</td>
<td>Technical issues</td>
</tr>
</tbody>
</table>

#### 7.2.3 Agency Comments on the AA/DEIS/DEIR and Involvement During the Selection of the Preferred Investment Strategy/Locally Preferred Alternative

Following publication of the AA/DEIS/DEIR in February 1995, MTDB and FTA solicited public and agency comments on the AA/DEIS/DEIR through advertisements in local publications, direct mailing, a formal Notice of Completion to state agencies, and publication of a Notice of Availability of the AA/DEIS/DEIR in the Federal Register. Copies of the draft document were mailed to a list of approximately 150 agencies and organizations, and were made available at MTDB's offices. As discussed in Section 7.1.4, a public hearing was held on April 27, 1995.

Fourteen comment communications on the AA/DEIS/DEIR were provided by public agencies, 41 were received from individuals, and nine were received from organizations. Responses to these comments are included in Volume II, Comments and Responses.
On the basis of the information compiled and presented in the AA/DEIR/DEIR, and other input from the broad spectrum of interested parties, MTDB selected the Preferred Investment Strategy/Locally Preferred Alternative (LPA), as described in Chapter 2 of this FEIS (MTDB Resolution No. 95-35). Following MTDB's approval of the LPA, the San Diego City Council passed a resolution in support of the LPA (City Council Resolution No. R-286634). The Pacific Beach Community Planning Committee, Clairemont Mesa Planning Committee, and University Community Planning Group each passed resolutions in support of the LPA. Documentation of these agency actions is provided in Appendix K (Letters of Support).

7.2.4 Agency Involvement During Preliminary Engineering and Preparation of the FEIS

Preliminary Engineering and the preparation of this FEIS involved coordination with the U.S. Environmental Protection Agency (USEPA), National Marine Fisheries Service (NMFS), U.S. Army Corps of Engineers (ACOE), U.S. Fish and Wildlife Service (USFWS), Caltrans, California Department of Fish and Game (CDFG), the San Diego Association of Governments (SANDAG), and the City of San Diego. Ongoing coordination with agencies regarding permitting and approvals is discussed in Section 7.3.

7.3. COORDINATION REGARDING PERMITS AND APPROVALS

7.3.1 Coordination of Related Environmental Processes

7.3.1.1 Section 404 of the Clean Water Act. Copies of the Updated Biological Resources Report and the Water Resources Technical Report prepared for the AA/DEIS/DEIR were provided to the ACOE. In a letter dated October 21, 1994, the ACOE advised the MTDB that a formal delineation of wetlands would be required prior to issuance of a permit pursuant to Section 404. Additional wetlands fieldwork, including delineation of potential jurisdictional wetlands, was conducted in preparation of this FEIS, as reported in the Updated Biology Technical Report (December 1998), and the Report of Wetland Delineation for the Tecolote, Clairemont, and Balboa Light Rail Transit Stations and Associated Trackage and Improvements Project and the Nobel Drive Coaster Station Project (November 1998; Revised December 1998). Coordination meetings were held with the ACOE on September 17, 1997, April 27, 1998, and January 7, 1999. Additional coordination occurred with the City of San Diego Park and Recreation Department on November 12 and 18, and December 4, to review proposed mitigation sites. MTDB requested a jurisdictional determination in a letter to the ACOE dated December 2, 1998. The ACOE’s letter (date February 24, 2000) providing the ACOE jurisdictional determination is provided in Appendix I of this FEIS. The delineation of wetlands is included in Appendix H (Figures H-17 through H-21) and in the 1998 Wetlands Report. The estimation of wetlands reported in Section 5.7.2 of this FEIS is based upon the jurisdictional determination.

Based upon the preliminary assessment of potential impacts on wetland resources in the project area, MTDB initiated a NEPA/404 process pursuant to the western states Memorandum of Understanding (MOU) for Integrated NEPA/404 Processing. USEPA, USFWS, NMFS, and ACOE
concurrency was requested and obtained in the project purpose and need and alternatives prior to circulation of the AA/DEIS/DEIR. Since that document was circulated, and based on the refinement of impacts to wetlands reported in this Final EIS, the Balboa LRT Extension/Nobel Drive Station Alternative will result in no more than 0.407 hectare (1.01 acre) of fill in wetlands and other waters of the U.S., and MTDB intends to apply for an ACOE Nationwide permit for this project. ACOE also advised the use of a Nationwide permit for this project in its letter dated February 24, 2000, which is included in Appendix I. Because the ACOE letter was written prior to the final notice of ACOE’s issuance and modification of Nationwide permits (published in the Federal Register on March 9, 2000), MTDB will consult further with ACOE early in the final design of the project to confirm the appropriate Section 404 permit requirements.

A discussion of the least environmentally damaging practicable alternative is provided in Section 5.7.2.4 of this FEIS, in accordance with Section 404 of the Clean Water Act. As described in Section 5.7.2.1, the design of the Balboa LRT Extension/Nobel Drive Station Alternative was modified during preliminary engineering to reduce wetlands impacts in that area by 90 percent, and the TSM alternative has only limited potential to meet the project purpose and need. USFWS has concurred in the project mitigation plan in accordance with the Multiple Species Conservation Program (MSCP) implementing agreement described in the next section.

7.3.1.2 Endangered Species Act Consultations. A listing of endangered, threatened, or candidate species and species of special concern that may exist in the project area was requested from the USFWS (1989, 1991) in preparation of the AA/DEIS/DEIR. The USFWS was requested to confirm that all special status species in the project area have been properly addressed. The USFWS concurred in the identification of special status species through the publication of the AA/DEIS/DEIR, but requested that comprehensive field surveys be performed; USFWS also transmitted an updated listing of species (1995). MTDB requested an updated listing (1998) from USFWS in July 1998, and the USFWS letter, dated July 31, 1998, is included in Appendix I. Additional research and field survey work was performed in consultation with the USFWS, ACOE, and the California Department of Fish and Game (CDFG). Coordination meetings were held with the USFWS on April 27, May 21 and 26 and October 28, 1998. CDFG also participated in the May 21 and 26, 1998, meetings. The surveys and agency coordination meetings are documented in the Updated Biology Technical Report (December 1998). Additional coordination, pursuant to City of San Diego’s Section 10(a) incidental take permit, occurred with the City of San Diego Park and Recreation Department on November 12, 1998. MTDB has consulted with the City of San Diego regarding the use of the City of San Diego Multiple Species Conservation Program (MSCP), as documented in a letter from the City of San Diego dated February 12, 2001. This letter is included in Appendix I and states that projects that comply with the policies of the MSCP are afforded Third Party Beneficiary status under the City’s MSCP through the permit process. Informal consultation also occurred with USFWS on August 30, 1999. On this date a USFWS Biologist (Patrice Ashfield, USFWS, telephone communication with Mark Thomsen, MTDB) stated that it is appropriate for the Mid-Coast LRT project to use the MSCP.

As reported in Section 5.7.1 of this document, there will be impacts to habitat for the California gnatcatcher, a federally listed, threatened species, with the Balboa LRT Extension/Nobel Drive Station Alternative. Mitigation requirements for these impacts have been identified in accordance
with the City of San Diego’s Section 10(a) incidental take permit, pursuant to the 1997 Implementing Agreement among the USFWS, CDFG, and the City of San Diego to establish a Multiple Species Conservation Program (MSCP) for the Conservation of Threatened, Endangered, and Other Species in the Vicinity of San Diego, CA. This agreement authorizes incidental takings of covered species within the MSCP area in accordance with the MSCP Plan as implemented by the subarea plans where the USFWS has found: that the MSCP will, to the maximum extent practicable, minimize and mitigate the impacts of such incidental taking; that adequate MSCP funding is provided to ensure implementation; that the taking of covered species will not appreciably reduce the likelihood of the survival and recovery of the species in the wild; and that the MSCP as implemented will satisfy and fulfill all measures required by USFWS. A copy of the Implementing Agreement is included in Appendix I.

The California gnatcatcher is identified as one of the species covered by the MSCP. MTDB will obtain “Third Party Beneficiary” status with respect to the MSCP and incidental takings of covered species as a result of the Mid-Coast LRT Project. Coordination meetings with the City of San Diego Parks and Recreation Department occurred on November 12 and December 4, 1998.

7.3.2 Other Permits and Approvals

Record of Decision/Notice of Determination

Following circulation and public review of the AA/DEIS/DEIR, MTDB provided responses to comments received and published and distributed a Final Environmental Impact Report (FEIR) pursuant to the California Environmental Quality Act (CEQA). This FEIR was certified, documenting completion of compliance with CEQA. The MTDB Board then approved a Preferred Investment Strategy/Locally Preferred Alternative and adopted a mitigation monitoring program, pursuant to CEQA. MTDB also filed a Notice of Determination (NOD) with the County Recorder, documenting local agency approval, CEQA findings, and mitigation measures.

This Final Environmental Impact Statement (FEIS) was prepared in accordance with regulations (23 CFR 771) implementing the requirements of the National Environmental Policy Act (NEPA) and the related federal environmental processes. Pursuant to NEPA, the FTA will complete and sign a Record of Decision (ROD) no sooner than 30 days following publication of this FEIS. The ROD will present the basis for the decision to proceed with the Balboa LRT Extension/Nobel Drive Coaster Station and will summarize the mitigation measures that will be incorporated into the project (40 CFR 1505.2).

Additional Permits and Approvals

Other permits and approvals involving other local, state, and federal agencies will be required prior to project implementation. A list of approvals is provided in Table 7.3-1. There are no interagency disagreements or unresolved issues identified at this time.
### Table 7.3-1

<table>
<thead>
<tr>
<th>Agency</th>
<th>Permit or Approval</th>
<th>Action Requiring Permit or Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>US Army Corps of Engineers</td>
<td>Section 404 Nationwide Permit</td>
<td>Discharge of dredged or fill material into waters of the US including wetlands.</td>
</tr>
<tr>
<td>US Army Corps of Engineers</td>
<td>Section 10 Permit</td>
<td>Obstruction or alteration of navigable waters of the US.</td>
</tr>
<tr>
<td>US Department of the Interior, USFWS</td>
<td>Endangered Species Act Review</td>
<td>Impacts to listed endangered, threatened or candidate species or species of special concern.</td>
</tr>
<tr>
<td>US Coast Guard</td>
<td>Section 9 Bridge Permit</td>
<td>Construction of bridges and/or causeways across navigable waters of the US.</td>
</tr>
<tr>
<td>US DOT (FTA)</td>
<td>Section 4(f) Determination</td>
<td>Any Federal DOT action involving use of a publicly owned, significant park, recreation area, wildlife, or water fowl refuge, or land from an historic site. (A determination that there are no 4(f) impacts would be included in Record of Decision.)</td>
</tr>
<tr>
<td>California Coastal Commission</td>
<td>Coastal Development Permit</td>
<td>Development of the Balboa LRT Extension in the Coastal Zone.</td>
</tr>
<tr>
<td>California Department of Fish and Game</td>
<td>Section 1601/1603 Stream bed Alteration Permit</td>
<td>Any modification of a stream or waterway.</td>
</tr>
<tr>
<td>California Public Utilities Commission</td>
<td>Separation of Grade Permit</td>
<td>Grade separated crossings at I-8, Tecolote Road, Clairemont Drive, and Balboa Avenue.</td>
</tr>
<tr>
<td>California State Historic Preservation Office</td>
<td>National Historic Preservation Act Review (Section 106)</td>
<td>Application for federal assistance, permit, or license.</td>
</tr>
<tr>
<td>San Diego Regional Water Quality Control Board</td>
<td>Section 401 Water Quality Certification National Pollutant Discharge Elimination System Permit (NPDES)</td>
<td>Section 401 certification required before issuance of a federal permit for any activity resulting in discharges into state waters. NPDES permit required for storm water discharges for construction activities of 2 hectares (5 acres) or more.</td>
</tr>
<tr>
<td>SANDAG/Air Pollution Control District</td>
<td>Confirm TIP inclusion Air Quality Conformity Determination</td>
<td>Implementation of federally funded transportation project. Construction of project in air quality non-attainment area.</td>
</tr>
<tr>
<td>Caltrans</td>
<td>Encroachment Permit</td>
<td>Use of Caltrans right-of-way.</td>
</tr>
<tr>
<td>City of San Diego</td>
<td>Site Development Permit</td>
<td>Use of City-owned property.</td>
</tr>
</tbody>
</table>


### 7.4 PERSONS AND ORGANIZATIONS CONSULTED

A list of individuals and organizations contacted and consulted during preparation of this environmental document, including those that received a notice or copy of the AA/DEIS/DEIR, is
provided below. The list is grouped into federal, state, and local agencies, and ordered according to whether the agency received a copy of the AA/DEIS/DEIR or a notice of availability.

Federal - Agencies that received a copy of the AA/DEIS/DEIR

Mr. Fred Pierson  
Community Planning Liaison Office  
NAS Miramar  
The Honorable Randy Cunningham  
Congressman - 51st District  
U.S. House of Representatives

Ms. Brooks Harper  
Fish & Wildlife Service  
U.S. Department of Interior  
Laguna Niguel, CA  
The Honorable Barbara Boxer  
U.S. Senator  
Mr. David Zoutendyke  
U.S. Army Corps of Engineers  
San Diego, CA  
Ms. Harriet Hill  
U.S. Environmental Protection Agency  
San Francisco, CA

The Honorable Duncan Hunter  
Congressman - 52nd District

The Honorable Diane Feinstein  
U.S. Senator

The Honorable Brian Bilbray  
Congressman - 49th District  
Mr. Jonathan P. Deason  
Director, Off. of Environmental Affairs  
U.S. Department of Interior  
Washington, DC

The Honorable Ron Packard  
Congressman - 48th District  
The Honorable Bob Filner  
Congressman - 50th District

Mr. Doug La Maire  
U.S. Navy  
SW Division Naval Facilities Engineering Command  
San Diego, CA  
Gail C. Kobetich  
U.S. Department of the Interior  
Fish and Wildlife Service  
Carlsbad, CA

Federal - Agencies that received a Notice of Availability for the AA/DEIS/DEIR

Mr. Sal Simonetti  
Deputy Director of Facilities  
MCRD Facilities Division  
San Diego, CA  
U.S. Department of Energy  
Director, Office of Environmental Compliance  
Washington, DC

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1Information regarding agency coordination during the AA/DEIS/DEIR phase was obtained from the Mid-Coast Corridor AA/DEIS/DEIR prepared for the Metropolitan Transit Development Board by BRW, Inc., in association with ICF Kaiser Engineers, Inc., February, 1995.
U.S. Department of Interior
Special Assistant to Secretary
Pacific Southwest Region
San Francisco, CA

Mr. Tom Trujillo
Administrator
VA Medical Center
La Jolla, CA

U.S. Federal Railroad Administration
Office of Policy and Plans
Washington, D.C.

Mr. David J. Farrel
U.S. Environmental Protection Agency
Wetlands Program Permitting Section
San Francisco, CA

U.S. Department of Agriculture
Resources Conservation Service
Escondido, CA

State - Agencies that received a copy of the AA/DEIS/DEIR

State of California
San Diego Region
Reg. Water Quality Control Board
San Diego, CA

The Honorable Dede Alpert
Assembly Member, 78th District
San Diego, CA

Mr. Joey Bigomia
State of California
Public Utilities Commission
Los Angeles, CA

Mr. Milton Phegley
University of California San Diego
La Jolla, CA

U.S. Department of Housing & Urban Development
Environment Clearance Officer
San Francisco, CA

U.S. Federal Emergency Mgmt Agency
Regional Director, Region 9
San Francisco, CA

Lt. J.G. Gary L. Jones
Marine Safety Office
U.S. Coast Guard
San Diego, CA

District Engineer
U.S. Army Corps of Engineers
Los Angeles, CA

Mr. Larry Cruse
University of California San Diego
Library
La Jolla, CA

The Honorable Lucy Killea
Senator - 39th District
San Diego, CA

Mr. Jim Conant
Director of Mass Transportation
State of California, Caltrans
Sacramento, CA

State of California Lands Commission
EIR Review Section
Sacramento, CA
The Honorable Susan Davis  
Assembly Member, 76th District  
San Diego, CA

Mr. Fred Worthley, Regional Manager  
State of California, Dept. of Fish & Game  
Long Beach, CA

State of California  
State Clearinghouse  
Office of Planning & Research  
Sacramento, CA

Safety and Enforcement Branch  
Rail Transit Safety Section  
State of California  
Public Utilities Comm.  
San Francisco, CA

Director  
State of California  
Coastal Commission  
San Francisco, CA

Ms. Deborah Lee  
State of California  
Coastal Commission  
San Diego, CA

Mr. Jeffrey A. Steindorf  
Director - Campus Planning Office  
University of California San Diego  
La Jolla, CA

Division of Aeronautics  
Caltrans  
Sacramento, CA

Director  
State of California  
Department of Fish & Game  
Sacramento, CA

Mr. Hans Kreutzberg  
Office of Historic Preservation  
State of California  
Parks & Recreation Department  
Sacramento, CA

Division of Transportation Planning  
Caltrans  
Sacramento, CA

<table>
<thead>
<tr>
<th>State - Agencies that received a Notice of Availability for the AA/DEIS/DEIR</th>
</tr>
</thead>
</table>
| Ms. Karen Hunter  
Caltrans Division of Rail  
Sacramento, CA |

| Ms. Molley McKay  
Vice President - External Affairs  
University of California San Diego, Associated Students  
La Jolla, CA |

| Division of Water Quality  
State of California  
Water Resources Control Board  
Sacramento, CA |

| State of California Resources Agency  
Sacramento, CA |

| State of California  
Public Utilities Commission  
State of California  
San Diego, CA |

| State of California  
Department of Water Resources  
Southern District  
Los Angeles, CA |
Mr. Robert Umstead  
University of California San Diego  
La Jolla, CA  
State of California  
Environmental Unit  
Office of Attorney General  
San Diego, CA  

External Affairs Commissioner  
University of California San Diego,  
Associated Students  
La Jolla, CA  
State of California  
Air Resources Board  
Stationary Resources  
Sacramento, CA  

Director, Dept. of Housing & Development  
State of California  
Sacramento, CA  
State of California  
Business, Transportation & Housing  
Sacramento, CA 95807  

Mr. Richard C. Atkinson  
Chancellor  
University of California San Diego  
La Jolla, CA  
State of California  
Office of Noise Control  
Department of Health Services  
Berkeley, CA  

State of California  
Department of Conservation  
Sacramento, CA  
Ms. Nancy Acevedo  
State of California  
Department of Parks and Recreation  
Sacramento, CA  

State of California  
Torrey Pines State Preserve  
Department of Parks & Recreation  
Carlsbad, CA  
State of California  
California Transportation Commission  
Sacramento, CA  

State of California  
San Diego Coast District  
Department of Parks & Recreation  
Carlsbad, CA  
Director, Department of Water Resources  
State of California  
Sacramento, CA  

Local - Agencies that received a copy of the AA/DEIS/DEIR  

Mr. David Di Pierro  
City of San Diego Liaison  
City of San Diego  
Mr. George Frank  
SANDAG  
San Diego, CA  

Mr. Mike Westlake  
City of San Diego  
Planning Department  
Mr. Ron Yagura  
Acting President  
San Diego Transit Corp.  
San Diego, CA  

CONSULTATION AND COORDINATION  
7-19
The Honorable Harry Mathis  
Council Member - District 1  
City of San Diego

Mr. Don Steele  
City of San Diego  
Department of Park and Recreation

Ms. Ann Hix  
Developmental & Environmental Planning  
City of San Diego Development Services

The Honorable Valerie Stallings  
Council Member - Council District 6  
City of San Diego

The Honorable Susan Golding  
Mayor  
City of San Diego

Mr. Gene Conrad  
University Community Planning Group  
La Jolla, CA

Ms. Sue Blackman  
Council District 6  
City of San Diego

Malcolm A. Love Library  
San Diego State University  
San Diego, CA

Mr. Langley Powell  
President  
San Diego Trolley  
San Diego, CA

Mr. Richard Sommerville  
County of San Diego  
Air Pollution Control District  
San Diego, CA

Torrey Pines Community Planning Group  
Del Mar, CA

Clairemont Mesa Planning Committee  
San Diego, CA

The Honorable Scott Harvey  
Council Member - Council District 2  
City of San Diego

Mr. Larry Watt  
San Diego County Transit System  
San Diego, CA

Mr. Ernest Freeman, Director  
City of San Diego  
Planning Department

City of San Diego  
Central Library

The Honorable Barbara Warden  
Council Member - Council District 5  
City of San Diego

The Honorable Ron Roberts  
Supervisor - District 4  
County Board of Supervisors  
San Diego, CA

Open Space Division, City of San Diego  
Park and Recreation Department

Pacific Beach Community Planning Committee  
San Diego, CA

Mr. Doug Sain  
Council District 1  
City of San Diego

Mr. Doug Sain  
Council District 1  
City of San Diego

La Jolla Community Planning Association  
La Jolla, CA

CONSULTATION AND COORDINATION
7-20
Carmel Valley Community Planning Board
San Diego, CA

Linda Vista Community Planning Group
San Diego, CA

The Honorable Pamela Slater
Supervisor - District 3
County Board of Supervisors
San Diego, CA

Mr. Paul Price
Director of Service Development
NCTD
Oceanside, CA

Balboa Branch Library
San Diego, CA

Local - Agencies that received a Notice of Availability for the AA/DEIS/DEIR

County Clerk
County of San Diego
San Diego, CA

Mr. Robert Asher
Chief of Planning - Special Projects
County of San Diego
Department of Planning & Land Use
San Diego, CA

Mr. Gerald Hermanson
County of San Diego
Transportation Planning
San Diego, CA

Mr. Jack McGrory
City Manager
City of San Diego

Carmel Valley Branch Library
San Diego, CA

Clairemont Branch Library
San Diego, CA

Del Mar Branch Library
Del Mar, CA

La Jolla Branch Library
La Jolla, CA

North Clairemont Branch Library
San Diego, CA

Pacific Beach Branch Library
San Diego, CA

UCSD Library
La Jolla, CA

University City Branch Library
San Diego, CA

Mr. John Kovac
Development Services
City of San Diego

Ms. Laura Alexander
Development Services
City of San Diego

Ms. Linda Johnson
Principal Planner
Development Services
City of San Diego

Mr. Tibor Varga
City of San Diego
Water Utilities Department
San Diego, CA

The Honorable Christine Kehoe
Council Member - District 3
City of San Diego

CONSULTATION AND COORDINATION
7-21
Mr. Paul Toomey  
Senior Traffic Engineer  
City of San Diego  

Clerk of Board of Supervisors  
County Board of Supervisors  
San Diego, CA  

Mr. Jeff Washington  
City of San Diego  
Department of Community Planning  

Mr. Herm Rosenthal  
County of San Diego  
Department of Planning & Land Use  
San Diego, CA  

Chief Administrative Officer  
County of San Diego  
San Diego, CA  

City of Chula Vista  
City Clerk  

City of National City  
City Clerk  

Mr. Michael W. Huse  
City Manager  
City of Solana Beach  

City of Lemon Grove  
City Clerk  

City of Coronado  
City Clerk  

Ms. Julie Hamilton  
County Board of Supervisors  
District 3  
San Diego, CA  

Mr. Daniel T. Allen  
Coastal Area Comm. Chairman  
City of San Diego  
Park & Recreation Board  

Mr. Randall L. Hubert, Deputy  
County of San Diego  
Department of Environmental Planning  
San Diego, CA  

Mr. James L. Spotts  
Real Estate Assets  
City of San Diego  

City of Poway  
City Clerk  

City of Santee  
City Clerk  

Chair  
County Board of Supervisors  
San Diego, CA  

City of La Mesa  
City Clerk  

Director, Planning Department  
City of Del Mar  

Ms. Marilyn Linn  
City Clerk  
City of El Cajon  

City of Imperial Beach  
City Clerk  

Del Mar Fairgrounds  
Del Mar, CA
<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ms. Martha McLatchy</td>
<td>Director</td>
<td>City of San Diego Park and Recreation</td>
</tr>
<tr>
<td>Ms. Sandra Barnes</td>
<td></td>
<td>Chief of Police City of San Diego</td>
</tr>
<tr>
<td>Mr. Allen Holden</td>
<td>Engineering Department</td>
<td>Fire Chief City of San Diego</td>
</tr>
<tr>
<td>The Honorable Judy McCarty</td>
<td>Council Member - District 7</td>
<td>Ms. Ann Dempsey City of Del Mar Traffic Committee</td>
</tr>
<tr>
<td>Mr. Bill Schempers</td>
<td>Director, Engineering Department</td>
<td>The Honorable George Stevens Council Member - District 4 City of San Diego</td>
</tr>
<tr>
<td>The Honorable Juan Vargas</td>
<td>Council Member - District 8</td>
<td></td>
</tr>
<tr>
<td>Mr. Rudy G. Gonzales</td>
<td>Office of Neighborhoods</td>
<td>San Diego, CA</td>
</tr>
</tbody>
</table>

**CONSULTATION AND COORDINATION**

7-23
APPENDIX A

Initial Study
October 25, 1990

Dear Interested Agency/Citizen:

Subject: NOTICE OF PREPARATION OF EIR/EIS AND NOTICE OF CONSULTATION REGARDING TRANSPORTATION ISSUES

Enclosed is the Notice of Preparation and Notice of Consultation Regarding Transportation issues from the San Diego Metropolitan Transit Development Board (MTDB) for the preparation of an Environmental Impact Report/Environmental Impact Statement (EIR/EIS) analyzing transit alternatives being studied in the Mid-Coast Corridor from the San Diego River to Del Mar Heights Road in the Cities of San Diego and Del Mar. MTDB will be the Lead Agency for this project and will supervise the preparation of the document. We need to know your views or the views of your agency regarding the scope and content of the environmental information which is germane to your statutory responsibilities in connection with the proposed project. Please read the enclosed material carefully. Your agency may need to use the environmental document prepared by MTDB when considering your permit or the approval for the project.

The project description, location, and the probable environmental effects are contained in the enclosed materials. A copy of an Initial Study is enclosed.

Due to time limits mandated by state law, your response must be sent at the earliest possible date, but not later than November 26, 1990.

Please send your response including the name of the contact person in your agency to:

Mr. Dennis Wahl
MTDB
1255 Imperial Avenue, Suite 1000
San Diego, CA 92101-7490

Thank you for your cooperation.

Sincerely,

Thomas F. Larwin
General Manager

TFL:lm - L-ISSUES.DJW

Enclosures: Notice of Preparation and Notice of Consultation Initial Study A-1
TO: Interested Agency/Citizen

FROM: San Diego Metropolitan Transit Development Board
1255 Imperial Avenue, Suite 1000
San Diego, CA 92101-7490

SUBJECT: NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL IMPACT STATEMENT AND NOTICE OF CONSULTATION WITH TRANSPORTATION PLANNING AGENCIES AND PUBLIC AGENCIES WITH TRANSPORTATION FACILITIES; SAN DIEGO METROPOLITAN TRANSIT DEVELOPMENT BOARD (MTDB) REGIONAL LIGHT RAIL TRANSIT SYSTEM MID-COAST CORRIDOR ALTERNATIVES ANALYSIS

MTDB hereby presents notice that an Environmental Impact Report/Environmental Impact Statement (EIR/EIS) will be prepared for the Mid-Coast Corridor of the regional light rail transit system pursuant to Public Resources Code § 21080.4. MTDB also presents notice of consultation with transportation planning agencies and public agencies which have transportation facilities within their jurisdiction that could be affected by this project, pursuant to Public Resources Code § 21092.4.

BACKGROUND

MTDB, in cooperation with the Federal Urban Mass Transportation Administration (UMTA), is evaluating alternatives for improving mass transit services in the Mid-Coast Corridor. The Mid-Coast Corridor has been defined as extending from the area near the junction of Interstate 5 and Interstate 8, north along Interstate 5 to the vicinity of Del Mar Heights Road (See Map 1). This evaluation is being conducted as part of the MTDB program to develop and implement transit system improvements throughout the metropolitan service area.

Transit improvements are being proposed in the Mid-Coast Corridor to reduce transit travel times and thus, increase the availability of travel options for Mid-Coast residents to points elsewhere in the metropolitan service area, for jobs, education, medical, shopping, and cultural opportunities. Residents throughout the region would benefit from improved access and mobility in the corridor. Improved transit service could also provide opportunities for economic development in the Corridor consistent with adopted growth and infrastructure policies.

A Mid-Coast Corridor EIR/EIS/Alternatives Analysis will evaluate several improvement alternatives:

- No-Build – This alternative includes new transportation improvements which are programmed for construction within the next six years, including all TransNet Projects funded by the Proposition A local sales tax in 1987, and projects identified in the State Transportation Improvement Program (STIP). Major projects in the STIP within the I-5 corridor are Stage I of the I-5/SR-56 interchange and three interchange modifications in University City funded as Facility Benefit Assessment Projects.

- TSM – The Transportation Systems Management alternative includes increased transit services and facilities consisting of all projects from the No-Build alternative plus increased express and local bus service. Selected priority treatments (carpool/bus lanes) and new or expanded park-and-ride lots and transit centers are included.
HOV Lanes - All projects from the TSM alternative plus High Occupancy Vehicle lanes on I-5 south of Del Mar Heights Road to the vicinity of I-8 will be included in this alternative. Some transit services would be realigned to utilize the HOV lanes.

LRT - This alternative consists of Light Rail Transit along one or more alignments depending upon the results of screening during the EIR/EIS/AA process that may reduce the number of alignment options. The alignment options consist of:

- **South Segment:** San Diego River to Gilman Drive
  - The alignment would run adjacent to the AT&SF railroad line
- **Center Segment:** Gilman Drive to Genesee Avenue
  - Three alignment alternatives will be examined:
    1. Along Gilman Drive, through the University of California San Diego to run along I-5;
    2. Along I-5; and,
    3. Along the AT&SF rail line to Regents Road, then along Regents Road to Genesee Avenue before returning to I-5.
- **North Segment:** Genesee Avenue to Del Mar Heights Road
  - The alignment would generally follow I-5.

Within the Center Segment, an east/west Spur is planned. The Spur will extend from the Mainline to provide service east through University City. One option ends the Spur west of I-805, while a second option continues the Spur over I-805 and then along Miramar Road to the vicinity of the proposed Miramar Commuter Rail Station.

The evaluation will be conducted in consultation with the City of San Diego and other local agencies, Caltrans and other State agencies, Federal agencies, interest groups, and the public.

**PROJECT LOCATION**

The attached maps show the following:

**Map 1.** San Diego region showing the Corridor study area and the location of presently operating and future proposed LRT lines.

**Map 2.** Alternative LRT alignments to be considered in the EIR/EIS.

**REQUESTS FOR RESPONSE TO THIS NOTICE**

MTDB requests comments from responsible agencies as to the scope and content of environmental information which is germane to that responsible agency's statutory responsibilities in connection with the proposed project and which should be included in the environmental impact report.

MTDB also requests comments from transportation planning agencies and public agencies which have transportation facilities within their jurisdiction which could be affected by the project. This request for comments is for the purpose of obtaining information concerning the project's effect on major local arterial, public transit, freeways, highways and rail transit service within the jurisdiction of such agencies. This request for comments shall constitute the consultation required by Public Resources Code § 21092.4.

This notice should also serve to inform other interested parties of the initiation of the EIR/EIS.
Map 2. Alternative LRT Alignments to be Considered in DEIS/EIR

Metropolitan Transit Development Board
San Diego, California

Source: BRW, Inc.
11 October 1990
POTENTIAL ENVIRONMENTAL IMPACTS OF THE PROPOSED PROJECT

The following checklist details the areas of probable environmental effect. After each series of checklist questions, there is a discussion of the environmental findings in relation to the project.
1. **EARTH.** Will the proposal result in:

   a. Unstable earth conditions or in changes in geologic substructures? ( ) (XX) ( )

   b. Disruptions, displacements, compaction or overcrowding of the soil? (XX) ( ) ( )

   c. Change in topography or ground surface relief features? ( ) (XX) ( )

   d. The destruction, covering or modification of any unique geologic or physical features? ( ) (XX) ( )

   e. Any increase in wind or water erosion of soils, either on or off the site? ( ) (XX) ( )

   f. Changes in deposition or erosion of beach sands, or changes in siltation, deposition, or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake? ( ) (XX) ( )

   g. Exposure of people or property to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards? ( ) (XX) ( )

Construction of any of the build alternatives would require grading which has the potential to disrupt the soil.

It is not anticipated that the proposed alternatives would cause or create unstable earth conditions; however, it is possible that such conditions may be encountered during construction. The alternatives being considered would not alter the underlying geologic structure, or destruct, cover, or modify any known unique geologic feature. Construction could affect soil erosion; however, the construction plans will include requirements to minimize these effects. The project boundary traverses the Rose Canyon Fault. Any alternative selected would be designed and constructed according to seismic requirements in order to protect property and minimize possible major geologic hazards.
2. **AIR.** Will the proposal result in:

a. Substantial air emissions or deterioration of ambient air quality? ( ) ( ) (XX)
b. The creation of objectionable odors? ( ) (XX) ( )
c. Alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally? ( ) ( ) (XX)
d. Expose the project residents to severe air pollution conditions? ( ) ( ) (XX)

The alternatives under consideration should reduce the number of cars on the road, therefore overall ambient air quality should be improved. In general, there are no objectionable odors associated with the construction or operation of electrified LRT systems. Bus transit alternatives would operate on diesel power and increase the emissions of diesel fumes particulates, and hydrocarbons. In localized areas where LRT stations are proposed, some microscale degradation of air quality could exist in the morning and afternoon peak hours due to automobiles entering/egressing park-and-ride/kiss-and-ride areas.

The project does not have the potential to alter movements of air, moisture, or temperature either locally or regionally.

3. **WATER.** Will the proposal result in:

a. Changes in currents, or the course or direction of water movements, in either marine or fresh waters? ( ) (XX) ( )
b. Changes in absorption rates, drainage patterns or the rate and amount of surface water runoff? ( ) (XX) ( )
c. Alterations to the course or flow of flood waters? ( ) (XX) ( )
d. Change in the amount of surface water in any water body? ( ) (XX) ( )
e. Discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity? ( ) (XX) ( )
f. Alteration of the direction or rate of flow of ground water? ( ) (XX) ( )
g. Change in the quantity of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?  
   ( ) ( ) (XX)

h. Reduction in the amount of water otherwise available for public water supplies?  
   ( ) ( ) (XX)

i. Exposure of people or property to water-related hazards such as flooding or tidal waves?  
   ( ) (XX) ( )

j. Significant changes in temperature, flow or chemical content of surface thermal springs?  
   ( ) ( ) (XX)

Construction of the alternatives being considered has the potential to disrupt the flow rate and increase siltation in the San Diego River, Rose, San Clemente, Tecolote, and Penasquitos Creeks and other drainage ways in the Corridor vicinity, and possibly change the direction of water movements where turn radii need to be straightened to maximize train speeds. It is not anticipated that the alternatives will affect groundwater levels or the quality of groundwater resources. Some additional surface water runoff can be expected. The amount will depend on the alternatives selected and the size of the capital facilities, such as transit centers, park-and-ride lots, and LRT stations. A crossing of the San Diego River is necessary for the LRT alternatives. With the possible exception of flash flood areas, the project would not expose people to water related hazards. It is possible that the LRT alternatives could result in flood plain encroachment at floodway crossings. The amount of encroachment, if any, will be minimized through design of crossing structures. Specific drainage changes will be further investigated during the study process.

4. **PLANT LIFE.** Will the proposal result in:
   
a. Change in the diversity of species or number of any species of plants (including trees, shrubs, grass, crops, and aquatic plants)?  
   ( ) (XX) ( )

b. Reduction of the numbers of any unique, rare or endangered species of plants?  
   ( ) (XX) ( )

c. Introduction of new species of plants into an area, or result in a barrier to the normal replenishment of existing species?  
   ( ) ( ) (XX)

d. Reduction in acreage of any agricultural crop?  
   ( ) ( ) (XX)

A large portion of the alignments being considered under the LRT alternative follow existing railroad and freeway right-of-way, and therefore it is not anticipated that construction of the alternatives in this area would affect the diversity or numbers of any species of plant. However, in areas where the LRT alignment deviates from the existing railroad and freeway right-of-way, the alternative alignments do traverse areas that are currently considered to be sensitive habitat, thus having the potential to change the.
diversity or number of plant species. Reduction in the diversity or number of plant species could result in the reduction of the numbers of any unique, rare, or endangered species which may exist in the study vicinity. A biological resources study will be conducted to determine any impacts.

Construction and operation of LRT alternatives and stations could involve revegetation or landscaping, but it is not anticipated that the project will introduce any new species or plant into the area, or act as a barrier to the normal replenishment of existing species. There is no agriculture in the area, and the project will not result in the reduction in acreage of any agricultural crop.

5. **ANIMAL LIFE.** Will the proposal result in:

   a. Change in the diversity of species or numbers of any species of animals (birds, land animals including reptiles, fish, and shellfish, benthic organisms or insects)?
      
      | Yes | Maybe | No |
      |-----|-------|----|
      |     | (XX)  |    |

   b. Reduction of the numbers of any unique, rare or endangered species of animals?
      
      | Yes | Maybe | No |
      |-----|-------|----|
      |     | (XX)  |    |

   c. Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals?
      
      | Yes | Maybe | No |
      |-----|-------|----|
      |     |       | (XX) |

   d. Deterioration of existing fish or wildlife habitat?
      
      | Yes | Maybe | No |
      |-----|-------|----|
      |     | (XX)  |    |

Portions of the study area traverse identified sensitive habitat that could contain sensitive or endangered species. A biological assessment will be performed as part of the environmental process.

Construction and operation of any alternative being considered does not involve the introduction of animal species into an area or create a barrier to the migration or movement of animals.

6. **NOISE.** Will the proposal result in:

   a. Increases in existing noise levels?
      
      | XXX | ( ) | ( ) |

   b. Exposures of people to severe noise levels?
      
      | ( ) | (XX) | ( ) |

The construction of any alternative will increase existing noise levels in noise sensitive locations adjacent to the construction area. Operation of any alternative will increase existing noise levels at any given point along the alignment whenever a transit vehicle passes that location. A noise study will be conducted to determine if the operation of the transit alternatives are expected to expose people to severe noise levels and noise impacts. The Study also will propose mitigation measures if needed.
7. **LIGHT AND GLARE.** Will the proposal:
   
a. Produce new light or glare from street lights or other sources?  
   Yes ( )  Maybe (XX)  No ( )

   b. Reduce access to sunlight of adjacent properties due to shade and shadow.  
   Yes ( )  Maybe (XX)  No ( )

   Lighting used in transit stations and parking areas can be designed in a manner that minimizes adverse impacts. Should the LRT be elevated in certain locations, shadows could cause some reduction in sunlight.

8. **LAND USE.** Will the proposal result in a substantial alteration of the present or planned land use of an area?  
   Yes ( )  Maybe (XX)  No ( )

   Although some changes may be necessary to accommodate any alternative being considered, the project would not result in any substantial alteration to existing or planned land uses in the area.

9. **NATURAL RESOURCES.** Will the proposal result in:
   
a. Increase in the rate of use of any natural resources?  
   Yes ( )  Maybe ( )  No (XX)

   b. Substantial depletion of any non-renewable resources?  
   Yes ( )  Maybe ( )  No (XX)

   The implementation of any alternative will reduce the number of automobiles traveling the roads in the area and thus would reduce the amount of gasoline used.

10. **RISK OF UPSET.** Does the proposal involve:
   
a. A risk of an explosion or the release of hazardous substances (including, but not limited to, oil, pesticides, chemicals or radiation) in the event of an accident or upset conditions?  
   Yes ( )  Maybe ( )  No (XX)

   b. Possible interference with an emergency response plan or an emergency evacuation plan?  
   Yes ( )  Maybe ( )  No (XX)

   The construction and operation of the alternatives being considered does not involve the use of materials which may explode, or the use of substances which may be considered hazardous in the event of an accident. For this reason it is not anticipated that the project will expose people or property to such a hazard. In addition, the construction and operation of the alternatives will not interfere with any established emergency response plan or evacuation plan.
11. **POPULATION.** Will the proposal result in:

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>Maybe</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. The relocation of any persons because of the effects upon housing, commercial, or industrial facilities?</td>
<td>( )</td>
<td>(XX)</td>
<td>( )</td>
</tr>
<tr>
<td>b. Significantly change the distribution, density or growth rate of the human population of an area?</td>
<td>( )</td>
<td>( )</td>
<td>(XX)</td>
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</tbody>
</table>

In order to acquire the needed right-of-way for the alternatives being considered, it may be necessary to acquire property and to relocate some commercial or industrial facilities. Neither the construction nor the operation of any alternative is considered growth-inducing in terms of attracting population from outside the region. However, the operation of the LRT alternative may attract population from within the region to the area. It is not anticipated that this would significantly alter the location, distribution, density, or growth rate of human population.

12. **HOUSING.** Will the proposal:

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>Maybe</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Affect existing housing or create a demand for additional housing?</td>
<td>( )</td>
<td>(XX)</td>
<td>( )</td>
</tr>
<tr>
<td>b. Have an impact on the available rental housing in the community?</td>
<td>( )</td>
<td>(XX)</td>
<td>( )</td>
</tr>
<tr>
<td>c. Result in significant demolition, relocation or remodeling of residential, commercial, or industrial or other facilities?</td>
<td>( )</td>
<td>(XX)</td>
<td>( )</td>
</tr>
</tbody>
</table>

Since the alternatives are not considered to be growth-inducing in terms of attracting additional population from outside the region, it is not anticipated that the project will significantly affect existing housing or create a demand for housing. The alternatives may, however, attract some people from within the region to the area. may affect student rental housing in the UCSD vicinity, and existing condominiums along Nobel Drive. For this reason it is possible that some areas within the region may experience a slight increase in the demand for housing while others may experience a slight decrease. The need for demolition or relocation of any residential or other facilities will be evaluated.

13. **TRANSPORTATION/CIRCULATION.** Will the proposal result in:

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>Maybe</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Generation of substantial additional vehicular movement?</td>
<td>( )</td>
<td>(XX)</td>
<td>( )</td>
</tr>
<tr>
<td>b. Significant effects on existing parking facilities or demand for new parking?</td>
<td>(XX)</td>
<td>( )</td>
<td>( )</td>
</tr>
</tbody>
</table>
c. Impact upon existing transportation systems? (XX) ( ) ( )  
d. Alterations to present patterns of circulation or movement of people and/or goods? (XX) ( ) ( )  
e. Alterations to waterborne, rail, or air traffic? ( ) ( ) (XX)  
f. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians? ( ) (XX) ( )  

The addition of increased levels of transit to the area will increase vehicular and pedestrian movement in certain areas. Individuals who wish to ride transit will walk or drive their automobiles to a station. The alternatives will increase the demand for parking in the project area. Portions of the LRT alternatives alignments will be adjacent to or in the median of Gilman Drive or Regents Road, potentially causing a negative effect on existing traffic conditions. The LRT alternatives could result in an increase in rail traffic or introduction of rail service into some areas.

It is anticipated that the proposed alternatives will reduce vehicular traffic on area roads by diverting some vehicular trips to transit.

14. **PUBLIC SERVICES.** Will the proposal have a significant effect upon or result in a need for new or altered governmental services in any of the following areas:

a. Fire protection? ( ) ( ) (XX)  
b. Police protection? ( ) (XX) ( )  
c. Schools? ( ) (XX) ( )  
d. Parks or other recreational facilities? ( ) (XX) ( )  
e. Maintenance of public facilities including roads? (XX) ( ) ( )  
f. Other government services? ( ) ( ) (XX)  

Because the alternatives being considered are not growth-inducing, it is not anticipated that the project will result in a need for new or altered public services such as fire and police protection for that aspect. The LRT alternative may result in the need for additional security procedures at stations and on government property. The alternatives being considered may afford some members of the community easier access to certain parks and recreational opportunities and therefore create increased demand. The alternative LRT alignments along Regents Road and Executive Drive may alter current services provided by the La Jolla Country Day School and UCSD. In addition, the implementation of any of the proposed transit alternatives facilities will result in additional maintenance of public facilities. Discussion of any such effects will be included in the EIR/EIS.
15. **ENERGY.** Will the proposal result in:

a. Use of substantial amounts of fuel or energy? ( ) ( ) (XX)

b. Substantial increase in demand upon existing sources of energy or require the development of new sources of energy? ( ) ( ) (XX)

It is anticipated that the alternatives being considered will cause a minor reduction in regional traffic and thereby slightly reduce regional fuel consumption. However, there will be a minor increase in electrical usage for rail propulsion and diesel fuel for bus propulsion.

16. **UTILITIES.** Will the proposal result in a need for new systems or substantial alterations to the following utilities:

a. Power or natural gas? ( ) (XX) ( )

b. Communications systems? ( ) (XX) ( )

c. Water? ( ) (XX) ( )

d. Sewer and septic tanks? ( ) (XX) ( )

e. Storm water drainage? ( ) (XX) ( )

f. Solid waste disposal? ( ) ( ) (XX)

Some relocation of utilities may be required as a result of the selection of a specific alternative. There will, however, be no interruption in service to customers. Neither the construction nor the operation of the proposed alternatives will substantially increase the rate of consumption of most major utilities. LRT vehicles are powered by electricity, and operation of the cars would increase the consumption of electricity in the area. This increased consumption of electricity for the LRT alternative would be offset by a savings in gasoline which would occur as a result of increased ridership on the transit system.

17. **HUMAN HEALTH.** Will the proposal result in:

a. Creation of any health hazard or potential health hazard (excluding mental health)? ( ) ( ) (XX)

b. Exposure of people to potential health hazards? ( ) (XX) ( )

It is not anticipated that the construction or operation of the alternatives being considered will in any way create a negative effect on human health. The Navy has expressed concerns of the safety of transit patrons at any station in the Miramar Naval Air Station APZ.
18. **AESTHETICS.** Will the proposal result in:

a. The obstruction of any scenic vista or view open to the public? ( ) (XX) ( )

b. Will the proposal result in the creation of an aesthetically offensive site open to public view? ( ) (XX) ( )

c. The destruction of a stand of trees, a rock outcropping or other locally recognized desirable aesthetic natural feature? ( ) (XX) ( )

d. Any negative aesthetic effect? ( ) (XX) ( )

The construction and operation of the stations and/or parking lots associated with the alternatives being considered may obstruct scenic vistas (Rose Canyon), views, and/or natural biological habitats which are now open to public view. Construction and operation of the alternatives may also create a site which may be considered aesthetically offensive by some members of the community. Members of the public may also find the overhead wires associated with the LRT alternative to have a negative aesthetic effect. These effects will be analyzed in the EIR/EIS.

19. **RECREATION.** Will the proposal result in an impact upon the quality or quantity of existing recreational opportunities? ( ) (XX) ( )

Because the alternatives being considered may afford some members of the community easier access to certain recreational opportunities in the area, it may create an increased demand for such facilities. Some alternatives may be located adjacent to parks, open space, and nature preserves which may result in Section 4F impacts. Example areas where these impacts could occur are in Rose Canyon and in University City. Potential impacts will be addressed in the EIR/EIS.

20. **CULTURAL RESOURCES.**

a. Will the proposal result in the alteration of or the destruction of a prehistoric or historic archaeological site? ( ) (XX) ( )

b. Will the proposal result in adverse physical or aesthetic effects to a prehistoric or historic building, structure or object? ( ) (XX) ( )

c. Does the proposal have the potential to cause a physical change which would affect unique ethnic cultural values? ( ) ( ) (XX)

d. Will the proposal restrict existing religious or sacred uses within the potential impact area? ( ) ( ) (XX)
It is possible that construction of any of the alternatives being considered may alter or destroy undiscovered or not yet identified prehistoric or historic archeological sites. It is not anticipated that the construction or operation of the alternatives would affect such cultural resources; however, investigation into the existing record of cultural resources will be undertaken.

21. **Navigable Waterways and Coastal Zones:**

   a. Will the proposal result in adverse impacts on navigation and use of navigable waterways? ( ) (XX) ( )

   b. Will the proposal result in inconsistencies with the approved Coastal Zone Management program? ( ) (XX) ( )

   The proposed alternatives travel through the Coastal Zone beginning south of Genesee Avenue, north to Del Mar Heights Road. A permit may be required from the Coastal Commission for this project. Potential impacts will be addressed in the EIS/EIR. The LRT alternatives will be required to cross the San Diego River channel. Potential impacts and mitigation measures will be addressed in the EIS/EIR.

22. **Mandatory Findings of Significance:**

   a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number of restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? ( ) (XX) ( )

   b. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time while long-term impacts will endure well in to the future.) ( ) (XX) ( )

   c. Does the project have impacts which are individually limited but cumulatively considerable? (A project may impact on two or more separate resources where the impact of each resource is relatively small but where the effect of the total of those impacts on the environment is significant.) ( ) (XX) ( )
d. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? ( ) ( ) (XX)

The implementation of any of the proposed alternatives is not anticipated to cause significant adverse impacts upon wildlife and vegetative habitats and population, or cultural resources. However, the possibility for such impacts, particularly in the area of wetland and biological resources, does exist and will require a survey investigation.

The project is intended to reduce motor vehicle traffic on area roads, which would reduce auto emissions, improve local air quality, and improve the flow of traffic. These are all benefits that will improve conditions in both the long and short term. When the project is considered in the light of the entire regional transit system, there may be the potential for cumulative impacts.

DETERMINATION

On the basis of this initial evaluation, MTDB has determined that the proposed project may have a significant effect on the environment and an Environmental Impact Report/Environmental Impact Statement will be prepared.
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Sacramento, CA 95814

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U.S. Department of Interior
24000 Avila Road
Laguna Niguel, CA 92656

ME
Soil Conservation Service
U.S. Dept. of Agriculture
215 Hickory St, #126
Escondido, CA 92025-4360

Spec Asst to Secretary ME
Pacific Southwest Region
U.S. Dept of Interior
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San Francisco, CA 94102

ME
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Sacramento, CA 95814

District Engineer
U.S. Army Corps of Engineers
P.O. Box 2711
Los Angeles, CA 90053-2325

A-24

ME
P.O. Box 36003
San Francisco, CA 94102
NOTICE OF PREPARATION LIST

October 1990/March 25, 1991

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Division Administrator
U.S. Federal Highway Admin
P.O. Box 1915
Sacramento, CA 95809

Hon. Duncan Hunter ME
Congressman, 45th District
U.S. House of Repres.
366 South Pierce
El Cajon, CA 92020

Hon. Pete Wilson ME
Senator, U.S. Senate
401 B Street, Suite 2209
San Diego, CA 92101

Mr. Robert Umstead MS
UCSD
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La Jolla, CA 92039

MC
External Affairs Commissioner
UCSD Associated Students
Student Center B-023
La Jolla, CA 92037

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University City/La Jolla Light
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La Jolla, CA 92039

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Admin, VA Medical Center
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La Jolla, Ca 92161

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U.S. Dept of Energy
1000 Independence Ave, SW
Room 46-064
Washington, DC 92585

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Chief, Wetlands Section
U.S. Environ Protect Agency
215 Fremont St, Code W-7-2
San Francisco, CA 94015

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U.S. Federal Railroad Admin.
400 7th Street, SW
Washington, DC 20590

Hon. Bill Lowery ME
Congressman, 41st District
U.S. House of Repres.
880 Front St, 6815 Fed Bldg
San Diego, CA 92188

Hon. Alan Cranston ME
Senator, U.S. Senate
5757 W. Century Bl, Rm 515
Los Angeles, CA 90045

ML
UCSD Library
UCSD
La Jolla, CA 92045

Mr. Donald J. Emerson MA
UMTA Office of Planning Asst
400 7th St. S.W., UGM 22
Room 9223
Washington, D.C. 20590

Mr. George W. Lattimer MC
University Comm Plng Grp
1589 Cale Delicada
La Jolla, 92037

Mr. Jeffrey A. Steindorf MA
Director, Campus Plng Office
Unv of CA, San Diego
La Jolla, CA 92039

Hon. Jim Bates ME
Congressman, 44th District
U.S. House of Repres.
3450 College Ave, Suite 231
San Diego, CA 92115

Hon. Ron Packard ME
Congressman, 43rd District
U.S. House of Repres.
2121 Palomar Airport Road
Ste 105
Carlsbad, CA 92008

Mr. Henry Nejako ME
Administrator, Region 9
U.S. Urban Mass Trans Adm
211 Main Street, Room 1160
Washington, DC 94015

Ms. Molley McKay MC
V.P. External Affairs
UCSD Associated Students
UCSD, Code Q-077
La Jolla, CA 92093

Mr. Bob Hom MA
UMTA Region IX
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San Francisco, CA 94105

MA
University Comm Plng Grp
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San Diego, CA 92122

Mr. V. Wayne Kennedy MA
Vice chancellor, Univ. Admin.
University of CA, San Diego
Mail Code Q-057
La Jolla, CA 92093

MS
USD Library, Univ. of San Diego, Acala Park
San Diego, CA 92110
NOTICE OF PREPARATION LIST

October 1990/March 25, 1991

Ms. Maria Martinez-Cosio MA
University of San Diego
Acala Park
San Diego, 92110

Mr. Allen Holden
Deputy Director
Transportation Plng Div
MS 505

ME
Voters Org to Think Environ
5068 Windsor Drive
San Diego, CA 92109

Mr. Jonathan Levy
Deputy Direct
Traffic Engineering Div
MS 503

Sierra Club
3820 Ray St.
San Diego, CA 92104
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<tr>
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<th>Agency/Department</th>
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<td>Steve Wheeler</td>
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<td>Timothy D. Cattran</td>
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<td>David Nunekamp</td>
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<td>Fred Worthley</td>
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<td>James W. Royle, Jr.</td>
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<td>Monica Littigges</td>
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<td>Daniel T. Allen</td>
<td>NAS Miramar (hard copy 11-24)</td>
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<td>Fred Pierson</td>
<td>FHWA</td>
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<td>Bruce E. Cannon</td>
<td>CA Dept. Parks &amp; Rec.</td>
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<td>William V. Fait</td>
<td>UCSD (hard copy 12-3-90)</td>
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<td>Milt Phegley</td>
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<td>Laura Loop</td>
<td>City of S.D (hard copy 12-4-90)</td>
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<td>Allen Holden</td>
<td>Caltrans</td>
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<td>James T. Cheshire</td>
<td>City of S.D. Parks &amp; Rec.</td>
<td>12-21-90</td>
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<td>17</td>
<td>George Lovelad</td>
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</table>
October 30, 1990

Dennis Wahl
MTDB
1255 Imperial Ave., Suite 1000
San Diego 92101-7490

Dear Sir:

My copy of CEQA rules (which is admittedly somewhat ancient), under section 15131, states that economic and social effects may be included in an EIR.

Such inclusion would be very appropriate in the Mid Coast Corridor EIR. An alternative to the auto will certainly have social effects. Economically, the rail alternative will reduce citizens' costs of gasoline, insurance, and public levies to build and maintain roads and freeways. Et cetera.

Very truly yours

Charles T. Newton
October 31, 1990

Mr. Dennis Wahl
Metropolitan Transit Development Board
1255 Imperial Ave., Suite 1000
San Diego, CA 92101-7490

RE: NOP ON TRANSPORTATION ISSUE - MID COAST CORRIDOR

Dear Mr. Wahl:

The North San Diego County Transit Development Board (NSDCTDB) is interested in how the proposed study would integrate with the commuter rail line in two (2) respects, as follows:

1) STATIONS
   a) Where would common stations be located?
   b) How would parking demands be met?
   c) Extent & level of feeder buses -

2) RAILROAD RIGHT-OF-WAY
   a) Where would shared ROW with the commuter rail be located?
   b) Is there sufficient space in shared ROW or 2 LRT tracks and 2 main line commuter rail tracks given the park and wetlands issues near Elvira?

I would appreciate these issues being addressed in your EIR/EIS.

Sincerely,

NORTH COUNTY TRANSIT DISTRICT

Paul W. Price
Director of Service Development

PWP/cjc
November 2, 1990

Dennis Wahl
Metropolitan Transit Development Board
1255 Imperial Avenue, Suite 1000
San Diego, CA 92101-7490

RE: NOTICE OF PREPARATION OF EIR/EIS AND NOTICE OF CONSULTATION REGARDING TRANSPORTATION ISSUES - MID-COAST CORRIDOR: Santee Response

Dennis:

I have reviewed the above-referenced document. As you know, Santee has been a long time supporter of mass transit in general, and specifically the San Diego Trolley Light Rail Transit System. We wish MTDB success in extending the trolley through the Mid-Coast Corridor.

Although Santee supports the Mid-Coast Corridor project, we want to take this opportunity to reiterate our understanding that the El Cajon to Santee LRT Extension is the co-equal Number 3 priority for trolley expansion. We view this priority as higher than the Mid-Coast Corridor project and want to ensure that funding earmarked for the Santee extension is not diverted to the Mid-Coast Corridor.

If the Mid-Coast Corridor project is successful in reaching construction and operation, we believe that regional transit tie-ins between Santee and the Mid-Coast Corridor should be made. The success of Bus Route 870, express service from El Cajon and Santee to Kearny Mesa indicates that there is a significant demand for east-west mass transit in the region. Express bus linkages with the Mid-Coast Corridor Trolley project should be explored.

Please feel free to contact me if you require additional clarification of these issues and concerns.

Sincerely,

STEVE WHEELER
Assistant City Manager

cc: Ron Ballard
Mayor and City Council

Rec'd 11-5-90
Mr. Dennis Wahl  
MTDB  
1255 Imperial Ave., Suite 1000  
San Diego, CA 92101-7490  

RE: San Diego Metropolitan Transit Development Board, Regional Light Rail Transit System Mid-Coast Alternatives Analysis - EIR Scoping Request

November 2, 1990

Dear Mr. Wahl:

The Soil Conservation Service (SCS) is pleased to respond to your October 25, 1990 letter concerning the above project. The following are points that should be considered in the EIR:

1. The suitability or limitation of the soils for the proposed action.
2. The provision for erosion control and water management, before, during and after construction.
3. The provisions for conservation treatment on the project lands, rights of way, and access before, during and after construction, especially seeding and planting vegetation.
4. The effects of water discharge from the project lands, especially on downstream water quality.
5. The effects of disruption of natural drainage patterns.
6. The amount of prime, statewide, local or unique farmland being lost to the project, including inducement to development.
7. The provisions for stockpiling and reusing topsoil for later use in revegetation.
8. The pollution impacts (air, soil, water, wildlife cultural resources, and archaeology) and provisions for minimizing adverse effects.

The Soil Conservation Service Escondido (619-745-2061) and El Cajon (619-442-0559) Field Offices have information on soils, farmland, drainage recommendations and erosion control measures that may help you in the preparation of the EIR. Please feel free to contact our offices for specific resource information on the project.

Sincerely,

TIMOTHY D. CATTRON  
Area Conservationist

cc: SCS, Escondido  
    SCS, El Cajon

11-7-90
DATE: Oct 31, 1990

TO: Reviewing Agency

RE: SAN DIEGO MTDB's NOP for
SAN DIEGO MTDB REGIONAL LIGHT RAIL TRANSIT
SCH # 90011025

Attached for your comment is the SAN DIEGO MTDB's
Notice of Preparation of a draft Environmental Impact Report (EIR) for the
SAN DIEGO MTDB REGIONAL LIGHT RAIL TRANSIT.

Responsible agencies must transmit their concerns and comments on the scope
and content of the EIR, focusing on specific information related to their
own statutory responsibility, within 30 days of receipt of this notice. We
encourage commenting agencies to respond to this notice and express their
concerns early in the environmental review process.

Please direct your comments to:

DENNIS WAHL
SAN DIEGO MTDB
1255 IMPERIAL AVE
SAN DIEGO, CA  92101-7490

with a copy to the Office of Planning and Research. Please refer to the
SCH number noted above in all correspondence concerning this project.

If you have any questions about the review process, call
Terri Lovelady at (916) 445-0613.

Sincerely,

[Signature]

David C. Nunnemkamp
Deputy Director, Permit Assistance

Attachments

cc: Lead Agency
Fish and Game - Regional Offices

Gary Steepy, Regional Manager
Department of Fish and Game
600 Locust
Reno, NV 89501
702/323-3750 (8-443)

Jim Messersmith, Regional Manager
Department of Fish & Game
1487 Riverside Drive
Reno, NV 89501
702/632-7329 (8-443)

Gary Stacey, Regional Manager
Department of Fish and Game
431 Howard Street, Suite B
San Francisco, CA 94110
415/643-8553

Sandra Rosin
State Coastal Conservancy
230 Broadway, Suite 100
Oakland, CA 94602
510/525-0650

Div. of Mines and Geology

Div. of Oil and Gas

Land Resources Protection Unit

Douglas Weckler
Dept. of Forestry
1416 Ninth Street, Room 1316-2
Sacramento, CA 95814
916/322-8018

Hans Krausberg
Office of Historic Preservation
P.O. Box 941986
Sacramento, CA 95824-0001
916/322-9261

Mike Doyle
Dept. of Parks and Recreation
P.O. Box 942196
Sacramento, CA 95824-0001
916/323-6411

Anna Leena Bremsen
Reclamation Board
1416 Ninth Street, Room 306
Sacramento, CA 95814
916/322-7346

Nancy Westman
B.P. Bay Conservation & Dev.'s Comm.
30 Van Ness Avenue, Room 101
San Francisco, CA 94102
415/225-3016

Stefan Paynter
Dept. of Water Resources
1416 Ninth Street, Room 215-4
Sacramento, CA 95814
916/445-7416

Department of Transportation District Contacts

Jo Sanford
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1656 Union Street
San Francisco, CA 95303
707/443-6611 (8-534)

Michelle Gallagher
Caltrans, District 2
1857 Riverbend Drive
Reno, NV 89501
702/632-7329 (8-443)

Brian J. Smith
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916/445-4277 (8-457)

Wade Green
Caltrans, District 4
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San Francisco, CA 94110
415/257-9162 (8-597)

Larry Lissauer
Caltrans, District 5
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Sacramento, CA 95814
916/445-3461 (8-659)

Laurie Park
Caltrans, District 6
P.O. Box 12616
Fresno, CA 93728
209/276-5903 (8-422)

Gary McKee
Caltrans, District 7
1200 South Spring Street
Los Angeles, CA 90012
213/626-2376 (8-640)

People's Utility Commission

Public Utilities Commission

Regional Transportation Planning

Sacramento Region

San Francisco Region

Southern Nevada Region

Business, Transportation, & Housing

Sandy Hermann
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Sacramento, CA 95824-0001
916/264-1833

St. Jim Weddle
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Long Range Planning Section
Planning and Analysis Division
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Sacramento, CA 95818
916/445-1581

Ron Holmberg
Caltrans - Planning
P.O. Box 892784

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Sacramento, CA 95814
916/322-5237

Health & Welfare

Qy Tu
Dept. of Health
714 P St., Suite 1253
Sacramento, CA 95814
916/332-4111

State and Consumer Services

Robert Stepp
Dept. of General Services
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Sacramento, CA 95814
916/254-0214

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Bob Fletcher
Air Resources Board
1102 Q Street
Sacramento, CA 95814
916/252-8207

Jeannine Blaske
Cal/Env. Management Board
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Sacramento, CA 95814
916/327-0454

State Water Resources Control Board

Allan Patton
State Water Resources Control Board
Division of Lenses & Grants
P.O. Box 94212
Sacramento, CA 95812-0410
707/583-4808 (8-670)

Andy Zeppelin
State Water Resources Control Board
Doro Dumb
P.O. Box 94200
Sacramento, CA 95810
916/322-9070

Mike Falkenstein
State Water Resources Control Board
Division of Water Rights
900 P Street
Sacramento, CA 95814
916/445-5356

SCHR 00152
Regional Water Quality Control Board

NORTH COAST REGION
1410 Cowell Blvd.
Sonoma, CA 95440
707/576-2220 (8-190)

SAN FRANCISCO BAY REGION
1111 Jackson Street, Room 6000
Oakland, CA 94607
415/628-8125 (8-561)

CENTRAL COAST REGION
1102 A Laurel Lane
San Luis Obispo, CA 93401
805/549-3147 (8-629)

SOUTHERN CALIFORNIA REGION
101 Center Street
Monterey Park, CA 91754
213/390-4400 (8-639)

CENTRAL VALLEY REGION
5415 Broadway, Suite A
Sacramento, CA 95817-3094
916/361-5000

Fresno Branch Office
3200 Golden Avenue
Fresno, CA 93726
209/445-5116 (8-421)

Redding Branch Office
1100 East Cypress Drive
Redding, CA 96002
209/224-6585 (ATS 441)

LAHONTAN REGION
4029 Lakeside Boulevard
P.O. Box 94218
South Lake Tahoe, CA 96151
800/544-3481

Victorville Branch Office
13242 Cline Drive, Suite 100
Victorville, CA 92392-2359
619/245-3633

COLORADO RIVER BASIN
2022 E Arroyo Street
P.O. Box 94219
Bakersfield, CA 93307
209/447-7491

SANTA ANA REGION
6800 Indigo Avenue, Suite 200
Riverside, CA 92506
714/783-4010 (8-632)

SANDIEGO REGION
9711 Champion Mesa Blvd., Suite B
San Diego, CA 92124-1331
619/263-5314 (8-636)

OTHER:

OTHER:
November 9, 1990

Mr. Dennis Wahl
MTDB
11255 Imperial Avenue, Suite 1000
San Diego, CA 92101-7490

Dear Mr. Wahl:

We have reviewed the Notice of Preparation of a Draft EIR for the preparation of EIR/EIS and Notice of Consultation Regarding Transporation Issues project. To enable our staff to adequately review and comment on this project, we recommend the following information be included in the Draft EIR:

1. A complete assessment of flora and fauna within and adjacent to the project area, with particular emphasis upon identifying endangered, threatened and locally unique species and sensitive and critical habitats.

2. A discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts.

3. A discussion of potential adverse impacts from any increased runoff, sedimentation, soil erosion, and/or urban pollutants on streams and watercourses on or near the project site, with mitigation measures proposed to alleviate such impacts. Stream buffer areas and maintenance in their natural condition through non-structural flood control methods should also be considered in order to continue their high value as wildlife corridors.

More generally, there should be discussion of alternatives to not only minimize adverse impacts to wildlife, but to include direct benefit to wildlife and wildlife habitat. Those discussions should consider the Department of Fish and Game's policy that there should be no net loss of wetland acreage or habitat values. We oppose projects which do not provide adequate mitigation for such losses.
Diversion, obstruction of the natural flow, or changes in the bed, channel, or bank of any river, stream, or lake will require notification to the Department of Fish and Game as called for in the Fish and Game Code. Notification should be made after the project is approved by the lead agency.

Thank you for the opportunity to review and comment on this project. If you have any questions, please contact Kris Lal of our Environmental Services staff at (213) 590-5137.

Sincerely,

Fred Worthley
Regional Manager
Region 5

cc: Office of Planning & Research
To: Mr. Dennis Wahl  
Metropolitan Transit Development Board  
12255 Imperial Avenue, Suite 1000  
San Diego, California 92101-7490

Subject: Notice of Preparation of a Draft Environmental Impact Report  
Mid-Coast Corridor from the San Diego River to Del Mar Heights Road

November 8, 1990

Dear Mr. Wahl:

Thank you for sending a copy of the subject Notice of Preparation to this Society for comment.

We note that page 15 of the initial study for the project identifies that the project may impact cultural resources. The note which follows states that “It is not anticipated that the construction or operation of the alternatives would affect such cultural resources...” By and large, this may be true, but there is at least one area, Sorrento Valley, where sensitive resources exist and could potentially be impacted. Therefore, it is appropriate that the DEIR will include cultural resources among the issues it will address. Please include SDCAS in the distribution of the DEIR when its public review period begins, and include one copy of its cultural resources technical report(s) with it when it is mailed.

The San Diego County Archaeological Society appreciates the opportunity to participate in the environmental review process for MDDB's system expansion.

Sincerely,

James W. Royle, Jr.
Chairperson, EIR Review Committee

cc: file

11-13-90
November 14, 1990

Mr. Dennis Wahl  
Metropolitan Transit Development Board  
1255 Imperial Avenue (Suite #1000)  
San Diego, CA  92101-7490

RE: NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL IMPACT STATEMENT AND NOTICE OF CONSULTATION WITH TRANSPORTATION PLANNING AGENCIES AND PUBLIC AGENCIES WITH TRANSPORTATION FACILITIES; SAN DIEGO METROPOLITAN TRANSIT DEVELOPMENT BOARD (MTDB) REGIONAL LIGHT RAIL TRANSIT SYSTEM MID-COAST CORRIDOR ALTERNATIVES ANALYSIS

Dear Mr. Wahl:

The San Diego Fire Department has reviewed the above-referenced document, which proposes three alternative routes for the Light Rail Transit (LRT) System.

Following are the Fire Department's concerns:

1) LRT travel routes between Governor Drive and Genesee Avenue could create minor response delays.

2) Proximity of LRT alignments to commuter rail may cause life and safety hazards at certain junctions along the proposed route unless clearly defined emergency communications are established between cooperating agencies.

The Fire Department recommends the following:

1) A large scale training exercise should be conducted to train emergency response personnel. The suggested training should include actual hands-on demonstration (i.e. emergency door operations, ventilation techniques, extinguishing overheated brakes, de-energizing electrical power safely, and forcible entry). A video would provide excellent reference information.

A-37

"BIG FIRES START SMALL: keep matches and lighters in the right hands." 11-15-90
2) Construction standards, such as clear height above rail and proper signage, should be similar to the existing LRT system.

If you have any further questions, please don't hesitate to contact Garner Palenske at (619) 533-4473 or Chief Lenninger at (619) 533-4349.

Sincerely,

[Signature]

Monica L. Higgins
Fire Marshal

MLH:GP:cc

cc: Gary Easton, Deputy Chief
Mr. Dennis Wahl  
Metropolitan Transit Development Board  
1255 Imperial Avenue, Suite 1000  
San Diego, California 92101  

Dear Mr. Wahl:

I am writing as an individual citizen in reply to MTDB’s notice of preparation of EIR/EIS dated 25 October regarding the "Mid-Coast Corridor Alternatives Analysis". My comments on the scope and content, based on the material accompanying the notice, are as follows:

1.) In the definition of alternatives, in particular as defined by Map 2 in the notice, there is omission of any transit stop to serve the Torrey Pines Mesa area. This is a major employment center with what many believe already is a commitment to growth well beyond the capacity of services. Without a stop to serve this area, such as at Genesee and I-5, employees will either have to traverse the UCSD campus or go somehow all the way to Del Mar to make use of transit. These arrangements are patently unworkable, and in addition, the second alternative would put direct pressure on the widening of Carmel Valley Road in a manner that would have severe environmental impact on the Peñasquitos Lagoon.

2.) There is a major concern that the community of La Jolla (as defined by the City of San Diego’s community planning district and not as defined by real estate hucksters who call it La Jolla all the way to Santee) is not going to be served by these transit routes. The nearest stop is at Gilman Drive and I-5, but the limited roads in the area make it impossible to reach that point from La Jolla without going by way of extremely long routes. That arrangement will put shuttle busses that connect La Jolla in such direct competition with auto traffic over such long stretches that the use of transit will be a ridiculous alternative for employees, residents, shoppers, tourists and all the others for whom transit is supposed to be an improvement in mobility. Your plan must be sufficiently comprehensive to include the entire transportation system serving La Jolla such as shuttle busses and the physical improvements (new lanes, bridges, etc.) necessary to make transit work.

3.) I hope you will have the courage to address the following issue: The entire proposed transit line appears to follow the pathway of least resistance, that is it goes right up the Interstate where the right-of-way is already publicly owned. This, of course, means the fewest real questions of bad urban planning over
the years past need to be addressed. It is just the right answer if one wants to throw money at the traffic problem, see it spent fast and never mind if anybody ever rides the system. The alternative is for you to address the real needs of public transportation and then determine the route afterwards, instead of picking the freeway route and inventing all the justifications for it. The biggest thing wrong with transit going up the freeway is that for users to get from wherever they are to the transit line they will have to drive or be driven (in a car, bus, bike, cab), and that puts them in direct competition with freeways motorists for the access to I-5. Certainly there can be no “park-and-ride” features of significance at the access points on I-5, first because land values have already made that use infeasible and secondly because transit user parking will make competition worse between transit and freeway users at these nodes.

4.) The University of California is one of the largest payrolls, if not the largest, in the entire San Diego metropolitan region. Tens of thousands of people commute to the campus. For the MTDC to even consider the alternative of service that bypasses the UCSD campus is absurd, a waste of taxpayer money and malfeasance of professional duty by your planners.

5.) Your consideration of alternatives does not mention bicycle traffic, particularly bicycle commuting. The good weather in San Diego, the relatively flat terrain of the mesas of this region of the city and the unique feature of a university-centered community should give this alternative means of transit a good chance. But, the UCSD change in policy in recent years against bicycling and the City of San Diego’s blindness to cycle alternatives in all of the road widening and intersection redesigns has been a setback. Can cycling as an alternative be compatible with the transit system?

Please consider these comments and revise the planned scope and content of the EIR/EIS as suggested.

Yours sincerely,

Daniel T. Allen

A-40
Mr. Dennis Wahl
Metropolitan Transit Development Board
1255 Imperial Avenue, Suite 1000
San Diego, CA 92101-7490

Dear Mr. Wahl:

Thank you for the opportunity to review the Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Mid-Coast Corridor of the Light Rail Transit (LRT). Since the proposed project will directly impact air station land, request NAS Miramar be included in the National Environmental Policy Act (NEPA) review as a Contributing Agency.

Point of contact on this issue is Mr. Rich Melaas, Deputy Community Planning Liaison Officer at:

OOM1
NAS Miramar
San Diego, CA 92145-5000

or telephone 537-1253.

Sincerely,

FRED E. PIERSON
Community Planning Liaison Officer
By direction Commanding Officer
Mr. Thomas F. Larwin  
General Manager  
Metropolitan Transit Development Board  
1255 Imperial Avenue, Suite 1000  
San Diego, California 92101-7490

Attn: Dennis Wahl

Dear Mr. Larwin:

We have reviewed the notice of preparation of an Environmental Impact Report/Environmental Impact Statement (EIR/EIS) analyzing transit alternatives in the mid-Coast Corridor from the San Diego River to Del Mar Heights Road and have the following comment.

We would like to be a cooperating agency in the development of the environmental document as full FHWA involvement is required for projects on the interstate system.

The contact person in our office will be Jeff Lewis at (916) 551-1307.

Sincerely yours,

Jeffrey S. Lewis

For  
Bruce E. Cannon  
Division Administrator
November 20, 1990

Metropolitan Transit Development Board
1255 Imperial Avenue, Suite 1000
San Diego, CA  92101-7490

Mid Coast Corridor EIR/EIS For Regional Light Rail Transit System

The California State Department of Parks and Recreation, La Costa District is responsible for the management and operation of the Torrey Pines State Reserve and Los Penasquitos Lagoon Natural Preserve which are adjacent to the Genesee Avenue to Del Mar Heights Road portion of this project.

State Parks concerns regarding this project include any activities or change in conditions which could effect the integrity of the land or aquatic resources of these park units.

Please include me as a contact person on your mailing list for the La Costa District, State Department of Parks and Recreation.

Sincerely,

William V. Fait
District Superintendent

William V. Fait
District Superintendent

WVF: cmb
November 26, 1990

Mr. Dennis Wahl  
Metropolitan Transit Development Board, Suite 1000  
1255 Imperial Avenue  
San Diego, CA 92101-7490  

Re: Notice of Preparation/Notice of Consultation; Mid-Coast Corridor Light Rail Transit  

Dear Mr. Wahl:  

We appreciate the opportunity to comment on these notices. As has been the case throughout the alternatives analysis, UCSD is interested in and committed to an active and cooperative participation. Our specific comments follow.  

1. (Page 3) Reference to the Gilman Drive Center Segment alternative should be eliminated consistent with the MTDB-UCSD Memorandum of Agreement.  

2. (Page 3) The potential east-west spur alignments and their relationship to the north-south alignments should be better described.  

3. (General) The potential impact issues with the highest priority and which we prefer to see adequately addressed are land use, noise, aesthetics, open space, and community impacts such as barrier effects and station locations.  

4. (Page 11) Both north-south and east-west alignment alternatives will result in substantial alteration to either existing or planned land uses. Specific UCSD examples include impacts to the proposed Science Research Park, the existing Mesa Housing, and planned academic and parking uses. Additionally, spur alignments may impact existing and future housing, as well as designated open space areas. The response category should be changed from "Maybe" to "Yes."  

5. (Page 12) Although it appears that it may be reasonable to conclude that significant changes to regional population will not occur as a result of an alternative selection, significant local changes may occur. The local  

A-44
distribution, density, or rate changes which may occur should be examined. The response category should be changed from "No" to "Maybe."

6. (Page 13) Again, the reference to the Gilman alternative should be eliminated.

7. (Page 13) The references to alterations to waterborne, rail, or air traffic impacts (none) and the possibility that LRT alternatives could result in increases are seemingly contradictory.

8. (Page 17) Although it is not readily apparent that there will be substantial adverse effects on human beings, it would seem advisable to evaluate the potential, through the use of the "Maybe" category rather than "No." This would also be consistent with the other "Mandatory Findings of Significance" sections and the "significant effect" Determination.

Again, we appreciate the opportunity to comment. Please direct any questions or future contact to me (534-5782).

Sincerely,

Milt Phegley
Campus Community Planner

cc: B. Darling
    V. W. Kennedy
    J. Steindorf
    S. Taylor

Faxed prior to mailing
26 November 1990

Mr. Dennis Wahl
MTDB
1255 Imperial Avenue, Suite 1000
San Diego, CA 92101-7490

Dear Mr. Wahl:

Thank you for the opportunity to review the Notice of Preparation for the EIR/EIS and Notice of Consultation regarding transportation issues. The City of San Diego offers the following comments on the NOP:

GENERAL COMMENTS

Assembly Bill 3180 (Cortese) which was effectuated on January 1, 1989, requires public agencies to "adopt a reporting and monitoring program for the changes to the project which it has adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment". The reporting program should be designed to ensure compliance during project implementation. Written documentation is required, preferably in environmental reports and in permits. The DEIR should include and reference a mitigation monitoring program for any mitigation measures identified in the DEIR.

SPECIFIC COMMENTS

EARTH

The project boundary traverses the Rose Canyon Fault and is in very close proximity to the Carmel Valley, Torrey Pines and Mount Soledad Faults. The close proximity to the aforementioned faults and their effect on the proposed project should be addressed in the DEIR.

AIR

The City concurs with your statements that: "the alternatives
under construction should reduce the number of cars on the road, therefore, overall ambient air quality should be improved"; and "in local areas where LRT stations are proposed, some microscale degradation of air quality could exist...due to automobiles ingressing/egressing park-and-ride areas".

The 1989 California Clean Air Act requires that the revised strategy for smog, carbon monoxide, nitrogen dioxide and sulfur dioxide must be submitted to the California Air Resource Board (ARB) by mid-1991. Currently, San Diego County does not meet or attain Federal standards for smog and carbon monoxide, nor State standards for smog, carbon monoxide, nitrogen dioxide and inhalable particles. Population growth and resulting increases in traffic have begun to overcome ongoing reductions in emissions.

In 1989 the City Council adopted an ordinance for the implementation of the Transportation Demand Management (TDM) program. This program requires City-wide employers, building owners and developers to implement strategies designed to reduce peak hour vehicle trips and work towards meeting Federal and State mandated clean air standards. The DEIR should address how the proposed LRT and alternatives could reduce local San Diego air pollution and achieve Federal and State mandated air quality goals by reducing emissions from vehicles used for commuting between the home and the worksite.

The DEIR should address whether the proposed project and alternatives affect the ability of the revised Regional Air Quality Strategy to meet the Federal clean air standards? More specifically:

Does the proposed project incorporate necessary improvements to the traffic signal operation located in the vicinity of the proposed LRT stations to achieve a Level of Service C or above?

Does the proposed project incorporate bicycle parking facilities at the proposed LRT stations?

Bus transit alternatives would operate on diesel power and increase the emissions of diesel fume particles and hydrocarbons. Buses generated by an alternative form of energy, such as electricity or gasohol, should be considered. These forms of energy could lower the emission levels of pollutants.

WATER

The proposed LRT has the potential to disrupt the flow rate and increase siltation in the San Diego River; Rose, San Clemente, Tecolote and Penasquitos Creeks; and other drainage ways in the corridor vicinity. The DEIR should also address parking lot runoff and its impact on watersheds and drainage ways. On-site infiltration of stormwater into the ground is one of the most
effective ways to reduce the quantity of stormwater runoff. Limiting the proportion of the site covered by impervious surfaces would help to ensure on-site infiltration. Impervious surfaces, such as parking lots, not only increase the amount of runoff from a site, but they also produce runoff that contains petroleum, heavy metals and other pollutants.

**PLANT LIFE**

See above comment regarding parking lot runoff.

Since a large portion of the LRT alignments follow existing railroad and freeway rights-of-way, it could be anticipated that construction of the alternatives would not adversely disturb the diversity or numbers of plant species. However, disturbance could occur during construction of the rail in areas where a right-of-way is not in existence. All disturbed areas should be landscaped with native species. Both a mitigation monitoring and maintenance program and a revegetation plan should be included in the DEIR.

**NOISE**

Would sound attenuation walls be required for residences adjacent to the railroad tracks? If needed, design and grading for these walls should be addressed at this stage of the DEIR.

**LIGHT AND GLARE**

Street and parking lot lights must comply with the City’s Light Pollution Law (Section 101.1300 of the Municipal Code). Also, consideration should be given to solar generated parking lot lighting.

**POPULATION/LAND USE**

Although neither the construction nor the operation of any alternative is considered growth-inducing in terms of attracting population from outside the region, the proposed project may encourage clustering of residential and commercial nodes around the transportation stations. The DEIR should determine whether this would result in a substantial alteration to existing or planned land uses in the area.

**ENERGY**

See comment regarding alternative forms of energy for mass transit under AIR.

**CULTURAL RESOURCES**

The proposed project’s effect on cultural resources is unknown until site testing is completed, therefore, the EIR should
address whether the proposed project would impact cultural resources including religious or sacred use areas.

We look forward to reviewing the EIR/EIS. Please provide a copy to our office for our review and comment. If you have any questions regarding the above comments, please contact Laura Loop at 236-6650.

Sincerely,

Mary Ladiana

Ann B. Hix, Principal Planner
City Planning Department

ML: LAL

cc: Thomas T. Story
Linda Johnson
Mary Lee Balko
Mary Ladiana
Laura A. Loop
November 30, 1990

Mr. Dennis Wahl
Metropolitan Transit Development Board
1255 Imperial Avenue, Suite 1000
San Diego, CA 92101-7490

Dear Dennis:

This is in response to your request for review of the notice of Preparation (NOP) and Notice of Consultation regarding transportation issues for the Mid Coast LRT Environmental Impact Report/Environmental Impact Statement (EIR/EIR).

We have reviewed the NOP and the Notice of Consultation and do not have any adverse comments from a transportation standpoint.

We are looking forward to working with MTDB during review and processing of the EIR and EIS for the Mid Coast LRT.

Sincerely,

Allen Holden, Jr.
Deputy Director,
Transportation Planning Division

C:F
Af:sa
b:tr167346.ah

c: Jonathan Levy
   Victor Rollinger

Re: 2
12-4-90

A-50
November 29, 1990

11-SD-005
R20.0-R36.3

Dennis Wahl
MTDB
1255 Imperial Avenue, Suite 1000
San Diego, CA 92101-7490

Dear Mr. Wahl:

Notice of Preparation of an EIR/EIS
for the Mid - Coast Corridor
SCH 90011025

Caltrans District 11 looks forward to the opportunity to review the subject documents(s). Our comments on the NOP are as follows:

1. Transportation/Circulation - Our agency has been working with the MTDB to determine if existing park-and-ride facilities can be used for the extension of LRT to Carmel Valley Road.

2. Animal/Plant Life - Map 2 indicates that the north segment could encroach into our biological mitigation site at Carmel Valley Creek.

Our initial contact person for Interstate Route 5 is Jim Linthicum, Project Manager, Project Studies Branch "B", (619) 688-6952.

Sincerely,

JESUS M. GARCIA
District Director

By

JAMES T. CHESHIRE, Chief
Environmental Planning Branch

MO:ec

Rac'd
12-3-90
Mr. Dennis Wahl  
MTDB  
1255 Imperial Avenue, Suite 1000  
San Diego, CA 92101-7490  

Subject: Notice of Preparation of EIR/EIS and Notice of Consultation  
Regarding Transportation Issues (Mid Coast Corridor LRT)

Dear Mr. Wahl:

This is in reference to the subject EIR/EIS notice of preparation. Following are the Park and Recreation Departments comments relative to open space and park issues.

I. Open Space Issues

Page/Item  

1. General

Comment  

We realize that this document is not intended to provide specifics, but it does raise issues which will require detailed answers. Early liaison with our Open Space Division will be of assistance in resolving issues before they become problems.

2. Page 3, (LRT alignment options),  
Maps 1 and 2

These pages describe alignments which appear to be in or near City-owned open space or areas with open space easements. Of particular concern are the alignments affecting Rose Canyon and Marian Bear Memorial Park (San Clemente Canyon) which is dedicated parkland and subject to the restrictions of Charter Section 55.

3. Page 10, Plant Life

Because of the proximity to open space, the EIR/EIS should address
the issues of land needed for equipment staging, and the compatibility of any imported fill dirt to reduce the possibility of introducing undesirable plant life.

II. Park Issues

There are no comments submitted at this time relative to park issues or the adequacy of the Notice of Preparation.

Very truly yours,

[Signature]

for GEORGE I. LOVELAND
Park and Recreation Director

VJM:sv:PDLT3340

cc:  N. Acevedo
     V. Marchetti
March 25, 1991

Dear Interested Agency/Citizen:

Subject: REVISED NOTICE OF PREPARATION OF EIR/EIS AND NOTICE OF CONSULTATION REGARDING TRANSPORTATION ISSUES: MID-COAST TRANSPORTATION CORRIDOR (SCH90011025)

Enclosed is a revised Notice of Preparation and Notice of Consultation Regarding Transportation issues from the San Diego Metropolitan Transit Development Board (MTDB) for the preparation of an Environmental Impact Report/Environmental Impact Statement (EIR/EIS) analyzing transit alternatives being studied in the Mid-Coast Corridor from the planned Old Town Station to Del Mar Heights Road in the Cities of San Diego and Del Mar. This revision was necessary because one of the light rail transit (LRT) alternatives (UCSD/Gilman Drive) has been eliminated and a new LRT alternative (Genesee Avenue) has been added. MTDB will be the Lead Agency for this project and will supervise the preparation of the document, which will be prepared in cooperation with the Urban Mass Transportation Administration (UMTA). We need to know your views or the views of your agency regarding the scope and content of the environmental information which is germane to your statutory responsibilities in connection with the proposed project. Please read the enclosed material carefully. Your agency may need to use the environmental document prepared by MTDB when considering your permit or the approval for the project.

The project description, location, and the probable environmental effects are contained in the enclosed materials. A copy of an Initial Study is enclosed. The clearing house number for this project is SCH90011025. Due to time limits mandated by state law, your response must be sent at the earliest possible date, but not later than April 26, 1991.

Please send your response including the name of the contact person in your agency to:

Mr. Dennis Wahl
MTDB
1255 Imperial Avenue, Suite 1000
San Diego, CA 92101-7490
Thank you for your cooperation.

Sincerely,

[Signature]

Thomas F. Larwin
General Manager

TFL:lm/paw
L-ISSUES.DJW

Enclosures: Notice of Preparation and Notice of Consultation
Initial Study
TO: Interested Agency/Citizen  
FROM: San Diego Metropolitan Transit Development Board  
1255 Imperial Avenue, Suite 1000  
San Diego, CA 92101-7490  
SUBJECT: REVISED NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL IMPACT STATEMENT AND NOTICE OF CONSULTATION WITH TRANSPORTATION PLANNING AGENCIES AND PUBLIC AGENCIES WITH TRANSPORTATION FACILITIES; SAN DIEGO METROPOLITAN TRANSIT DEVELOPMENT BOARD (MTDB) REGIONAL LIGHT RAIL TRANSIT SYSTEM MID-COAST CORRIDOR ALTERNATIVES ANALYSIS

MTDB hereby presents revised notice that an Environmental Impact Report/Environmental Impact Statement (EIR/EIS) will be prepared for the Mid-Coast Corridor of the regional light rail transit system pursuant to Public Resources Code § 21080.4. MTDB also presents notice of consultation with transportation planning agencies and public agencies which have transportation facilities within their jurisdiction that could be affected by this project, pursuant to Public Resources Code § 21092.4.

BACKGROUND

MTDB, in cooperation with the Federal Urban Mass Transportation Administration (UMTA), is evaluating alternatives for improving mass transit services in the Mid-Coast Corridor. The Mid-Coast Corridor has been defined as extending from the area near the junction of Interstate 5 and Interstate 8, north along Interstate 5 to the vicinity of Del Mar Heights Road (See Map 1). This evaluation is being conducted as part of the MTDB program to develop and implement transit system improvements throughout the metropolitan service area.

Transit improvements are being proposed in the Mid-Coast Corridor to reduce transit travel times and thus, increase the availability of travel options for Mid-Coast residents to points elsewhere in the metropolitan service area, for jobs, education, medical, shopping, and cultural opportunities. Residents throughout the region would benefit from improved access and mobility in the corridor. Improved transit service could also provide opportunities for economic development in the Corridor consistent with adopted growth and infrastructure policies.

A Mid-Coast Corridor EIR/EIS/Alternatives Analysis will evaluate several improvement alternatives:

- **No-Build** - This alternative includes new transportation improvements which are programmed for construction within the next six years, including all TransNet Projects funded by the Proposition A local sales tax in 1987, and projects identified in the State Transportation Improvement Program (STIP). Major projects in the STIP within the I-5 corridor are Stage I of the I-5/SR-56 interchange and three interchange modifications in University City funded as Facility Benefit Assessment Projects.
• **TSM** - The Transportation Systems Management alternative includes increased transit services and facilities consisting of all projects from the No-Build alternative plus increased express and local bus service. Selected priority treatments (carpool/bus lanes) and new or expanded park-and-ride lots and transit centers are included.

• **HOV Lanes** - All projects from the TSM alternative plus High Occupancy Vehicle lanes on I-5 south of Del Mar Heights Road to the vicinity of I-8 will be included in this alternative. Some transit services would be realigned to utilize the HOV lanes.

• **LRT** - This alternative consists of Light Rail Transit along one or more alignments depending upon the results of screening during the EIR/EIS/AA process that may reduce the number of alignment options. The alignment options consist of:

  - **South Segment:** San-Diego River Old Town Station to Gilman Drive
    - The alignment would run adjacent to the AT&SF railroad line
  - **Center Segment:** Gilman Drive to Genesee Avenue
    - Three alignment alternatives will be examined:
      1. Along Gilman Drive, through the University of California San Diego to run along I-5;
      2. Along I-5;
      3. Along the AT&SF rail line to Regents Road, then along Regents Road to Genesee Avenue before returning to I-5; and
      4. Along the AT&SF rail line to Genesee Avenue, then along Genesee Avenue to I-5, and then returning to I-5.

  - **North Segment:** Genesee Avenue to Del Mar Heights Road
    - The alignment would generally follow I-5.

Within the Center Segment, an east/west Spur is planned. The Spur will extend from the Mainline to provide service east through University City. One option ends the Spur west of I-805, while a second option continues the Spur over I-805 and then along Miramar Road to the vicinity of the proposed Miramar Commuter Rail Station.
The evaluation will be conducted in consultation with the City of San Diego and other local agencies, Caltrans and other State agencies, Federal agencies including Miramar Naval Air Station, the Federal Highway Administration, and UNTA, interest groups, and the public.

PROJECT LOCATION

The attached maps show the following:

Map 1. San Diego region showing the Corridor study area and the location of presently operating and future proposed LRT lines.

Map 2. Alternative LRT alignments to be considered in the EIR/EIS.

REQUESTS FOR RESPONSE TO THIS NOTICE

MTDB requests comments from responsible agencies as to the scope and content of environmental information which is germane to that responsible agency's statutory responsibilities in connection with the proposed project and which should be included in the environmental impact report.

MTDB also requests comments from transportation planning agencies and public agencies which have transportation facilities within their jurisdiction which could be affected by the project. This request for comments is for the purpose of obtaining information concerning the project's effect on major local arterial, public transit, freeways, highways and rail transit service within the jurisdiction of such agencies. This request for comments shall constitute the consultation required by Public Resources Code § 21092.4.

This notice should also serve to inform other interested parties of the initiation of the EIR/EIS.
POTENTIAL ENVIRONMENTAL IMPACTS OF THE PROPOSED PROJECT

The following checklist details the areas of probable environmental effect. After each series of checklist questions, there is a discussion of the environmental findings in relation to the project.
1. **EARTH.** Will the proposal result in:
   
   a. Unstable earth conditions or in changes in geologic substructures? ( ) (XX) ( )
   
   b. Disruptions, displacements, compaction or overcrowding of the soil? (XX) ( ) ( )
   
   c. Change in topography or ground surface relief features? ( ) (XX) ( )
   
   d. The destruction, covering or modification of any unique geologic or physical features? ( ) (XX) ( )
   
   e. Any increase in wind or water erosion of soils, either on or off the site? ( ) (XX) ( )
      construction
   
   f. Changes in deposition or erosion of beach sands, or changes in siltation, deposition, or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake? ( ) (XX) ( )
   
   g. Exposure of people or property to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards? ( ) (XX) ( )

Construction of any of the build alternatives would require grading which has the potential to disrupt the soil.

It is not anticipated that the proposed alternatives would cause or create unstable earth conditions; however, it is possible that such conditions may be encountered during construction. The alternatives being considered would not alter the underlying geologic structure, or destruct, cover, or modify any known unique geologic feature. Construction could affect soil erosion; however, the construction plans will include requirements to minimize these effects. The project boundary traverses the Rose Canyon Fault. Any alternative selected would be designed and constructed according to seismic requirements in order to protect property and minimize possible major geologic hazards.
2. **AIR.** Will the proposal result in:

   a. Substantial air emissions or deterioration of ambient air quality? ( ) ( ) (XX)

   b. The creation of objectionable odors? ( ) (XX) ( )

   c. Alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally? ( ) ( ) (XX)

   d. Expose the project residents to severe air pollution conditions? ( ) ( ) (XX)

The alternatives under consideration should reduce the number of cars on the road, therefore overall ambient air quality should be improved. In general, there are no objectionable odors associated with the construction or operation of electrified LRT systems. Bus transit alternatives would operate on diesel power and increase the emissions of diesel fumes particulates, and hydrocarbons. In localized areas where LRT stations are proposed, some microscale degradation of air quality could exist in the morning and afternoon peak hours due to automobiles entering/egressing park-and-ride/kiss-and-ride areas.

The project does not have the potential to alter movements of air, moisture, or temperature either locally or regionally.

3. **WATER.** Will the proposal result in:

   a. Changes in currents, or the course or direction of water movements, in either marine or fresh waters? ( ) (XX) ( )

   b. Changes in absorption rates, drainage patterns or the rate and amount of surface water runoff? ( ) (XX) ( )

   c. Alterations to the course or flow of flood waters? ( ) (XX) ( )

   d. Change in the amount of surface water in any water body? ( ) (XX) ( )

   e. Discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity? ( ) (XX) ( )
f. Alteration of the direction or rate of flow of ground water?  
   Yes    Maybe    No  
   ( )    (XX)    ( )

g. Change in the quantity of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?  
   Yes    Maybe    No  
   ( )    ( )    (XX)

h. Reduction in the amount of water otherwise available for public water supplies?  
   Yes    Maybe    No  
   ( )    ( )    (XX)

i. Exposure of people or property to water-related hazards such as flooding or tidal waves?  
   Yes    Maybe    No  
   ( )    (XX)    ( )

j. Significant changes in temperature, flow or chemical content of surface thermal springs?  
   Yes    Maybe    No  
   ( )    ( )    (XX)

Construction of the alternatives being considered has the potential to disrupt the flow rate and increase siltation in the San Diego River, Rose, San Clemente, Tecolote, and Penasquitos Creeks and other drainage ways in the Corridor vicinity, and possibly change the direction of water movements where turn radii need to be straightened to maximize train speeds. It is not anticipated that the alternatives will affect groundwater levels or the quality of groundwater resources. Some additional surface water runoff can be expected. The amount will depend on the alternatives selected and the size of the capital facilities, such as transit centers, park-and-ride lots, and LRT stations. A crossing of the San Diego River is necessary for the LRT alternatives. With the possible exception of flash flood areas, the project would not expose people to water related hazards. It is possible that the LRT alternatives could result in flood plain encroachment at floodway crossings. The amount of encroachment, if any, will be minimized through design of crossing structures. Specific drainage changes will be further investigated during the study process.

4. **PLANT LIFE.** Will the proposal result in:

a. Change in the diversity of species or number of any species of plants (including trees, shrubs, grass, crops, and aquatic plants)?  
   Yes    Maybe    No  
   ( )    (XX)    ( )

b. Reduction of the numbers of any unique, rare or endangered species of plants?  
   Yes    Maybe    No  
   ( )    (XX)    ( )
c. Introduction of new species of plants into an area, or result in a barrier to the normal replenishment of existing species? ( ) ( ) (XX)

d. Reduction in acreage of any agricultural crop? ( ) ( ) (XX)

A large portion of the alignments being considered under the LRT alternative follow existing railroad and freeway right-of-way, and therefore it is not anticipated that construction of the alternatives in this area would affect the diversity or numbers of any species of plant. However, in areas where the LRT alignment deviates from the existing railroad and freeway right-of-way, the alternative alignments do traverse areas that are currently considered to be sensitive habitat, thus having the potential to change the diversity or number of plant species. Reduction in the diversity or number of plant species could result in the reduction of the numbers of any unique, rare, or endangered species which may exist in the study vicinity. A biological resources study will be conducted to determine any impacts.

Construction and operation of LRT alternatives and stations could involve revegetation or landscaping, but it is not anticipated that the project will introduce any new species or plant into the area, or act as a barrier to the normal replenishment of existing species. There is no agriculture in the area, and the project will not result in the reduction in acreage of any agricultural crop.

5. ANIMAL LIFE. Will the proposal result in:

a. Change in the diversity of species or numbers of any species of animals (birds, land animals including reptiles, fish, and shellfish, benthic organisms or insects)? ( ) (XX) ( )

b. Reduction of the numbers of any unique, rare or endangered species of animals? ( ) (XX) ( )

c. Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals? ( ) ( ) (XX)

d. Deterioration of existing fish or wildlife habitat? ( ) (XX) ( )

Portions of the study area traverse identified sensitive habitat that could contain sensitive or endangered species. A biological assessment will be performed as part of the environmental process.
Construction and operation of any alternative being considered does not involve the introduction of animal species into an area or create a barrier to the migration or movement of animals.

6. **NOISE.** Will the proposal result in:
   a. Increases in existing noise levels? (XX) ( ) ( )
   b. Exposures of people to severe noise levels? ( ) (XX) ( )

The construction of any alternative will increase existing noise levels in noise sensitive locations adjacent to the construction area. Operation of any alternative will increase existing noise levels at any given point along the alignment whenever a transit vehicle passes that location. A noise study will be conducted to determine if the operation of the transit alternatives are expected to expose people to severe noise levels and noise impacts. The Study also will propose mitigation measures if needed.

7. **LIGHT AND GLARE.** Will the proposal:
   a. Produce new light or glare from street lights or other sources? ( ) (XX) ( )
   b. Reduce access to sunlight of adjacent properties due to shade and shadow. ( ) (XX) ( )

Lighting used in transit stations and parking areas can be designed in a manner that minimizes adverse impacts. Should the LRT be elevated in certain locations, shadows could cause some reduction in sunlight.

8. **LAND USE.** Will the proposal result in a substantial alteration of the present or planned land use of an area? ( ) (XX) ( )

Although some changes may be necessary to accommodate any alternative being considered, the project would not result in any substantial alteration to existing or planned land uses in the area.
9. **NATURAL RESOURCES.** Will the proposal result in:

a. Increase in the rate of use of any natural resources?  
   ( ) ( ) (XX)

b. Substantial depletion of any non-renewable resources?  
   ( ) ( ) (XX)

The implementation of any alternative will reduce the number of automobiles traveling the roads in the area and thus would reduce the amount of gasoline used.

10. **RISK OF UPSET.** Does the proposal involve:

a. A risk of an explosion or the release of hazardous substances (including, but not limited to, oil, pesticides, chemicals or radiation) in the event of an accident or upset conditions?  
   ( ) ( ) (XX)

b. Possible interference with an emergency response plan or an emergency evacuation plan?  
   ( ) ( ) (XX)

The construction and operation of the alternatives being considered does not involve the use of materials which may explode, or the use of substances which may be considered hazardous in the event of an accident. For this reason it is not anticipated that the project will expose people or property to such a hazard. In addition, the construction and operation of the alternatives will not interfere with any established emergency response plan or evacuation plan.

11. **POPULATION.** Will the proposal result in:

a. The relocation of any persons because of the effects upon housing, commercial, or industrial facilities?  
   ( ) (XX) ( )

b. Significantly change the distribution, density or growth rate of the human population of an area?  
   ( ) ( ) (XX)
In order to acquire the needed right-of-way for the alternatives being considered, it may be necessary to acquire property and to relocate some commercial or industrial facilities. Neither the construction nor the operation of any alternative is considered growth-inducing in terms of attracting population from outside the region. However, the operation of the LRT alternative may attract population from within the region to the area. It is not anticipated that this would significantly alter the location, distribution, density, or growth rate of human population.

12. **Housing.** Will the proposal:

   a. Affect existing housing or create a demand for additional housing? ( ) (XX) ( )

   b. Have an impact on the available rental housing in the community? ( ) (XX) ( )

   c. Result in significant demolition, relocation or remodeling of residential, commercial, or industrial or other facilities? ( ) (XX) ( )

   Since the alternatives are not considered to be growth-inducing in terms of attracting additional population from outside the region, it is not anticipated that the project will significantly affect existing housing or create a demand for housing. The alternatives may, however, attract some people from within the region to the area, may affect student rental housing in the UCSD vicinity, and existing condominiums along Nobel Drive. For this reason it is possible that some areas within the region may experience a slight increase in the demand for housing while others may experience a slight decrease. The need for demolition or relocation of any residential or other facilities will be evaluated.

13. **Transportation/Circulation.** Will the proposal result in:

   a. Generation of substantial additional vehicular movement? ( ) (XX) ( )

   b. Significant effects on existing parking facilities or demand for new parking? (XX) ( ) ( )

   c. Impact upon existing transportation systems? (XX) ( ) ( )

   d. Alterations to present patterns of circulation or movement of people and/or goods? (XX) ( ) ( )
e. Alterations to waterborne, rail, or air traffic?  ( ) (XX) ( )

f. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians?  ( ) (XX) ( )

The addition of increased levels of transit to the area will increase vehicular and pedestrian movement in certain areas. Individuals who wish to ride transit will walk or drive their automobiles to a station. The alternatives will increase the demand for parking in the project area. Portions of the LRT alternatives alignments will be adjacent to or in the median of Gilman Drive or Regents Road, or Genesee Avenue, potentially causing a negative effect on existing traffic conditions. The LRT alternatives could result in an increase in rail traffic or introduction of rail service into some areas.

It is anticipated that the proposed alternatives will reduce vehicular traffic on area roads by diverting some vehicular trips to transit.

14. PUBLIC SERVICES. Will the proposal have a significant effect upon or result in a need for new or altered governmental services in any of the following areas:

<table>
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<tr>
<th>Services</th>
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<td>a. Fire protection?</td>
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<td>b. Police protection?</td>
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<td>c. Schools?</td>
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<td>d. Parks or other recreational facilities?</td>
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<td>e. Maintenance of public facilities including roads?</td>
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<tr>
<td>f. Other government services?</td>
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Because the alternatives being considered are not growth-inducing, it is not anticipated that the project will result in a need for new or altered public services such as fire and police protection for that aspect. The LRT alternative may result in the need for additional security procedures at stations and on government property. The alternatives being considered may afford some members of the community easier access to certain parks and recreational opportunities and therefore create increased demand. The alternative LRT alignments along Regents Road and Executive Drive may alter current services provided by the La Jolla Country Day
School and UCSD. In addition, the implementation of any of the proposed transit alternatives facilities will result in additional maintenance of public facilities. Discussion of any such effects will be included in the EIR/EIS.

15. **ENERGY.** Will the proposal result in:

a. Use of substantial amounts of fuel or energy? ( ) (XX) ( )

b. Substantial increase in demand upon existing sources of energy or require the development of new sources of energy? ( ) ( ) (XX)

It is anticipated that the alternatives being considered will cause a minor reduction in regional traffic and thereby slightly reduce regional fuel consumption. However, there will be a minor increase in electrical usage for rail propulsion and diesel fuel for bus propulsion.

16. **UTILITIES.** Will the proposal result in a need for new systems or substantial alterations to the following utilities:

a. Power or natural gas? ( ) (XX) ( )

b. Communications systems? ( ) (XX) ( )

c. Water? ( ) (XX) ( )

d. Sewer and septic tanks? ( ) (XX) ( )

e. Storm water drainage? ( ) (XX) ( )

f. Solid waste disposal? ( ) ( ) (XX)

Some relocation of utilities may be required as a result of the selection of a specific alternative. There will, however, be no interruption in service to customers. Neither the construction nor the operation of the proposed alternatives will substantially increase the rate of consumption of most major utilities. LRT vehicles are powered by electricity, and operation of the cars would increase the consumption of electricity in the area. This increased consumption of electricity for the LRT alternative would be offset by a savings in gasoline which would occur as a result of increased ridership on the transit system.

17. **HUMAN HEALTH.** Will the proposal result in:

a. Creation of any health hazard or potential health hazard (excluding mental health)? ( ) ( ) (XX)
b. Exposure of people to potential health hazards?

It is not anticipated that the construction or operation of the alternatives being considered will in any way create a negative effect on human health. The Navy has expressed concerns of the safety of transit patrons at any station in the Miramar Naval Air Station APZ Accident Potential Zone.

18. AESTHETICS. Will the proposal result in:

a. The obstruction of any scenic vista or view open to the public?

b. Will the proposal result in the creation of an aesthetically offensive site open to public view?

c. The destruction of a stand of trees, a rock outcropping or other locally recognized desirable aesthetic natural feature?

d. Any negative aesthetic effect?

The construction and operation of the stations and/or parking lots associated with the alternatives being considered may obstruct scenic vistas (Rose Canyon), views, and/or natural biological habitats which are now open to public view. Construction and operation of the alternatives may also create a site which may be considered aesthetically offensive by some members of the community. Members of the public may also find the overhead wires associated with the LRT alternative to have a negative aesthetic effect. These effects will be analyzed in the EIR/EIS.

19. RECREATION. Will the proposal result in an impact upon the quality or quantity of existing recreational opportunities?

Because the alternatives being considered may afford some members of the community easier access to certain recreational opportunities in the area, it may create an increased demand for such facilities. Some alternatives may be located adjacent to parks, open space, and nature preserves which may result in Section 4F impacts. Example areas where these impacts could occur are in Rose Canyon and in University City. Potential impacts will be addressed in the EIR/EIS.
20. CULTURAL RESOURCES:

   a. Will the proposal result in the alteration of
      or the destruction of a prehistoric or historic
      archaeological site? ( ) (XX) ( )

   b. Will the proposal result in adverse physical
      or aesthetic effects to a prehistoric or
      historic building, structure or object? ( ) (XX) ( )

   c. Does the proposal have the potential to cause
      a physical change which would affect unique
      ethnic cultural values? ( ) ( ) (XX)

   d. Will the proposal restrict existing religious
      or sacred uses within the potential impact
      area? ( ) ( ) (XX)

      It is possible that construction of any of the alternatives being
      considered may alter or destroy undiscovered or not yet identified
      prehistoric or historic archeological sites. It is not anticipated
      that the construction or operation of the alternatives would affect
      such cultural resources; however, investigation into the existing
      record of cultural resources will be undertaken.

21. NAVIGABLE WATERWAYS AND COASTAL ZONES:

   a. Will the proposal result in adverse impacts
      on navigation and use of navigable waterways? ( ) (XX) ( )

   b. Will the proposal result in inconsistencies
      with the approved Coastal Zone Management
      program? ( ) (XX) ( )

      The proposed alternatives travel through the Coastal Zone beginning
      south of Genesee Avenue, north to Del Mar Heights Road. A permit
      may be required from the Coastal Commission for this project.
      Potential impacts will be addressed in the EIS/EIR. The LRT
      alternatives will be required to cross the San Diego River channel.
      Potential impacts and mitigation measures will be addressed in the
      EIS/EIR.
22. MANDATORY FINDINGS OF SIGNIFICANCE.

a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number of restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? ( ) (XX) ( )

b. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definite period of time while long-term impacts will endure well in to the future.) ( ) (XX) ( )

c. Does the project have impacts which are individually limited but cumulatively considerable? (A project may impact on two or more separate resources where the impact of each resource is relatively small but where the effect of the total of those impacts on the environment is significant.) ( ) (XX) ( )

d. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? ( ) ( ) (XX)

The implementation of any of the proposed alternatives is not anticipated to cause significant adverse impacts upon wildlife and vegetative habitats and population, or cultural resources. However, the possibility for such impacts, particularly in the area of wetland and biological resources, does exist and will require a survey investigation.

The project is intended to reduce motor vehicle traffic on area roads, which would reduce auto emissions, improve local air quality, and improve the flow of traffic. These are all benefits that will improve conditions in both the long and short term. When the project is considered in the light of the entire regional transit system, there may be the potential for cumulative impacts.
DETERMINATION

On the basis of this initial evaluation, MTDB has determined that the proposed project may have a significant effect on the environment and an Environmental Impact Report/Environmental Impact Statement will be prepared.

DJW: djw: paw - NOTPREP.DOC
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<tr>
<th>Person</th>
<th>Agency</th>
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<tr>
<td>1. Gordy Shields</td>
<td>S.D. Bicycle Coalition</td>
<td>04-03-91</td>
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<td>2. Timothy D. Cattran</td>
<td>U.S.D.A Soil Conserv. Serv.</td>
<td>04-04-91</td>
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<td>3. James W. Royle</td>
<td>S.D. Co. Arch. Society</td>
<td>04-08-91</td>
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<td>4. David Nunekamp</td>
<td>Office Planning &amp; Research</td>
<td>04-08-91</td>
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<td>5. Paul Toomey</td>
<td>City of San Diego</td>
<td>04-10-91</td>
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<td>7. Ann Hix</td>
<td>City Environmental</td>
<td>04-29-91</td>
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<td>8. Joe Tacks</td>
<td>CA PVC</td>
<td>04-30-91</td>
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<td>9. Lauren Wasserman</td>
<td>Co Planning</td>
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<td>10. Russell T. Hellig</td>
<td>Clairemont Mesa Ping Group</td>
<td>04-22-91</td>
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<td>11. Leonard L. Wilson</td>
<td>S.D. Engineer</td>
<td>04-26-91</td>
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<td>12. Afshin Oskovi</td>
<td>City Water Utilities</td>
<td>05-01-91</td>
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<tr>
<td>13. Fred Worthley</td>
<td>CA Dept. Fish &amp; Game</td>
<td>05-06-91</td>
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<tr>
<td>14. James Cheshire</td>
<td>Caltrans Dist II</td>
<td>05-08-91</td>
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Mr. Dennis Wahl
MTDB
1255 Imperial Ave., Suite 1000
San Diego, CA 92101-7490

Dear Dennis:

I have finished reviewing the Revised Notice of Preparation for the Mid-Coast Corridor.

There are two areas of primary concern to bicyclists relating to your proposal to align the light rail transit system adjacent to the AT&SF railroad line.

1. As part of the San Diego-Oceanside Commuter Rail Study, a separate study was made by Morrison-Knudsen entitled Coastal Corridor Bicycle Path Analysis in May, 1989. It addressed the feasibility of constructing a coastal bicycle path between Oceanside and San Diego, a distance of 42 miles running within the existing right-of-way of AT&SF. Conclusions were that such a path was both feasible and economically possible. It is our position that any study done of EIR/EIS must take into consideration the impact that building the light rail system would have on the construction of such a path. The main point that must be addressed is whether the railroad right-of-way is wide enough to include both the rail system and the bicycle path, especially in the area from Old Town Station north along Morena to Gilman Drive.

2. The present bicycle route along Santa Fe Street from Balboa Avenue to the beginnings of the bike path through Rose Canyon is one of the most heavily traveled routes in the city. Any type of construction that would in any way affect bicycle use of this route at all times must be addressed.

Yours truly,

Gordy Shields, for SDCBC
1955 Willis Rd
El Cajon, CA 92020
444-6425
April 1, 1991

Mr. Dennis Wahl
MTDB
1255 Imperial Ave, Suite 1000
San Diego, CA 92101-7490

RE: Mid-Coast Transportation Corridor EIR/EIS (SCH90011025)

Dear Mr. Wahl:

We are pleased to respond to your March 25, 1991 request concerning the above project. As an agency of the U.S. Department of Agriculture, the primary function of the Soil Conservation Service is to give technical and sometime financial assistance, through local Resource Conservation Districts, to individuals, groups and unit of government which influence and made decisions about conservation, development and use of natural resources.

The Resource Conservation Districts (RCDs) are legal subdivisions of state government, responsible under state law for conservation work within their boundaries. The purpose of RCDs is to develop programs to solve land, water and related resource problems. RCDs enlist and coordinate help from all public and private sources that can contribute to accomplishing a district's goals.

With regard to our function as providers of technical assistance to the RCDs, the Soil Conservation Service has the following comments:

1. Use existing natural resource surveys (i.e. San Diego County Soil Survey, San Diego County Important Farmland Maps and National Wetlands Inventory Maps, etc.) in making present and future land use decisions.

2. Identify the suitability or limitation of soils for proposed action. Discuss provisions for stockpiling and reusing topsoil for later use in revegetation.

3. Discussion is needed of potential adverse impacts from any increased runoff, sedimentation, soil erosion, and/or urban pollutants on streams, watercourses and groundwater on or near the project site with mitigation measures proposed to alleviate such impacts.

4. What changes would the proposed project have on absorption rates, drainage patterns, or the rate and amount of surface runoff? What effect would project implementation have on downstream water quality?
5. Provide a complete description of the planning area. This should include current and planned land use designations, the number of acres in agriculture production, soil classifications, cropping history, and whether the site is considered prime agricultural land.

Whether any land under a Williamson Act contract or Agricultural preserve will be in or near the planning area and, if so, how development will affect these designations.

The possible mitigation measures to ensure that agricultural land is not prematurely or unnecessarily converted to non-agricultural uses. These could include use of the Williamson Act, right-to-farm ordinances, and phased development.

The conflicts which can arise from the close proximity of agricultural and urban areas due to noise, dust, chemical usage, trespassing, and traffic. Include any buffering measures which are proposed for the development.

The pressure this project could create to convert surrounding agricultural land to urban uses. How will this project affect the transition between more intense urban uses and the nearby agricultural lands?

Whether development of the area constitutes discontiguous growth.

6. Provide a complete assessment of sensitive biological habitats in project area with particular emphasis upon identifying endangered, threatened, and locally unique species and sensitive and critical habitats.

A discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources with specific measures to offset such impacts.

The Soil Conservation Service has information on the above resource maps and surveys, as well as information on flood control, farmland protection, and other resource conservation information that may help you in the preparation of the EIR. Please feel free to contact our offices in Escondido at 745-2061 or in El Cajon at 442-0559.

Sincerely,

TIMOTHY D. CATTRON
Area Conservationist

JNJ:pfd
San Diego County Archaeological Society, Inc.
Environmental Review Committee
P.O. Box A-81106  San Diego, CA 92138

April 5, 1991

To: Mr. Dennis Wahl
Metropolitan Transit Development Board
1255 Imperial Avenue, Suite 1000
San Diego, California 92101-7490

Subject: Revised Notice of Preparation of an EIR/EIS
Mid-Coast Transportation Corridor

Dear Mr. Wahl:

Thank you for sending this Society a copy of the subject revised Notice of Preparation.

As we indicated when we responded to the original Notice of Preparation, we are pleased to note the inclusion of cultural resources in the list of issues to be addressed in the EIR/EIS for the project. We will be pleased to provide our comments on the document when it is distributed for review. To that end, please ensure that we are sent one copy each of the EIR/EIS and its cultural resources technical report(s) at that time.

The San Diego County Archaeological Society appreciates being included in MTDB's environmental review process.

Sincerely,

James W. Royle, Jr., Chairperson
Environmental Review Committee

cc: file

Rec’d 4-8-91
DATE: Apr 04, 1991

TO: Reviewing Agency

RE: SAN DIEGO MTDB’s NOP for
SAN DIEGO MTDB REGIONAL LIGHT RAIL TRANSIT
SCH # 90011025

Attached for your comment is the SAN DIEGO MTDB’s Notice of Preparation of a draft Environmental Impact Report (EIR) for the SAN DIEGO MTDB REGIONAL LIGHT RAIL TRANSIT.

Responsible agencies must transmit their concerns and comments on the scope and content of the EIR, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of this notice. We encourage commenting agencies to respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

DENNIS WAHL
SAN DIEGO MTDB
1255 IMPERIAL AVE
SAN DIEGO, CA 92101-7490

with a copy to the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the review process, call Tom Loftus at (916) 445-0613.

Sincerely,

David C. Nunenkamp
Deputy Director, Permit Assistance

Attachments
cc: Lead Agency

A-80
Mr. Dennis Wahl  
MTDB  
1255 Imperial Avenue, Suite 1000  
San Diego, Ca  92101-7490  

Dear Mr. Wahl:  

This is in response to your March 25, 1991 letter regarding the "REVISED NOTICE OF PREPARATION OF EIR/EIS AND NOTICE OF CONSULTATION REGARDING TRANSPORTATION ISSUES: MID-COAST TRANSPORTATION CORRIDOR (SCH90011025)". Your project may have an impact on a Council-approved project to reconstruct the I-5/Genesee Avenue Interchange (CIP 52-372). This project’s description and schedule are attached. At present, we have hired Ferver Engineering Company to prepare a Project Report and Environmental Documents (PR/ED) in order for the City to obtain CalTrans’ authorization for final design of the selected alternative. The PR/ED phase has just begun and may take a year to complete.

Our Consultant Agreement with Ferver Engineering requires that the PR/ED be coordinated with MTDB and other agencies. Therefore, I hope that we can continue to work together on our respective projects to our mutual benefit. Please contact me at 236-7743 for any assistance.

Very truly yours,

Paul Toomey  
Project Manager

PT/mc

cc: C. Savage/CalTrans  
J. Richard Lawrence/Ferver Engineering  
W. O. 119595

Enclosure
CITY OF SAN DIEGO  
CAPITAL IMPROVEMENTS PROGRAM  
CIP NO. 92-372.0  
TITLE: GENESSEE AVENUE - WIDEN I-5 CROSSING  
DEPARTMENT: ENGINEERING AND DEVELOPMENT DEPT  
STREETS  
EXPENDITURE: LAND 1,378,000 ENGR/CONSTR 25,946,000  
COUNCIL DISTRICT 1  
COMMUNITY PLAN 47  
INITIAL SCHEDULE 87/92/00

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Description: This project provides for the widening of Genessee Avenue to six lanes with a 25 foot median (800 feet on each side of overcrossing), replacing the existing Genessee Avenue overcrossing with a higher, wider (124 foot) structure and replacing the existing Miramar Road bridge with a longer, wider (80 foot) structure. The project also includes the modification of existing ramps and the construction of new loop ramps and auxiliary lanes on both sides of the freeway.

Justification: This project is needed to improve traffic flow and is included in the Council-approved North University City Community Financing Plan and Facilities Benefit Assessment Document.

Scheduling: Design is scheduled in FY 1991 - FY 1992; land acquisition in FY 1993; construction is scheduled to begin in FY 1994 and be completed in FY 1996.

Relationship to General and Community Plans: This project is consistent with the University Community Plan and the City's General Plan Guidelines.

Operating Budget Effect: None.

CIP No. 92-372.0
April 8, 1991

Mr. Dennis Wahl
San Diego Metropolitan Transit Development Board
1255 Imperial Avenue, Suite 1000
San Diego, CA 92101-7490

Dear Mr. Wahl:

The Division of Rail and the Division of Mass Transportation have received the Revised Notice of Participation of Draft Environmental Impact Report for the Mid-Coast Transportation Corridor.

Our comments on these projects will be coordinated by, and forwarded to you through our San Diego district office.

Sincerely,

[Signature]

JOHN JAMES, Chief
Projects - South Branch

Rec'd
4-15-91
THE CITY OF
SAN DIEGO
CITY ADMINISTRATION BUILDING • 202 C STREET • SAN DIEGO, CALIFORNIA 92101

PLANNING
DEPARTMENT
Development and
Environmental Planning
Division
236-6460

24 April 1991

Mr. Dennis Wahl
MTDB
1255 Imperial Avenue, Suite 1000
San Diego, CA 92101-7490

Dear Mr. Wahl:

SUBJECT: REVISED NOTICE OF PREPARATION (NOP) FOR EIR/EIS AND
NOTICE OF CONSULTATION REGARDING TRANSPORTATION ISSUES:
MID-COAST TRANSPORTATION CORRIDOR (SCH 90011025)

The City of San Diego's Environmental Analysis Section of the
Planning Department has reviewed the revised NOP for the EIR/EIS
and Notice of Consultation regarding the Mid-Coast Corridor
Alternatives Analysis. The Environmental Analysis Section has no
new comments; please see our comments dated 26 November 1990
(attached).

Thank you for providing the Planning Department with this
opportunity to participate in MTDB's environmental review
process.

Sincerely,

[Signature]
Ann B. Hix, Principal Planner
City Planning Department

ABH:ML:LAL

Attachment: Planning Department comment letter dated
26 November 1990

cc: Thomas T. Story
    Linda Johnson
    Mary Lee Balko
    Mary Ladiana
    Laura A. Loop

Rec'd
4-29-91

A-85
26 November 1990

Mr. Dennis Wahl
MTDB
1255 Imperial Avenue, Suite 1000
San Diego, CA 92101-7490

Dear Mr. Wahl:

Thank you for the opportunity to review the Notice of Preparation for the EIR/EIS and Notice of Consultation regarding transportation issues. The City of San Diego offers the following comments on the NOP:

GENERAL COMMENTS

Assembly Bill 3180 (Cortese) which was effectuated on January 1, 1989, requires public agencies to "adopt a reporting and monitoring program for the changes to the project which it has adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment". The reporting program should be designed to ensure compliance during project implementation. Written documentation is required, preferably in environmental reports and in permits. The DEIR should include and reference a mitigation monitoring program for any mitigation measures identified in the DEIR.

SPECIFIC COMMENTS

EARTH

The project boundary traverses the Rose Canyon Fault and is in very close proximity to the Carmel Valley, Torrey Pines and Mount Soledad Faults. The close proximity to the aforementioned faults and their effect on the proposed project should be addressed in the DEIR.

AIR

The City concurs with your statements that: "the alternatives
under construction should reduce the number of cars on the road, therefore, overall ambient air quality should be improved"; and "in local areas where LRT stations are proposed, some microscale degradation of air quality could exist...due to automobiles ingressing/egressing park-and-ride areas".

The 1989 California Clean Air Act requires that the revised strategy for smog, carbon monoxide, nitrogen dioxide and sulfur dioxide must be submitted to the California Air Resource Board (ARB) by mid-1991. Currently, San Diego County does not meet or attain Federal standards for smog and carbon monoxide, nor State standards for smog, carbon monoxide, nitrogen dioxide and inhalable particles. Population growth and resulting increases in traffic have begun to overcome ongoing reductions in emissions.

In 1989 the City Council adopted an ordinance for the implementation of the Transportation Demand Management (TDM) program. This program requires City-wide employers, building owners and developers to implement strategies designed to reduce peak hour vehicle trips and work towards meeting Federal and State mandated clean air standards. The DEIR should address how the proposed LRT and alternatives could reduce local San Diego air pollution and achieve Federal and State mandated air quality goals by reducing emissions from vehicles used for commuting between the home and the worksite.

The DEIR should address whether the proposed project and alternatives affect the ability of the revised Regional Air Quality Strategy to meet the Federal clean air standards? More specifically:

Does the proposed project incorporate necessary improvements to the traffic signal operation located in the vicinity of the proposed LRT stations to achieve a Level of Service C or above?

Does the proposed project incorporate bicycle parking facilities at the proposed LRT stations?

Bus transit alternatives would operate on diesel power and increase the emissions of diesel fume particles and hydrocarbons. Buses generated by an alternative form of energy, such as electricity or gasohol, should be considered. These forms of energy could lower the emission levels of pollutants.

WATER

The proposed LRT has the potential to disrupt the flow rate and increase siltation in the San Diego River; Rose, San Clemente, Tecolote and Penasquitos Creeks; and other drainage ways in the corridor vicinity. The DEIR should also address parking lot runoff and its impact on watersheds and drainage ways. On-site infiltration of stormwater into the ground is one of the most
effective ways to reduce the quantity of stormwater runoff. Limiting the proportion of the site covered by impervious surfaces would help to ensure on-site infiltration. Impervious surfaces, such as parking lots, not only increase the amount of runoff from a site, but they also produce runoff that contains petroleum, heavy metals and other pollutants.

PLANT LIFE

See above comment regarding parking lot runoff.

Since a large portion of the LRT alignments follow existing railroad and freeway rights-of-way, it could be anticipated that construction of the alternatives would not adversely disturb the diversity or numbers of plant species. However, disturbance could occur during construction of the rail in areas where a right-of-way is not in existence. All disturbed areas should be landscaped with native species. Both a mitigation monitoring and maintenance program and a revegetation plan should be included in the DEIR.

NOISE

Would sound attenuation walls be required for residences adjacent to the railroad tracks? If needed, design and grading for these walls should be addressed at this stage of the DEIR.

LIGHT AND GLARE

Street and parking lot lights must comply with the City’s Light Pollution Law (Section 101.1300 of the Municipal Code). Also, consideration should be given to solar generated parking lot lighting.

POPULATION/LAND USE

Although neither the construction nor the operation of any alternative is considered growth-inducing in terms of attracting population from outside the region, the proposed project may encourage clustering of residential and commercial nodes around the transportation stations. The DEIR should determine whether this would result in a substantial alteration to existing or planned land uses in the area.

ENERGY

See comment regarding alternative forms of energy for mass transit under AIR.

CULTURAL RESOURCES

The proposed project’s effect on cultural resources is unknown until site testing is completed, therefore, the EIR should
address whether the proposed project would impact cultural resources including religious or sacred use areas.

We look forward to reviewing the EIR/EIS. Please provide a copy to our office for our review and comment. If you have any questions regarding the above comments, please contact Laura Loop at 236-6650.

Sincerely,
Mary Ladiana

Ann B.Hix, Principal Planner
City Planning Department

ML:LAL

cc: Thomas T. Story
    Linda Johnson
    Mary Lee Balko
    Mary Ladiana
    Laura A. Loop
April 25, 1991

Mr. Dennis Wahl
MTDB
1255 Imperial Avenue, Suite 1000
San Diego, CA 92101-7490

Dear Mr. Wahl:

This is in response to MTDB’s revised NOP of EIR/EIS and Notice of Consultation regarding Transportation Issues: Mid-Coast Transportation Corridor (SCH # 90011025).

We have reviewed the material submitted and the staff would be concerned with safety issues arising from having a transit line operating adjacent to a railroad line. This would include the pedestrians coming to and from the proposed transit facility; the additional vehicular traffic traversing the grade crossings next to any proposed transit station; possible blocking of grade crossings by LRVs stopped at the LR station; and the added or additional noise from the LRVs. We believe all of the above items, in addition to the proposed need to improve the grade crossing warning devices along the proposed transit line, should be considered and addressed in any EIR/EIS prepared.

If we can be of further help, please feel free to contact the staff.

Sincerely,

Tack S. Joe, Transportation Engineer
Special Projects Section
Railroad Safety Branch
Safety Division

cc: Clearinghouse

Rec’d
4-30-91
April 25, 1991

Mr. Dennis Wahl
Metropolitan Transit Development Board
1255 Imperial Avenue, Suite 1000
San Diego, CA 92101-7490

SUBJECT: REVISED NOTICE OF PREPARATION OF EIR/EIS AND NOTICE OF CONSULTANT REGARDING TRANSPORTATION ISSUES: MID-COAST TRANSPORTATION CORRIDOR (SCH90011025)

Dear Dennis:

The Department of Planning and Land Use is supportive of the goals of Metropolitan Transit Development Board of expanding the light rail transit lines. Light rail transit can play a substantial role in reducing congestion, improving air quality and concentrating land uses.

Our specific comments are that the lines will transverse steep topography, including canyons, steep slopes and drainages adjoining I-5 along the eastern boundary north of the junction of I-805. Please address the project impacts relating to landform transformation, grading and erosion, visual impacts, and losses or degradation of riparian or coastal sage scrub wildlife habitat.

For additional information, please contact Jim Lundquist at 694-3724.

Sincerely,

LAUREN M. WASSERMAN, Director
Department of Planning and Land Use

LMW:JL:jb

AUTHOR\CWLTRJL.491
April 18, 1991

Dennis Wahl, Project Manager
MTDB
1255 Imperial Avenue, Suite 1000
San Diego, CA 92101-7490

Dear Dennis:

On Tuesday, April 16, the Clairemont Mesa Planning Committee discussed possible impacts of the proposed Light Rail Transit extension through the mid-coast corridor. The committee recommended by unanimous vote that the following specific issues should be focused on and addressed in any impact reports prepared.

1. VISUAL IMPACTS OF STATIONS AND ELECTRICAL POLES ON SURROUNDING VIEWS. Possible suggestions include design, placement and screening of wires, track and poles to minimize negative impact.

2. IMPACTS IN RELATION TO PARKING AT TERMINALS. Security measures for parked cars should be addressed, and also the impact of increased street-side parking in commercial and residential areas near stations. An additional suggestion is to press for the Clairemont Drive station to be a park-and-ride facility.

3. TRAFFIC AND CIRCULATION IMPACTS. Specifically address traffic on Balboa Avenue and Morena Boulevard, as well as their feeder streets. Include in this analysis the effects on peak traffic hours. Additionally address impacts on circulation due to increased bus service on Milton and other streets near terminals. We suggest viewing a new alignment of a westbound on Balboa to northbound on Interstate 5 as a way to ease problems at the proposed Balboa station. We further suggest that MTDB work to coordinate efforts with other governmental agencies during planning and construction. Examples of this coordination include a future widening of Balboa Avenue, and future underground work along Morena Boulevard.

4. NOISE IMPACTS. Include possible noise impacts from both trains and from feeder buses to and from the stations.
5. PEDESTRIAN ACCESS TO TERMINALS: On all stations placed west of Morena, the issue of safe and convenient pedestrian access across Morena must be addressed.

6. LIGHT AND GLARE IMPACTS. Address the problem of light placement in order to minimize glare on nearby residential areas.

Please keep us well informed of your progress, and do not hesitate to contact the planning committee for further input or information. If you have any questions, please contact Russell Heilig at 583-4040.

Thank you for consideration.

Very truly yours,

Russell T. Heilig
Transportation Sub-committee
Clairemont Mesa Planning Committee

cc. Councilman Bruce Henderson
    Councilman Tom Behr
    City Manager's Office
    Rick Pilgrim, MTDB
    Tim Graves, CMPC

PO Box
17204
SD 92117
Mr. Dennis Wahl  
Metropolitan Development Transit Board  
1255 Imperial Avenue  
San Diego, CA 92101

Dear Mr. Wahl:

Subject: Revised Notice of Preparation of EIR/EIS and Notice of Consultation Regarding Transportation Issues - Mid-coast Transportation Corridor

We have completed our review of the Notice of Preparation and Notice of Consultation for the subject project.

In Section 16, "UTILITIES," your Notice of Preparation states, in part, that the proposal might result in "Some relocation of utilities..." including water, sewer and/or septic tanks. From the material in your notice, we cannot determine the impact of your project on our existing utilities.

Please provide us with the preliminary right-of-way drawings when they become available.

Thank you for the opportunity to comment.

Sincerely,

LEONARD L. WILSON  
Senior Civil Engineer

HJ:EM:bj

cc: R. Graff  
K. Ghaderi
Mr. Dennis Wahl
MTDB
1255 Imperial Avenue, Suite 1000
San Diego, CA 92101-7490

Dear Mr. Wahl:

SUBJECT: REVISED NOTICE OF PREPARATION OF EIR/EIS AND NOTICE OF CONSULTATION REGARDING TRANSPORTATION ISSUES: MID-COAST TRANSPORTATION CORRIDOR (SCH90011025)

We have completed our review of the revised Notice of Preparation and Notice of Consultation for the subject project. We have obtained and reviewed preliminary drawings for the future LRT improvements.

Along the South Segment alignment, Old Town Station to Gilman Drive, the Water Utilities Department has prepared plans for construction of the Morena Boulevard Interceptor, a 72-inch diameter gravity sewer. The alignment runs generally north-south, abutting the parallel to the AT&SF railroad tracks along Santa Fe Street and Morena Boulevard. The impacts of the future LRT improvements, if any, on this sewer line should be evaluated closely and mitigated accordingly.

Along the Center Segment alignment, Gilman Drive to Genesee Avenue, Water Utilities Department is working on final design plans for construction of the Rose Canyon Trunk Sewer, a 60-inch diameter dual purpose gravity/forcemain sewer. In the vicinity of our project, The Mid-Coast LRT Alignment is proposed to be located along the west side of the AT&SF railway tracks. Our proposed utility bridge at Rose Creek crossing appears to be at a sufficient distance from the planned LRT bridge. However, one area of potential conflict between our pipeline has been identified. That area is located north of Highway 52 and south of Gilman Drive.
Additionally, mitigation measures should be provided, if necessary, for stray current protection generated by operations of the future trolley lines as this might detrimentally affect our water and sewer facilities.

Thank you for the opportunity to review and comment on this project. For any additional information, please call me at 533-5110.

Sincerely,

Afshin Osdoi

AFSHIN OSKOUI
Senior Civil Engineer

AO: nm

cc: R. Graff
   K. Ghaderi
May 1, 1991

Mr. Dennis Wahl
San Diego MTDB
1255 Imperial Avenue
San Diego, California 92101-7490

Dear Mr. Wahl:

We have reviewed the Notice of Preparation of a draft Environmental Impact Report for the San Diego MTDB Regional Light Rail Transit, SCH90011025. To enable our staff to adequately review and comment on this project, we recommend the following information be included in the Draft EIR:

1. A complete assessment of flora and fauna within and adjacent to the project area, with particular emphasis upon identifying endangered, threatened and locally unique species and sensitive and critical habitats.

2. A discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts.

3. A discussion of potential adverse impacts from any increased runoff, sedimentation, soil erosion, and/or urban pollutants on streams and watercourses on or near the project site, with mitigation measures proposed to alleviate such impacts. Stream buffer areas and maintenance in their natural condition through non-structural flood control methods should also be considered in order to continue their high value as wildlife corridors.

More generally, there should be discussion of alternatives to not only minimize adverse impacts to wildlife, but to include direct benefit to wildlife and wildlife habitat. Those discussions should consider the Department of Fish and Game’s policy that there should be no net loss of wetland acreage or habitat values. We oppose projects which do not provide adequate mitigation for such losses.
Mr. Dennis Wahl  
May 1, 1991  
Page Two

Diversion, obstruction of the natural flow, or changes in the bed, channel, or bank of any river, stream, or lake will require notification to the Department of Fish and Game as called for in the Fish and Game Code. Notification should be made after the project is approved by the lead agency.

Thank you for the opportunity to review and comment on this project. If you have any questions, please contact Mr. Kris Lal of our Environmental Services staff at (213) 590-5137.

Sincerely,

Fred Worthley  
Regional Manager  
Region 5

cc: Office of Planning & Research
May 8, 1991

Dennis Wahl
MTDB
FAX (619) 234-3407

Dear Mr. Wahl:

Revised Notice of Preparation of an EIR/EIS
for the Mid-Coast Transportation Corridor –
SCH 90011025

Caltrans District 11 looks forward to the opportunity to review the referenced EIR/EIS. We note that the revisions are necessary because the UCSD/Gilman Drive LRT alternative has been dropped and a new LRT alternative along Genesee Avenue has been added. Our comments on the NOP/NOT are as follows:

1. Aesthetics – We are concerned that the grading and walls for the transportation improvement alternatives may conflict with our proposed visual mitigations for the Interstate Route 5 widening project and State Route 56. Also, we will be interested in the preservation of existing views of East Mission Bay Park from Interstate 5.

2. Biology/Recreation – The preferred LRT alignment and station site (Map 2) has the potential for significantly degrading the viability of the Interstate 5/State 56 biological mitigations site in Carmel Valley. The planned Carmel Valley Restoration and Enhancement Project, CVREP, includes biological mitigations and riding and hiking trails.

Our initial contact person for interagency coordination and traffic information is Richard Coward, Project Manager, Project Services Branch, (619) 688-3303.

Sincerely,

JESUS M. GARCIA
District Director

[Signature]

JAMES T. CHESHIRE, Chief
Environmental Planning Branch

Rec'd 5-8-91
APPENDIX B
Glossary
APPENDIX B: GLOSSARY & LIST OF ACRONYMS

ACCESS TIME

The time required to walk or drive from the origin of the trip (for example, from home) to a (boarding) transit stop, plus the waiting time based on the frequency of transit service, the transfer time, and the walking or driving time from the transit (deboarding) stop to the destination. For auto trips, it is the time required to walk to and from parking places and delays within parking lots.

ALTERNATIVES ANALYSIS

The systematic study of alternative alignments in a transit corridor to determine the best according to a predetermined set of criteria. A formalized Alternatives Analysis has historically been performed in conjunction with an Environmental Impact Statement as part of the process necessary to obtain federal funding for a transit project. In late 1993, the Federal Transit Administration (FTA) and Federal Highway Administration (FHWA) jointly issued new planning regulations for major transportation investment analysis to be used to determine whether a project should be funded. This project follows the historic FTA process which includes Alternatives Analysis.

ANNUALIZED CAPITAL COST

A onetime capital cost converted into an annual value which incorporates both the depreciation on the capital hem and the foregone interests on the money invested in the project.

ARTERIAL ROADWAY

A roadway with partial control of access, with some at-grade intersections, intended to move high volumes of traffic over longer distances and higher speeds than secondary roadways.

ARTICULATED VEHICLE

A bus or rail vehicle that is jointed in a fashion to allow the vehicle to bend when it turns corners. Passenger access is usually allowed across the joint. Articulation allows longer vehicles to turn in a shorter radius, and thus negotiate tighter curves than would be possible if they were not articulated.

AT-GRADE

On the ground surface, or on that surface at which significant pedestrian and vehicular traffic occurs.
AT-GRADE CROSSING

Crossing lines of traffic that share a common intersection.

AVERAGE RIDE TIME

Average riding time spent by passengers during one trip.

AVERAGE SPEED

The average velocity of a vehicle from stop or station to the next stop or station, beginning with door opening and ending with door opening.

AVERAGE WAIT TIME

Average time spent by passengers in the station (or stop) in waiting for transit service.

BOARDING TRIPS

Number of trips boarding (entering) transit vehicles, regardless of whether the trip involves a transfer from another transit vehicle. Equivalent to unlinked trips. Depending on whether a transfer is used, a fare may or may not be collected for each boarding trip.

CAPITAL COSTS

Nonrecurring costs required to construct transit systems, including costs of right-of-way, facilities, vehicle power distribution, associated administrative and design costs, and financing charges during construction.

COLLECTOR STREETS

Streets upon which traffic in a particular neighborhood flows to exit or enter the neighborhood.

CORE SERVICE AREA

The hub of a radial transit system, where many of the routes converge. Usually located in the CBD.

CORRIDOR

A smaller area within the service area that is determined to have a unique set of travel characteristics, and which is best served by transit when considered as a whole.
dBA

Abbreviation for decibels of sound pressure as read on the "A" scale.

DISTRIBUTION

The process of letting passengers off at a number of different locations.

EMISSION CONTROL

Method by which emissions are governed in an effort to minimize the amount of pollutants and/or the noise emitted.

EMISSIONS

Particulate, gaseous, noise, or electromagnetic by-products of the transit system or vehicle.

ENERGY CONSUMPTION (EMPTY)

The energy consumed by a transit vehicle under normal operation with no passengers or cargo carried.

ENERGY CONSUMPTION (FULL)

The energy consumed by a transit vehicle under normal operation carrying its design load (i.e. design capacity and not crush capacity).

ENVIRONMENTAL IMPACT STATEMENT (EIS)

A study analyzing the potential effects of an action (e.g., building a rail station) to the surrounding area. Elements of the environment typically examined include noise and vibration levels, air and water quality, community disruptions, construction impacts, and so forth.

EXCLUSIVE GUIDEWAY (DEDICATED)

A guideway or roadway to be used only for transit vehicles. It is usually completely grade-separated from other types of vehicles.

EXPRESS SERVICE

Transit service where a very limited number of stops are made enroute.
FARE STRUCTURE
The methodology of determining the fare that a passenger pays for service.

FEEDER SERVICE
Local transit service that feeds some other (usually faster and higher capacity) transit service.

FISCAL YEAR (FY)
October 1 to September 30; used for accounting purposes and further divided into three-month quarters.

FREQUENCY, VEHICLE
Rate of vehicle arrivals at a station or stop along a transit line (e.g., six per hour).

GRADE
The degrees of incline or decline from horizontal; the amount of steepness of a particular portion of an alignment. Usually measured in percent.

GRADE-SEPARATED
Crossing lines of traffic are vertically separated from each other.

GUIDEWAY
Specifically designed path for transit vehicles. It usually contains the vehicles by providing vertical support and lateral guidance. Railroad track and ballast are typically used as a guideway for LRT vehicles.

HEADWAY
The time interval between identical points on successive vehicles passing the same point along the way (e.g., 10-minute headways). The frequency of service on a particular route or line.

HOME-BASED WORK (HBW) TRIPS
Work trips having either origin or destination at the home.
HOV

High Occupancy Vehicle. A car, van, or bus used to carry a large number of persons per trip. Cars or vans are considered HOV's if they are being used by a carpool.

HOV LANE

A lane of a highway or street specifically designated for buses or HOV vehicles.

INTEGRATION WITH OTHER MODES

Method by which a transit system user transfers to other modes of transportation.

INTERCHANGE

The system of interconnecting ramps between two or more intersecting roadways or guideways that are grade-separated.

KISS-AND-RIDE SPACES

A short-term automobile parking area for passenger pick-up and drop-off, usually located near a station or stop for convenient access to the transit system.

\[ L_{eq} \]

Energy equivalent hour. Used in measuring noise levels.

LEVEL OF SERVICE (LOS)

A measure of traffic flow that ranges from a letter designation of "A" through "F". "A" denotes free flowing traffic conditions with no delays, "F" denotes substantial traffic congestion with excessive delays.

LIGHT RAIL TRANSIT (LRT)

Transit mode characterized by an overhead electric power source, and by its ability to operate in both an at-grade and/or a grade-separated environment, and usually operating in one, two, or three vehicle consists.

LINE MILE

Unduplicated miles of rail line, regardless of the number of tracks.
LINK

A representative portion of a transportation network which joins two modes.

LINKED TRIPS

Total passenger trips excluding transfers. The number of linked trips is always less than or equal to the number of unlinked (boarding) trips.

LOCAL SERVICE

A type of operation involving frequent stops and consequent low speeds, in order to pick up and deliver transit passengers as close to their origins or destinations as possible.

MODAL SPLIT

The proportioning of trips between travel modes, such as the proportion of automobile versus transit trips.

MODE

A particular form or method of travel distinguished by vehicle type, operation technology, and right-of-way separation from other traffic.

MODEL

Transportation models are computerized procedures for predicting changes in travel patterns in response to changes in development patterns, transportation systems, and demographics given certain assumptions about travel behavior based on existing conditions.

NETWORK

A system of real or hypothetical interconnecting lines within a transportation model that form the configuration of transit routes and stops constituting a total transportation system.

NO-BUILD ALTERNATIVE

The baseline alternative of not making any changes to the existing transit system and roadway network, except for those changes already programmed. It is used as a baseline against which the other proposed alternatives are compared.
NORMAL PASSENGER LOAD

Typically one standing rider for each seated rider. This is about 2.4 square feet of gross floor area per passenger.

OFF-PEAK

Those periods of the day where demand for transit service is not at a maximum.

ONE-WAY VOLUME

The number of vehicles or passengers travelling in a single direction on a rail alignment or roadway.

OPERATING COSTS

Recurring costs of operating transit systems. These costs include wages and salaries, maintenance of facilities and equipment, fuel, supplies, employee benefits, insurance, taxes, and other administrative costs. The amortization of facilities and equipment is not included.

OPERATING REVENUE

The gross income from the operation of the transit system, including fares, charter income, concessions, advertising, etc. Does not include interest from securities, nonrecurring income from sale of capital assets, and so forth.

PARK-AND-RIDE LOT

The transfer point of an intermodal trip where the driver of an automobile parks the automobile and changes to either bus or rail transit.

PATRONAGE (RIDERS)

The number of person-trips carried by a transit system during a specified period.

PEAK HOUR

The hour of the day in which the maximum demand for service is experienced.

PEAK PERIOD

A specified period for which the volume of traffic is greater than that during any other similar period (i.e., peak hour, peak five minutes, etc.).
PERSON-TRIP

A trip made by a person by any travel mode.

REVENUE SERVICE

The time during which a transit vehicle is in service and is available to passengers for transportation. It is expressed in terms of car-miles or car-hours for rail technology and in vehicle-miles or vehicle-hours for buses.

RIGHT-OF-WAY

The horizontal and vertical space occupied by an alignment, which a transit authority has control over, either through outright ownership, lease agreement, or an easement.

ROUTE MILES

The length of an LRT alignment or bus route measured in miles between its end points.

SCREENLINE

A line across several transportation facilities (such as highways, streets and transit lines) that is used as a common point to measure characteristics or performance among the alternatives. Across screenlines, the total person-trip capacity can be added for a group of alternatives, as can the number of person-trips served. In this way, comparisons can be made among alternatives at key geographic points within a corridor or travel-shed.

SECONDARY ROADWAYS

Streets on which traffic flows to pass from one neighborhood to another.

TERMINAL TIME

The part of the total travel time required to gain access to the principal travel mode or the time spent in reaching the destination after departing the principal travel mode.

THEORETICAL HEADWAY

The closest time interval in which two successive vehicles may safely operate along a section of a transit line.

TOTAL TRAVEL TIME

The total elapsed time between trip beginning and end. It includes travel, transfer, and waiting time.
TRANSFER

The portion of a trip a transit patron makes as he or she changes from one connecting route to another in order to complete his or her trip.

TRANSFER TIME

The elapsed trip time required to change between modes or to transfer between routes of the same mode.

TRANSIT

A transportation system principally for moving people in an urban area and made available to the public usually through paying a fare. Typical vehicles used for transit include buses, rail cars, and other fixed guideway vehicles.

TRANSITWAY MALL (LRT AND BUS)

A downtown area consisting of streets redesigned to allow higher performance transit service. Except for necessary local and emergency access, through automobile and truck traffic is restricted. Pedestrian amenities, such as wider sidewalks and benches, are incorporated into the design.

TRANSPORTATION SYSTEMS MANAGEMENT (TSM)

A set of transit service improvement options that generally includes lower-cost projects to improve the existing transportation highway or transit network.

TRAVEL TIME

The time required to travel between two points (excluding access time or waiting time).

TRIP

The one-way movement of one person between origin and destination, including the walk to and from the means of transportation.

TRIPS, NON-HOME-BASED

Trips having neither origin or destination at the home.

UNLINKED TRIPS - (See BOARDING TRIPS).
VANPOOL

A carpool that uses a van instead of a passenger automobile.

WAITING TIME

The part of the total travel time required for the transit vehicle to arrive, after the patron arrives at the station or stop.

List of Acronyms

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<tr>
<th>Acronym</th>
<th>Definition</th>
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<tbody>
<tr>
<td>ACOE</td>
<td>Army Corps of Engineers</td>
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<td>ADA</td>
<td>Americans with Disabilities Act</td>
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<td>Average Daily Traffic</td>
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<td>Area of Potential Effect</td>
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<td>Abbreviation</td>
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<td>Project Advisory Committee</td>
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<td>PPA</td>
<td>Pollution Prevention Act</td>
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<tr>
<td>pphm</td>
<td>parts per hundred million</td>
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ppm  parts per million
PTG  Parsons Transportation Group
ROD  Record of Decision
rms  root-mean-square amplitude
RTIP  Regional Transportation Improvement Program
SANDAG  San Diego Association of Governments'
SDTC  San Diego Transit Corporation
SDNR  San Diego Northern Railway
SEIS/SEIR  Supplemental Environmental Impact Statement/Subsequent Environmental Impact Report
SHA/PTA  State Highway Account/Public Transportation Account
SHPO  State Historic Preservation Office or Officer
SIP  State Implementation Plan
SOV  Single Occupant Vehicle
SP  Southern Pacific (Railroad)
SPRR  Southern Pacific Railroad
STA  State Transit Assistance
STP  State Transportation Program
STIP  State Transportation Improvement Program
SWPPP  Storm Water Pollution Prevention Plan
SWRCB  State Water Resources Control Board
TAC  Technical Advisory Committee
TAZ  Traffic Analysis Zone
TCI  Transit Capital Improvement
TDA  Transportation Development Act
TEA21  Transportation Equity Act for the 21st Century
STA  State Transit Assistance
TCM  Transportation Control Measures
TDM  Transportation Demand Management
TIP  Transportation Improvement Plan
TMAs  Transportation Management Associations
TRP  Trip Reduction Program
TSM  Transportation Systems Management
UCSD  The University of California, San Diego
ug/m³  micrograms per cubic meter
UNR  unresolved
UP  Union Pacific (Railroad)
UPRR  Union Pacific Railroad
UST  underground storage tanks
USEPA  US Environmental Pretention Agency
USFWS  US Fish and Wildlife Service
USGS  US Geological Survey
UST  underground storage tank
UTC  University Towne Centre
<table>
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<th>Abbreviation</th>
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<tr>
<td>USIU</td>
<td>United States International University</td>
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<tr>
<td>VC</td>
<td>volume-to-capacity ratio</td>
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<tr>
<td>VdB</td>
<td>vibration debels</td>
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<tr>
<td>VHT</td>
<td>vehicle hours of travel</td>
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<td>VMT</td>
<td>vehicle miles traveled</td>
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</tbody>
</table>
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APPENDIX E: REFERENCES/BIBLIOGRAPHY

NOTE: All reports are available for public review at the Metropolitan Transit Development Board (MTDB) Offices, 1255 Imperial Avenue, Suite 1000, San Diego, CA 92101. Detailed references for each report are included in the below documents.

PROJECT TECHNICAL REPORTS
(Mid-Coast Corridor Project FEIS):


Marquez & Associates Biological Consultants, December, 1998, Updated Biology Technical Report for the Nobel Drive Coaster Station, the Tecolote, Claremont, and Balboa Light Rail Transit Stations and Associated Trackage and Improvements.


Ninyo & Moore Geotechnical and Environmental Sciences Consultants, September 17, 1997, Foundation Report Mid-Coast Light Rail, San Diego, California.


Harris Miller Miller & Hanson, November 1, 1995, *Supplementary Noise Measurements and Impact Assessment*.

Harris Miller Miller & Hanson, December 16, 1998, *Noise Impact Assessment for Nobel Drive Coaster Station*.

**PROJECT TECHNICAL REPORTS (Mid-Coast Corridor AA/DEIS/DEIR):**

**Methods Reports**


**Methods Report: Service and Patronage Forecasting.** September 17, 1990.


**Environmental Technical Reports**

**Description of and Environmental Clearance for the Additional Intrusion into the I-5 Median between SR-52 and Mission Bay Drive for HOV Alternative.** March 1, 1994.


**Draft Feasibility Level Geotechnical Investigations for Mid-Coast Corridor AA/DEIS/DEIR, TSM/Commuter Rail (Tunnel).** June 1994.

**Draft Nobel Drive Commuter Rail Station Biological Impact Assessment.** August 12, 1993.

**APPENDIX E**

E-2


Final Air Quality Impact, December 8, 1993.


Final Geotechnical Resources, December 1993.


Final Public Involvement, August 22, 1995.


Landscape Replacement Study, Mid-Coast Corridor Alternatives Analysis, May 1994.


Phase I Historic Properties Inventory of the Nobel Drive Station, August 1993.


Other Reports

Conceptual Definition of Alternatives, April 12, 1991.

Description of and Justification for the Drop-Ramp to Pacific Highway for HOV Alternative, February 9, 1994.


Detailed Definition of Alternatives, August 21, 1992.


Draft Utilities Impact Analysis for Proposed Commuter Rail Station at Nobel Drive, August 1993.

Executive Drive Crossing Analysis, 1-5 West and Genesee Avenue Alternatives, August 6, 1992.

Final Capital Cost Results, January 17, 1994.


Final Definition of Alternatives, October 1993.


Plan and Profile Drawings, July 27, 1994


Purpose and Need Chapter 1.0 (DEIS), October 30, 1990.


Final Transportation Service and Patronage, January 17, 1994.

Scoping Information, April 1990.

Summary of Scoping Meetings, July 19, 1990.

APPENDIX F
Sensitivity Analysis of Combined HOV and LRT Alternative
DATE: September 18, 1995

TO: Dennis Wahl
MTDB Project Manager

FROM: Rick Pilgrim

SUBJECT: REVISED: Sensitivity Analysis for Alternatives Comparisons; Mid-Coast AA/DEIS/DEIR 221-8912

As you requested, we have revised the cost-effectiveness calculations for the sensitivity analyses we completed for the project. The sensitivity comparisons are documented in our memorandum to you dated July 24, 1995.

Revised cost-effectiveness values were needed because FTA issued new discount rates with which to calculate annualized capital costs. We incorporated the new rates into our work and provided those revised calculations for the base project alternatives last week.

OVERVIEW

This memorandum presents the results of analyses comparing several of the Mid-Coast Corridor alternatives in combination with one another or with logical modifications. These comparisons are needed to examine the sensitivity of the findings in the AA/DEIS/DEIR to changes in key assumptions and respond to comments received from the Environmental Protection Agency (EPA).

Specifically, three sensitivity comparisons are made:

1. Combination of the HOV Alternative with the LRT Alternative as requested by the EPA. The LRT I-5 alignment was used in this analysis.

2. Deferral or elimination of three LRT stations at Tecolote, Jutland and Gilman on the LRT I-5 Alternative

3. Addition of train trips for the commuter rail service between Centre City and North County

Rec'd
1-20-95
The data contained in several of the Mid-Coast Corridor study results reports were used to prepare these comparisons. These reports include:

- Transportation Service and Patronage Report
- Capital Cost Estimates Report
- Operating and Maintenance Cost Estimates Report
- TSM Commuter Rail Alternative Report

The information in these reports was used to develop the cost-effectiveness ratios used in Section 6.0 of the AA/DEIS/DEIR (Table 6-14). Comparisons of the performance of the modified or combined alternatives to these ratios are presented in the summary section of this memorandum.

HOV ALTERNATIVE PLUS LRT I-5 ALTERNATIVE

The combination of these two alternatives would provide the following:

- HOV lanes from SR-78 to Pacific Highway
- Express bus on the HOV lanes from points north of Sorrento Valley (Similar to the HOV Alternative)
- LRT from North University City at Towne Centre Drive, past UCSD to Old Town and Centre City via I-5 and the AT & SF railroad rights-of-way.
- Feeder bus service oriented to the LRT line with elimination of express bus routes that would duplicate the LRT service

The LRT and the HOV Alternatives provide different types of service to the Corridor. The LRT line connects major activity generators such as UCSD, University Towne Centre, and the VA Hospital in North University City with Pacific Beach, Clairemont, Old Town and Centre City. The HOV lanes provide faster travel times for travelers north of the Mid-Coast Corridor into and through the study corridor.

In effect, each alternative serves a different travel market. This is important when considering the additive effects of combining the two alternatives. In this case, the combination would be mutually supportive without significant overlap or duplication.

Ridership was estimated using the information in the AA/DEIS/DEIR document. Table 4-11, which compares corridor line-haul transit ridership, was used to adjust the expected boardings for the HOV + LRT on a route-by-route basis. Table 1 presents these adjustments.
<table>
<thead>
<tr>
<th>Route</th>
<th>1990 No-Build</th>
<th>TSM</th>
<th>TSM/Commuter Rail</th>
<th>Commuter Rail Tunnel</th>
<th>HOV Lane</th>
<th>LRT I-5</th>
<th>LRT Genesee</th>
<th>HOV Plus LRT I-5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Boardings</td>
<td>Boardings</td>
<td>Chg to TSM</td>
<td>Boardings</td>
<td>Chg to TSM</td>
<td>Boardings</td>
<td>Chg to TSM</td>
</tr>
<tr>
<td>960 - Carmel Valley TC to Centre City</td>
<td>2,550</td>
<td>6,780</td>
<td>6,720 (60)</td>
<td>6,750 (30)</td>
<td>7,280</td>
<td>500</td>
<td>X</td>
<td>(6,780)</td>
</tr>
<tr>
<td>980 - Black Mountain to Centre City</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>2,240</td>
<td>2,240</td>
<td>X</td>
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<tr>
<td>870 - Santee/UTC</td>
<td>3,920</td>
<td>3,410</td>
<td>3,650 (240)</td>
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<td>5,090</td>
<td>1,680</td>
<td>1,750</td>
<td>(1,660)</td>
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<tr>
<td>930 - South Bay/UTC</td>
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<td>4,410</td>
<td>4,380 (30)</td>
<td>4,380</td>
<td>4,170</td>
<td>240</td>
<td>4,170</td>
<td>130</td>
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<td>30 - Mira Mesa/La Jolla to CC</td>
<td>4,000</td>
<td>7,200</td>
<td>9,250 (80)</td>
<td>9,510</td>
<td>9,330</td>
<td>0</td>
<td>8,100</td>
<td>(1,230)</td>
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<tr>
<td>50 - UTC to CC</td>
<td>1,630</td>
<td>840</td>
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<td>970</td>
<td>930</td>
<td>(20)</td>
<td>X</td>
<td>(950)</td>
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<tr>
<td>150 - UTC to CC</td>
<td>460</td>
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<td>670 (170)</td>
<td>360</td>
<td>260</td>
<td>410</td>
<td>X</td>
<td>(670)</td>
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<td>310 - North County to UTC</td>
<td>740</td>
<td>1,030</td>
<td>3,240 (330)</td>
<td>3,330</td>
<td>5,690</td>
<td>2,120</td>
<td>4,310</td>
<td>740</td>
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<td>Subtotal - Express Bus</td>
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<td>15,430</td>
<td>29,120</td>
<td>28,630</td>
<td>34,990</td>
<td>+5,670</td>
<td>18,700</td>
<td>(10,420)</td>
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<tr>
<td>Commuter Rail</td>
<td>8,960</td>
<td>8,660</td>
<td>9,640 (980)</td>
<td>1,460</td>
<td>7,120</td>
<td>(1,540)</td>
<td>8,140</td>
<td>(520)</td>
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<tr>
<td>Light Rail</td>
<td>0</td>
<td>0</td>
<td>(1,330)</td>
<td>(1,420)</td>
<td>(1,210)</td>
<td>(100)</td>
<td>18,810</td>
<td>20,140</td>
</tr>
<tr>
<td>Subtotal - Rail</td>
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<td>8,220 (890)</td>
<td>8,910</td>
<td>7,020</td>
<td>(310)</td>
<td>26,950</td>
<td>+19,620</td>
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<tr>
<td>TOTAL CORRIDOR</td>
<td>10,750</td>
<td>24,390</td>
<td>36,450</td>
<td>36,850</td>
<td>42,010</td>
<td>+5,560</td>
<td>45,650</td>
<td>+9,220</td>
</tr>
</tbody>
</table>

Note: Assumes no commuter rail station at Miramar.

X = no service

Source: SANDAG, BRW, Inc. June 1995
Mr. Dennis Wahl  
September 18, 1995  
Page 4

The adjustment process for bus service with the combined alternative assumed the following:

- Routes that have the majority of their service outside the corridor were assumed to not be affected by the LRT or HOV improvement. This is true for Route 930 since it travels from the Southbay to UTC to terminate. An average of the ridership change to TSM for the LRT and HOV was used.

- Routes modified in one alternative were assumed to remain modified. For example, the Route 870 from Santee to UTC is planned to terminate at UTC in the TSM and the LRT Alternatives. The route terminates at UTC for LRT because it would otherwise duplicate the premium service to Centre City. In HOV, the Route 870 was extended to Old Town to take advantage of the HOV lanes. This is also true of the Route 30 from Mira Mesa which is unaffected by the HOV lanes on I-5 since the route uses city streets. However, in the L.:T Alternative, it feeds the UTC station or the Nobel station.

- The Route 310 serves a different part of the travel shed than does LRT since it comes from North County. Therefore, it is unaffected by the LRT improvement but is able to use the HOV lanes. Therefore, the HOV forecast was used.

The calculations estimate that daily boardings would increase by 11,570 over the TSM Alternative for the HOV + LRT option. Using factors which convert boardings to linked trips from Table 4-10, this would result in the following linked trips daily and annually:

TSM Daily   178,180   riders (Table S.8: "Service and Patronage Report")
HOV + LRT   + 5,320   riders
Total Daily  183,500   riders

TSM Annual   54,347,520   riders (Table S.8: "Service and Patronage Report")
HOV + LRT    
Annual        56,949,820   riders

New Trip Increase   +2,602,300   riders

Adding the number of new carpool users of the HOV lanes of 1,948,180 annually from the mode split reports provides a total of 4,550,480 new trips with the combined HOV plus LRT improvements.
Annualized capital costs would be the combination of the two alternatives:

**Annualized Capital Cost (Table 6-14; AA/DEIS/DEIR)**

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOV Alternative</td>
<td>$ 9.560 million</td>
</tr>
<tr>
<td>LRT I-5 Alternative</td>
<td>21.993 million</td>
</tr>
</tbody>
</table>

Total Annualized Capital Cost $31.553 million

The difference between the TSM Alternative and the combined alternative is $28.729 million.

Similarly, the annual O & M costs would be a combination of the two alternatives. From Tables 2-15 and 6-14 of the AA/DEIS/DEIR, the increase in O & M costs from the TSM Alternative, adjusted for route modifications and revenues generated, would be as follows:

**Annual Adjusted O & M Cost**

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOV Alternative</td>
<td>$ 0.974 million</td>
</tr>
<tr>
<td>LRT I-5 Alternative</td>
<td>(0.460) million</td>
</tr>
</tbody>
</table>

Total Annual O & M Cost $0.514 million

Travel time savings are also additive for the two alternatives. Using results from Table 6-14 of the AA/DEIS/DEIR, the annual value of travel time savings for both transit and carpools/vanpools adjusted for route modifications would be:

**Annual Value of Time Savings**

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOV Alternative</td>
<td>($4.246) million</td>
</tr>
<tr>
<td>LRT I-5 Alternative</td>
<td>(3.210) million</td>
</tr>
</tbody>
</table>

Total Annual Value Savings ($7.456) million

Using these calculations, the cost-effectiveness ratio would then be:

\[
\text{Dollars/New Rider} = \frac{28.729 + 0.514 - (7.456)}{4.550}
\]

\[
= \frac{21.787}{4.550} = \$4.79/\text{New Trip}
\]
This ratio is roughly in the mid-range between the HOV Alternative and the LRT I-5 Alternative:

- HOV Alternative $1.57/\text{New Trip}$ (with carpools)
- HOV + LRT I-5 $4.79/\text{New Trip}$
- LRT I-5 $7.40/\text{New Trip}$

**LRT I-5 WITH FEWER STATIONS**

This option would defer the lower volume stations of Tecolote, Jutland and Gilman on the LRT I-5 Alternative until a later point in time. This has the benefit of delaying construction of these stations until ridership demands increase. Lower initial capital cost, faster travel times and slightly lower O & M costs result.

LRT boardings were adjusted using the same method employed to estimate ridership for the short-terminal LRT options. Tables 4-17 and 6-18 from the AA/DEIS/DEIR were used to estimate ridership changes as shown in Table 2.

The overall net reduction in ridership could be limited to about a 2 percent drop with redirection to other stations. One of the implications of this redirection is that the number of parking spaces will need to be increased at Clairemont, Balboa and Nobel to
<table>
<thead>
<tr>
<th>Station</th>
<th>Daily Boardings</th>
<th>Auto Park</th>
<th>Auto Drop</th>
<th>Bus/Rail</th>
<th>Walk</th>
<th>Daily Boardings</th>
<th>Auto Park</th>
<th>Auto Drop</th>
<th>Bus/Rail</th>
<th>Walk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Old Town</td>
<td>4,170</td>
<td>50</td>
<td>40</td>
<td>10</td>
<td>1,800</td>
<td>2,310</td>
<td>4,220</td>
<td>70</td>
<td>55</td>
<td>20</td>
</tr>
<tr>
<td>Tecolote</td>
<td>170</td>
<td>50</td>
<td>50</td>
<td>10</td>
<td>0</td>
<td>110</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Clairemont</td>
<td>2,230</td>
<td>100</td>
<td>90</td>
<td>20</td>
<td>1,180</td>
<td>930</td>
<td>2,300</td>
<td>120</td>
<td>110</td>
<td>30</td>
</tr>
<tr>
<td>Balboa</td>
<td>1,890</td>
<td>350</td>
<td>320</td>
<td>80</td>
<td>600</td>
<td>860</td>
<td>2,230</td>
<td>410</td>
<td>370</td>
<td>110</td>
</tr>
<tr>
<td>Jutland</td>
<td>440</td>
<td>60</td>
<td>50</td>
<td>30</td>
<td>100</td>
<td>250</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Gilman</td>
<td>150</td>
<td>80</td>
<td>70</td>
<td>40</td>
<td>0</td>
<td>30</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Nobel</td>
<td>3,100</td>
<td>480</td>
<td>440</td>
<td>150</td>
<td>1,390</td>
<td>1,080</td>
<td>3,220</td>
<td>560</td>
<td>510</td>
<td>190</td>
</tr>
<tr>
<td>UCSD</td>
<td>1,260</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>140</td>
<td>1,260</td>
<td>1,260</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Genesee</td>
<td>1,340</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>280</td>
<td>1,060</td>
<td>1,340</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Towne Centre</td>
<td>1,200</td>
<td>260</td>
<td>240</td>
<td>50</td>
<td>610</td>
<td>280</td>
<td>1,200</td>
<td>260</td>
<td>240</td>
<td>50</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>15,950</strong></td>
<td><strong>1,430</strong></td>
<td><strong>1,300</strong></td>
<td><strong>390</strong></td>
<td><strong>5,315</strong></td>
<td><strong>8,030</strong></td>
<td><strong>15,770</strong></td>
<td><strong>1,420</strong></td>
<td><strong>1,285</strong></td>
<td><strong>400</strong></td>
</tr>
</tbody>
</table>

(1) The Tecolote, Jutland and Gilman stations would be deferred.

SOURCE: BRW, Inc.; June 1995
accommodate the additional vehicles. The biggest impact would likely be at the Nobel station where about 70 vehicles would be shifted from the Gilman station.

The 2 percent ridership drop would equate to a drop in riders of about 100 riders per day compared to the TSM Alternative. The adjust annual ridership for LRT I-5 would thus be:

- Annual Ridership LRT I-5: 56,443,340
- Annual Ridership LRT I-5 without Tecolote, Jutland, Gilman Stations: 56,410,240
- Net Reduction: (33,100)

Annualized capital costs would be reduced by the amount saved in construction of the three stations. The stations were estimated to cost between $525,000 for Gilman and Jutland and $700,000 for Tecolote because of the vertical circulation facilities required at that location. The total cost savings with add-ons is $2.639 million. Summing these amounts and annualizing the total reduces the Total Annualized Cost difference to TSM for LRT I-5 from $21.993 million to $21.887 million. The difference to the TSM Alternative is $19.063 million.

The loss of revenues for lost riders would tend to offset the gains from operating savings and travel time savings. Assuming the changes in O & M costs and travel time savings values are insignificant at this level of detail, the cost-effectiveness ratio can be recalculated as:

\[
\text{Dollars/New Rider} = \frac{19,063 + (0.460) + (3.210)}{2.063} = \frac{15,393}{2.063} = \$7.46/\text{New Rider}
\]

The ratio of $7.46/New Rider is slightly higher than the LRT I-5 ratio of $7.40/New Rider. This indicates the cost-effectiveness measure is more sensitive to changes in ridership than to cost savings in this case.

To provide a comparison the C-E ratio for the Genesee LRT Alternative was recalculated assuming the three stations would be deferred. Using the same data from Table 6-14 of the AA/DEIS/DEIR results in the recalculation of the C-E ratio to $8.33 New Rider, a slight increase from the $8.24/New Rider.
INCREASED COMMUTER RAIL SERVICE

Travel demand forecasts were run by SANDAG to help MTDB determine what type of Commuter Rail Alternative to include in the Mid-Coast study. Options included routing along the current AT & SF alignment, a tunnel through North University City, and added train frequency. This information was documented in the TSM/Commuter Rail and TSM/Commuter Rail Tunnel Technical Reports.

The increased frequency model run assumed the high level of service would be operated by NCTD. This service would run peak period trains approximately every half-hour with service every one to two hours throughout the day and evenings. About 16 trains per day would be run in each direction. Three more train sets (locomotive and four to five passenger cars) would be needed at about $5.0 million per train set.

The forecast was run for the tunnel alignment. This alignment saves about six minutes per trip. Using elasticity factors to adjust for the travel time difference for an alignment along the AT & SF results in the following annual ridership, compared to the TSM Alternative:

- TSM: 54,347,520
- Commuter Rail: +256,300
- Commuter Rail with High Service Level: +849,900

Inserting these ridership figures in the cost-effectiveness calculations provides the following result:

Annualized Capital Cost = $0.759 million
Annual O & M Cost = 7.450 million
Value Travel Time Savings = (1,000) million

$7.209 million

Dollars/New Rider = $7.209 / 0.850 = $8.48/New Rider
SUMMARY OF RESULTS

Three tests were conducted to examine the sensitivity of the cost-effectiveness calculations for the alternatives to changes in cost and ridership. These tests were conducted for the following changes:

- HOV + LRT I-5 Alternatives
- LRT I-5 Alternative with Three Fewer Stations
- Commuter Rail Alternative with Added Service

Revised cost-effectiveness (C-E) ratios were re-calculated as follows:

<table>
<thead>
<tr>
<th>Alternative</th>
<th>C-E Ratio (Dollars/New Rider)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSM</td>
<td>N.A.</td>
</tr>
<tr>
<td>TSM/Commuter Rail</td>
<td>$5.17</td>
</tr>
<tr>
<td>Commuter Rail with High Service</td>
<td>$8.48</td>
</tr>
<tr>
<td>Commuter Rail Tunnel</td>
<td>$55.78</td>
</tr>
<tr>
<td>HOV Lanes (Carpools and Transit)</td>
<td>$1.57</td>
</tr>
<tr>
<td>HOV + LRT I-5</td>
<td>$4.79</td>
</tr>
<tr>
<td>LRT I-5</td>
<td>$7.40</td>
</tr>
<tr>
<td>LRT I-5 w/ 3 Fewer Stations</td>
<td>$7.46</td>
</tr>
<tr>
<td>LRT Genesee</td>
<td>$8.24</td>
</tr>
<tr>
<td>LRT Genesee w/ 3 Fewer Stations</td>
<td>$8.33</td>
</tr>
</tbody>
</table>
APPENDIX G

Fiscally Committed Roadway Improvements—2000 RTP
Table A-1
FY 1999-2004 MAJOR STATE HIGHWAY PROJECTS
FACILITY LISTING AND COST ESTIMATE

<table>
<thead>
<tr>
<th>Route</th>
<th>Location/Project</th>
<th>Length (Miles)</th>
<th>Facility/Lanes</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-5</td>
<td>I-5/I-805 Stages 2B &amp; 3. STIP &amp; CMAQ.</td>
<td>5.5</td>
<td>IC, 10F &amp; 2 HOV lanes</td>
<td>$ 109.0</td>
</tr>
<tr>
<td>I-5</td>
<td>Mission Bay Drive to SR 52. STIP.</td>
<td>0.5</td>
<td>NB auxiliary lane</td>
<td>6.5</td>
</tr>
<tr>
<td>I-5</td>
<td>SR 78 Interchange: NB-EB connector. SHOPP.</td>
<td>-</td>
<td>Widen auxiliary lane, ramp</td>
<td>2.4</td>
</tr>
<tr>
<td>I-15</td>
<td>SR 163 to SR 78. RSTP/SHOPP.</td>
<td>19.4</td>
<td>Auxiliary lanes, meters, bridge widen</td>
<td>28.0</td>
</tr>
<tr>
<td>I-15</td>
<td>SR 56 to Centre City Parkway. CMAQ.</td>
<td>8.5</td>
<td>4 HOV/ML</td>
<td>79.0*</td>
</tr>
<tr>
<td>SR 52</td>
<td>SR 125 to SR 67. TransNet.</td>
<td>1.8</td>
<td>4F</td>
<td>93.3*</td>
</tr>
<tr>
<td>SR 56</td>
<td>Carmel Country to Black Mountain Roads. TransNet/Local/STIP.</td>
<td>5.9</td>
<td>4F</td>
<td>111.0</td>
</tr>
<tr>
<td>SR 76</td>
<td>Melrose Avenue to South Mission Road. TransNet/Demo/RSTP.</td>
<td>2</td>
<td>2C:4C</td>
<td>22.5*</td>
</tr>
<tr>
<td>SR 78</td>
<td>Twin Oaks Valley Road. STIP/Local.</td>
<td>-</td>
<td>IC upgrade</td>
<td>14.8</td>
</tr>
<tr>
<td>SR 78</td>
<td>Local improvements. TransNet SR 78 Corridor Reserve.</td>
<td>-</td>
<td>IC upgrades at College Blvd. and San Marcos Blvd., meters</td>
<td>21.6</td>
</tr>
<tr>
<td>SR 125</td>
<td>SR 905 to SR 54 Tollway. Privatization project/TransNet/RSTP.</td>
<td>10.6</td>
<td>4F &amp; 6 ICs.</td>
<td>330.0</td>
</tr>
<tr>
<td>SR 125</td>
<td>Sweetwater Section: Briarwood Road to SR 94. TransNet/STP/RSTP.</td>
<td>4.4</td>
<td>4C:4F &amp; 2 HOV &amp; 3 ICs.</td>
<td>160.0</td>
</tr>
<tr>
<td>SR 125</td>
<td>F Anita Section: Navajo Road to Grossmont College Drive. TransNet/STIP.</td>
<td>1</td>
<td>6F</td>
<td>34.0</td>
</tr>
<tr>
<td>SR 241</td>
<td>Foothill Corridor: Orange County to I-5. Orange County TCA Public Tollway.</td>
<td>5.5</td>
<td>6F &amp; 2 HOV &amp; 2 ICs.</td>
<td>265.0</td>
</tr>
<tr>
<td>SR 905</td>
<td>I-805 to Otay Mesa Port of Entry. STIP/Federal/Local.</td>
<td>6.6</td>
<td>6F</td>
<td>179.1*</td>
</tr>
<tr>
<td>Various</td>
<td>15 Regional Arterial Projects. RSTP/Demo/Local.</td>
<td>-</td>
<td>11 roads, 4 ICs</td>
<td>137.4</td>
</tr>
<tr>
<td>Various</td>
<td>Trans. Management Projects, Freeway and Arterial. CMAQ/STIP.</td>
<td>-</td>
<td>Meters, Fiber Optics, Signals, ATIS</td>
<td>16.2</td>
</tr>
<tr>
<td>Various</td>
<td>Rehabilitation Projects. SHOPP.</td>
<td>-</td>
<td>-</td>
<td>148.0</td>
</tr>
<tr>
<td>Various</td>
<td>Safety Projects. SHOPP.</td>
<td>-</td>
<td>-</td>
<td>54.0</td>
</tr>
<tr>
<td>Various</td>
<td>Operation Improvements. SHOPP.</td>
<td>-</td>
<td>-</td>
<td>80.0</td>
</tr>
<tr>
<td>Various</td>
<td>Landscape Maintenance. SHOPP.</td>
<td>-</td>
<td>-</td>
<td>33.0</td>
</tr>
<tr>
<td>Minor</td>
<td>Minor Projects (under $300,000).</td>
<td>-</td>
<td>-</td>
<td>31.0</td>
</tr>
</tbody>
</table>

Total: Construction, Right-of-Way, and Engineering $1,955.8

1 Costs in millions of 1999 dollars, * Partially funded

Sources:
1996 TransNet Plan of Finance Project Scheduling

Notes:
F(Freeway), E(Expressway), C(Conventional Highway), I(Interchange), ATIS (Advanced Traveler Information System)
4F:6F means upgrade from existing 4-lane freeway to 6-lane freeway
HOV/ML are High Occupancy Vehicle or Managed Lanes
Costs and revenues for the 15 regional arterial projects included in Table A-7 as local street and road projects.
### Table A-2
FY 2005-2010 Revenue-Constrained Major State Highway Projects
Facility Listing and Cost Estimate

<table>
<thead>
<tr>
<th>Route</th>
<th>Location/Project</th>
<th>Length (Miles)</th>
<th>Facility/Lanes</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-5</td>
<td>Del Mar Heights Road to Birmingham Drive</td>
<td>7.2</td>
<td>8F:12F &amp; 2 HOV</td>
<td>$85.0*</td>
</tr>
<tr>
<td>I-15</td>
<td>SR 56 to Centre City Parkway</td>
<td>15.5</td>
<td>4 HOV/ML</td>
<td>85.0</td>
</tr>
<tr>
<td>I-15/SR-56</td>
<td>Interchange Ramp (EB-NB)</td>
<td></td>
<td>Loop ramp</td>
<td>26.0</td>
</tr>
<tr>
<td>SR 52</td>
<td>SR 125 to SR 67</td>
<td>2.5</td>
<td>4F</td>
<td>145.0</td>
</tr>
<tr>
<td>SR 52</td>
<td>I-15 to Mast Boulevard</td>
<td>7.2</td>
<td>4F:6F</td>
<td>40.0</td>
</tr>
<tr>
<td>SR 54/125</td>
<td>I-805 to SR 94 West. TransNet.</td>
<td>7.7</td>
<td>6F:6F &amp; 2 HOV</td>
<td>60.0</td>
</tr>
<tr>
<td>SR 94/125</td>
<td>Interchange and SR 125 Widening</td>
<td>3.0</td>
<td>6F:8F &amp; IC</td>
<td>90.0</td>
</tr>
<tr>
<td>SR 905</td>
<td>I-805 to Otay Mesa Port-of-Entry</td>
<td>6.4</td>
<td>6F</td>
<td>75.0**</td>
</tr>
<tr>
<td></td>
<td>Subtotal: Major Projects</td>
<td></td>
<td></td>
<td>606.0</td>
</tr>
<tr>
<td>Various</td>
<td>Intelligent Transportation Systems:</td>
<td></td>
<td></td>
<td>26.0</td>
</tr>
<tr>
<td></td>
<td>Enhanced Incident/Emergency Response, Traveler/Commercial Vehicle Operations Information, Management System Software</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>State Highway Operation &amp; Protection Program (SHOPP) and Minor Program</td>
<td></td>
<td></td>
<td>274.0</td>
</tr>
<tr>
<td></td>
<td>Total: Construction, Right-of-Way, and Engineering</td>
<td></td>
<td></td>
<td>$906.0</td>
</tr>
</tbody>
</table>

1 Costs in millions of 1999 dollars
* Partial Funding
** $30 million from federal discretionary funding

Notes:
F(Freeway), E(Expressway), C(Conventional Highway), IC(Interchange)
4F:6F means upgrade from existing 4-lane freeway to 6-lane freeway
HOV/ML are High Occupancy Vehicle or Managed Lanes
### Table A-3
FY 2011-2020 REVENUE-CONSTRAINED MAJOR STATE HIGHWAY PROJECTS
FACILITY LISTING AND COST ESTIMATE

<table>
<thead>
<tr>
<th>Route</th>
<th>Location/Project</th>
<th>Length (Miles)</th>
<th>Facility/Lanes</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-5</td>
<td>Del Mar Heights Road to Encinitas Boulevard</td>
<td>7.4</td>
<td>8F:12F &amp; 2 HOV</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Encinitas Boulevard to La Costa Boulevard</td>
<td>2.5</td>
<td>8F:10F &amp; 2 HOV</td>
<td>$245.0*</td>
</tr>
<tr>
<td>I-15</td>
<td>SR 163 to SR 56</td>
<td>7.0</td>
<td>4 HOV/ML</td>
<td>127.0</td>
</tr>
<tr>
<td>SR 805</td>
<td>SR 52 to I-5</td>
<td>5.0</td>
<td>2 HOV</td>
<td>30.0</td>
</tr>
<tr>
<td>SR 52</td>
<td>I-5 to I-805</td>
<td>3.5</td>
<td>4F:6F</td>
<td>40.0</td>
</tr>
<tr>
<td></td>
<td>Mast Boulevard to SR 125</td>
<td>1.2</td>
<td>4F:6F</td>
<td>30.0</td>
</tr>
<tr>
<td>SR 56</td>
<td>I-5 to I-15</td>
<td>10.2</td>
<td>4F:6F</td>
<td>40.0</td>
</tr>
<tr>
<td>SR 76</td>
<td>Mirose Boulevard to South Mission Road</td>
<td>4.0</td>
<td>2C:4C</td>
<td>80.0</td>
</tr>
<tr>
<td>SR 125</td>
<td>SR 905 to SR 54, Tollway/Privatization (CTV)</td>
<td>10.6</td>
<td>4F:6F &amp; 8F</td>
<td>80.0</td>
</tr>
<tr>
<td>Various</td>
<td>Intelligent Transportation Systems:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>State Highway Operation &amp; Protection Program (SHOPP) and Minor Program</td>
<td></td>
<td></td>
<td>480.0</td>
</tr>
</tbody>
</table>

**Subtotal: Major Projects**

<table>
<thead>
<tr>
<th>Route</th>
<th>Location/Project</th>
<th>Length (Miles)</th>
<th>Facility/Lanes</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>672.0</td>
</tr>
</tbody>
</table>

**Total: Construction, Right-of-Way and Engineering**

$1,172.0

1 Costs in millions of 1999 dollars

* Partial funding

Notes:
Table also represents the FY 2005-2010 Preferred Major State Highway Projects
F(Freeway), E(Expressway), C(Conventional Highway), I(Interchange)
4F:6F means upgrade from existing 4-lane freeway to 6-lane freeway
HOV/ML are High Occupancy Vehicle or Managed Lanes
APPENDIX H

Natural Resources (Figures H-1 thru H-21)
Mid-Coast LRT

Existing Habitat Communities

FIGURE

H-3
Existing Habitat Communities
SOURCE: Marquez and Associates
BASE MAP: De Leuw Cather

Mid-Coast LRT

Existing Habitat Communities

FIGURE

H-12
Existing Habitat Communities
Mid-Coast LRT

Existing Wetland Areas within Project APE

FIGURE H-17
Existing Wetlands Map

Nobel Drive Coaster Station

FIGURE

H-19
APPENDIX I
Agency Coordination (Correspondence)
July 14, 1999

Ms. Toni Bates
San Diego Metropolitan Transit Development Board
255 Imperial Avenue, Suite 1000
San Diego, CA 92101-7490

RE: CC-064-99, Consistency Certification for Mid-Coast Light Rail, in San Diego.

Dear Ms. Bates:

On July 13, 1999, the California Coastal Commission concurred with the above-referenced consistency certification. The Commission found the project to be consistent with the California Coastal Management Program.

Sincerely,

[Signature]
James R. Raives
Coastal Program Analyst

cc: South Coast Area Office
NOAA Assistant Administrator
OCRM
Department of Water Resources
Governor’s Washington D.C. Office
Laura Prickett, De Leuw, Cather, & Company
IMPLEMENTING AGREEMENT

by and between

UNITED STATES FISH AND WILDLIFE SERVICE

CALIFORNIA DEPARTMENT OF FISH AND GAME

CITY OF SAN DIEGO

TO ESTABLISH A MULTIPLE SPECIES CONSERVATION PROGRAM ("MSCP") FOR THE CONSERVATION OF THREATENED, ENDANGERED AND OTHER SPECIES IN THE VICINITY OF SAN DIEGO, CALIFORNIA
C. Long-term Regional Funding.

1. **Voter Approval.** The Parties anticipate that any such long-term regional funding method will require voter approval.

2. **Timetable.** The MSCP Plan specifies a proposed timetable for securing long-term regional funding. Within eighteen months (18) of the Effective Date, the CITY OF SAN DIEGO, working cooperatively with the other Participating Local Jurisdictions, will initiate the process described in the MSCP Plan to procure long-term regional funding. Within an additional eighteen (18) months, the CITY OF SAN DIEGO intends to have a long-term regional funding source established. The USFWS and CDFG are willing to adjust this schedule if the CITY OF SAN DIEGO demonstrates that its good faith efforts to secure long-term regional funding require additional time. During this total period of time, the CITY OF SAN DIEGO, working cooperatively with the other Participating Local Jurisdictions, will identify a new or existing structure through which regionally generated funds will be allocated to all Participating Local Jurisdictions.

3. **Reassessment of Regional Funding.** The Parties recognize that achieving the goal of long-term regional funding may be compromised if any of the jurisdictions identified in Exhibit B, Out of withdraw from the MSCP or fail to complete and obtain approval of a Subarea Plan. If such circumstances arise before long-term regional funding is secured, the Parties agree to reassess, along with the other Participating Local Jurisdictions, the feasibility of a long-term regional funding approach. If at the conclusion of the time allowed under subsection C.2, above, a regional funding source has not been established, then the CITY OF SAN DIEGO shall establish and implement a funding source adequate to meet its share of MSCP and Subarea Plan implementation costs while it continues to pursue, with other Participating Local Jurisdictions, establishment of a regional funding source.

D. Effect of Inadequate Funding on Take Authorizations. In the event that adequate funding to implement the MSCP Plan and the Subarea Plan is not provided by the CITY OF SAN DIEGO, the USFWS and CDFG will assess the impact of the funding deficiency on the scope and validity of the Take Authorizations. The Parties agree that they will then meet and confer to cooperatively develop a strategy to address the funding shortfall, and to undertake all practicable efforts to maintain the level of conservation and Incidental Take authorization afforded by the Take Authorizations until the funding situation can be remedied.

12.0 ISSUANCE OF THE TAKE AUTHORIZATIONS

12.1 **General Purposes.** In order to provide predictability and certainty to public facility and private project developments, the Take Authorizations shall cover significant periods of time.

12.2 **Findings - USFWS - Covered Species.** The USFWS finds has found, following opportunity for public comment, that (a) the taking of Covered Species requested by the CITY OF SAN DIEGO in the Subarea within the MSCP Area, in accordance with the MSCP Plan as implemented by the subarea plans, will be incidental to the carrying out of
otherwise lawful activities; (b) the MSCP as implemented by the subarea plans will, to the
maximum extent practicable, minimize and mitigate the impacts of such incidental taking; (c) the
funding sources identified and provided for herein will ensure that adequate funding for the
MSCP and the subarea plans will be provided; (d) the requested taking of Covered Species will
not appreciably reduce the likelihood of the survival and recovery of such species in the wild;
and (e) the MSCP as implemented through the subarea plans will satisfy and fulfill all measures
required by the USFWS as being necessary or appropriate for the purposes of the MSCP
(including procedures determined by the USFWS to be necessary to address Unforeseen
Circumstances).

12.3 Findings - USFWS - Covered Species Subject to Incidental Take. In
addition to the findings in Section 12.2 above, the USFWS finds has found that the Covered
Species Subject to Incidental Take will be adequately conserved in the Subarea as the result of
the implementation of the Subarea Plan and this Agreement. Accordingly, concurrent with the
Effective Date the USFWS will issue the Section 10(a) Permit to the CITY OF SAN DIEGO
authorizing the Incidental Take of the Covered Species Subject to Incidental Take. The Section
10(a) Permit will be effective for 50 years, and will be renewable utilizing the ESA procedures in
effect at the time of renewal.

12.4 Section 10(a) Permit and Future Listings. As to any Covered Species
Subject to Incidental Take that is not listed as threatened or endangered under the ESA as of the
Effective Date, the Section 10(a) Permit shall become effective with respect to such species
concurrent with its listing as threatened or endangered under the ESA. As to any other Covered
Species, the Section 10(a) Permit shall become effective with respect to that species (and it will
be added to the list of Covered Species Subject to Incidental Take) when (1) the USFWS
approves the subarea plans that the USFWS determines adequately conserve such species, (2)
such species becomes listed as threatened or endangered under the ESA, and (3) the USFWS
notifies the CITY OF SAN DIEGO in writing that the Section 10(a) Permit is effective with
respect to such species.

12.5 Findings - CDFG. The CDFG finds has found, following opportunity for
public comment, that the MSCP, the Subarea Plan and this Agreement (1) adequately provide for
the conservation and management of the Covered Species Subject to Incidental Take and their
habitat within the MSCP Area and the Subarea, and (2) satisfy all legal requirements under both
CESA and the NCCP Act necessary for the CDFG to issue a CESA/NCCP Authorization for the
Covered Species Subject to Incidental Take. The CDFG also finds, and (3) are consistent with
the NCCP Process and Conservation Guidelines. The CDFG has found that the Subarea
Plan, in combination with the MSCP Plan, meets the requirements of the NCCP Act for an
NCCP Plan, and hereby approves has approved the Subarea Plan as an NCCP Plan. The CDFG
has found further finds that the MSCP, the Subarea Plan and this Agreement provide adequately
for the mitigation of potential "significant effects on the environment" (as defined in California
Public Resources Code § 21068) which may result to Covered Species or their habitat from land
development activities in the Subarea, and will prevent substantial environmental damage and
substantial injuries to Covered Species or Subject to Incidental Take and their habitat.
(pursuant to California Government Code § 66474) that may result from the land development activities in the Subarea.

12.6 Issuance of CESA/NCCP Authorization. As a result of the findings specified in Section 12.4, above, concurrent Concurrent with the Effective Date, the CDFG will issue its approval of the Subarea Plan and a CESA/NCCP Authorization which authorizes the Incidental Take of Covered Species Subject to Incidental Take in the Subarea, subject to the terms of the MSCP, the Subarea Plan, this Agreement, and the CESA/NCCP Authorization. As to any Covered Species Subject to Incidental Take that is not listed as threatened or endangered under the CESA or as of the Effective Date, the CESA/NCCP Authorization shall automatically become effective with respect to such species concurrently with its listing as threatened or endangered under the CESA or its acceptance by the California Fish and Game Commission as a candidate for such listing. The CESA/NCCP Authorization will be effective for 50 years. The CESA/NCCP Authorization will be renewable utilizing the CESA or NCCP procedures in effect at the time of renewal.

12.7 Findings - Section 4(d) Special Rule. The USFWS finds that the MSCP meets the standards set forth in 50 C.F.R. § 17.32(b)(2). The CDFG Accordingly, the USFWS finds that the MSCP and Subarea Plan meet the requirements of the NCCP Act, and therefore the CDFG approves the Subarea Plan as an NCCP Plan. Accordingly, the USFWS and the CDFG find that the MSCP and the Subarea Plan are consistent with and satisfy the conditions under the Section 4(d) Special Rule, and therefore the Incidental Take of the coastal California gnatcatcher within the MSCP Area, and the area encompassed by the Subarea Plan, is lawful.

13.0 CONSULTATIONS WITH OTHER PUBLIC AGENCIES

13.1 Section 7 Consultations. To the maximum extent appropriate, in any consultation under Section 7 of the ESA (16 U.S.C. § 1536) involving the CITY OF SAN DIEGO and/or a an existing or prospective Third Party Beneficiary with regard to Covered Species Subject to Incidental Take, the USFWS shall adopt ensure that the biological opinions are consistent with the biological opinion issued pursuant to Section 7(b) of the ESA, 16 U.S.C. § 1536(b) in connection with the MSCP and Subarea Plan, provided that the proposed project is consistent with the MSCP and Subarea Plan. Any biological measures included under the terms and conditions of the Section 7 biological opinion shall, to the maximum extent appropriate, be consistent with the mitigation required by the CITY OF SAN DIEGO for the particular project or activity under the MSCP and Subarea Plan as implemented by this Agreement, provided that the USFWS shall not impose measures in excess of those that have been or will be required by the CITY OF SAN DIEGO pursuant to the MSCP, the Subarea Plan and this Agreement. For Section 7 consultations conducted in connection with the issuance of permits under Section 404 of the Clean Water Act, 33 U.S.C. § 1344, Section 9.8A of this Agreement shall apply in lieu of this paragraph.
Re: Request for Federally Listed Endangered, Threatened, and Proposed Species that May Occur in the Vicinity of the Mid-Coast Extension Phase 1, San Diego County, California (1-6-98-SP-30)

Dear Ms. Marquez:

The U.S. Fish and Wildlife Service (Service) has reviewed the information provided in your letter, dated July 02, 1998, and is providing a list of endangered, threatened, and proposed species that may occur in the area of the La Jolla quadrangle map, San Diego County, California. The Service understands that Marquez & Associates is performing a review of the Mid-Coast Extension Phase 1 which includes a San Diego River crossing, new light rail tracks, stations at Tecolote, Clairemont and Balboa Avenues and a Commuter Rail Station at Nobel Drive for species potentially utilizing those sites.

We do not have site specific information for these area; consequently, the attached list contains a general list of species that may occur in the vicinity or appropriate USGS 7' quadrangle. We recommend that project proponents seek assistance from a biologist familiar with the habitat conditions and associated species in and around their project site to assess the actual potential for direct, indirect and cumulative impacts likely to result from the proposed activity.

Section 7(a)(2) of the Act requires a Federal agency, in consultation with, and with the assistance of the Service, ensure that any action it authorizes, funds, or carries out, is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat. “Action” means all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies. “Action area” means all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action. To meet this requirement, biological assessments are required under section 7 of the Act if listed species or critical habitat may be present in the area affected by any major construction activity1. If a biological assessment is not required,

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1 "Construction Activity" means any Federal action which significantly affects the quality of the human environment designed primarily to result in the building or erection of man-made structures such as dams, buildings, roads, pipelines, channels, and the like. This includes Federal actions such as permits, grants, licenses, or other forms of Federal authorizations or approvals which may result in construction.
the Federal agency still has the responsibility to review its proposed activities and determine whether listed species will be affected.

Section 7(d) of the Act prohibits Federal agencies and applicants from making any irreversible or irrevocable commitment of resources which has the effect of foreclosing the formulation or implementation of reasonable and prudent alternatives which would avoid jeopardizing the continued existence of listed species or resulting in the destruction of critical habitat. During the assessment or review process, you may engage in planning efforts, but may not make any irreversible commitment of resources. Such a commitment could constitute a violation of section 7(d) of the Act. If a listed species may be adversely affected, agencies should request, in writing through our office, formal consultation pursuant to section 7(a)(2) of the Act. Informal consultation should be used to exchange information and resolve conflicts with respect to listed species prior to a written request for formal consultation.

When it is determined that a proposed action is likely to jeopardize the continued existence of any species proposed for listing or result in the destruction or adverse modification of proposed critical habitat, a Federal agency is required to initiate a conference with the Service. Conferences are informal discussions between the Service and the Federal agency, designed to identify and resolve potential conflicts between an action and proposed species or proposed critical habitat at an early point in the decision making process. The Service makes recommendations, if any, on ways to minimize or avoid adverse effects of the action. The conference process fills the need to alert Federal agencies of possible steps that an agency might take at an early stage to adjust its actions to avoid jeopardizing a proposed species.

Your agency should also contact the California Department of Fish and Game for State listed and sensitive species which may occur in areas of the proposed project. Please note that State listed species are also protected under the provisions of the California Endangered Species Act.

The following plant species may occur in the area of the La Jolla quadrangle and are listed with the California Native Plant Society: San Diego ambrosia (Ambrosia pumila), aphanisma (Aphanisma bilioides), long-spined spineflower (Chorizanthe polygonoides var. longispina), sea dahlia (Coreopsis maritima), variegated dudleya (Dudleya variegata), Coulter’s goldfields (Lastenia glabrata ssp. coulteri), San Diego goldenstar (Muilla clevelandii), Nuttall’s lotus (Lotus muttalliumus), coast woolly-heads (Nemacaulis demudata var. demudata), Brand’s phacelia (Phacelia stellaris), and Nuttall’s scrub oak (Quercus dumosa). Plants listed with the California Native Plant Society are also considered sensitive by the Service. State listed and sensitive species require full consideration under the California Environmental Quality Act (CEQA).

The Service is concerned for the following species which may occur in areas of the proposed project and for which current scientific evidence suggests are declining in numbers: Burrowing owl (Athene cunicularia), coast cactus wren (Campylorhynchus brunneicapillus sandiegoense), Belding’s savannah sparrow (Passerculus sandwichensis beldingi), orange throated whiptail (Cnemidophorus hyperythrus), San Diego horned lizard (Phrynosoma
coronatum blainvillei), two-striped garter snake (Thamnophis couchi hammondii), southwestern pond turtle (Clemmys marmorata pallida), peninsular range shoulderband snail (Helminthoglypta traski coelata), California brackishwater snail (Tryonia imitator), sandy beach tiger beetle (Cicindela hirticollis gravida), tiger beetle (Cicindela latesignata latesignata) and monarch butterfly (Danaus plexippus). Although these species are afforded no governmental protection, conservation measures could help maintain stable populations.

In addition, the Service is concerned for the following habitat community types which could potentially occur in the project area and are becoming rarer due to development, disturbance from highways, foot traffic, water impoundments, irrigation runoff, dumping, grazing, and other natural and human induces impacts: southern maritime chaparral, southern riparian scrub, San Diego mesa hard pan vernal pool, southern coastal salt marsh, and southern cottonwood willow riparian forest.

Our goal would be to provide technical assistance that identifies specific features that could be incorporated into the project description to avoid adverse impacts to listed species. Should you have any questions regarding the species listed or your responsibilities under the Act, please contact Beverlee Mare’chal of my staff at (760) 431-9440.

Sincerely,

[Signature]
Sheryl L. Barrett
Assistant Field Supervisor
Listed Endangered, Threatened and Proposed Species that May Occur in the area of Mid-Coast Extension Phase I San Diego, California. (1-6-98-SP-30)

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<th>Common Name</th>
<th>Scientific Name</th>
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<td>light-footed clapper rail</td>
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<td>California least tern</td>
<td>Sterna antillarum browni</td>
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<td>least Bell’s vireo</td>
<td>Vireo bellii pusillus</td>
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<tr>
<td>coastal California gnatcatcher</td>
<td>Polioptila californica californica</td>
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<td><strong>INVERTEBRATES</strong></td>
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<tr>
<td>San Diego fairy shrimp</td>
<td>Branchinecta sandieggonensis</td>
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</tr>
<tr>
<td>Riverside fairy shrimp</td>
<td>Streptocephalus woottoni</td>
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<td><strong>PLANTS</strong></td>
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<td>Orcutt’s spineflower</td>
<td>Chorizanthe orcuttiana</td>
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<td>San Diego button-celery</td>
<td>Eryngium aristulatum var. parishii</td>
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<td>spreading navarretia</td>
<td>Navarretia fossalis</td>
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</table>

January 25, 1999

REPLY TO: FTA940214A

Leslie Rogers, Regional Administrator
Federal Transit Administration
Region IX
201 Mission Street, Suite 2210
SAN FRANCISCO CA 94105-1839

Re: Interstate 5 Corridor/Mid-Coast Corridor Project, Balboa Extension, San Diego
San Diego County.

Dear Mr. Rogers:

Thank you for submitting to our office your December 11, 1998 letter and Historic Resources Evaluation Report (HRER) regarding the proposed Interstate 5 (I-5) Mid-Coast Light Rail Train (LRT) Project, Balboa Extension, San Diego, San Diego County. The proposed project would begin south of the San Diego River, where the Balboa Extension would diverge from the Mission Valley East LRT line. The Mission Valley line would curve east. The Balboa Extension would continue north on a new bridge over the River and Friars Road, running parallel to and on the east side of the existing tracks. The Balboa LRT Extension would pass under Tecolote Road, under Clairemont Drive, and over Balboa Avenue (SR 274), where it would terminate. Further descriptions of the project are contained on Page 2 of the submitted HRER.

The Federal Transit Administration (FTA) is seeking our comments on its determination of the eligibility of 21 buildings; a segment of the alignment of the California Southern Railroad; and five bridge structures (Recordation Points AT4, AT5, SATB, AT, and AT8), all within the project Area of Potential Effect (APE), for inclusion on the National Register of Historic Places (NRHP) in accordance with 36 CFR 800, regulations implementing Section 106 of the National Historic Preservation Act. Our review of the submitted HRER leads us to concur with your determination the none of the aforementioned properties is eligible for inclusion on the NRHP under any of the criteria established under 36 CFR 80.4. None of the structures have strong associations with significant historical events or persons, nor are they outstanding examples of architectural or engineering design and function.

Thank you again for seeking our comments on your project. If you have any questions, please contact staff historian Clarence Caesar at (918) 653-8902.

Sincerely,

Daniel Abeyta Acting
State Historic Preservation Officer
Mr. Hans J. Kreutzberg, State Historian
Office of Historic Preservation
P.O. Box 942896
Sacramento, CA 94296

Re: Historic Resources Review of the Mid-Coast Corridor Project, San Diego, California

Dear Mr. Kreutzberg:

Enclosed is a negative Historic Resource Evaluation Report for the California Southern Railroad Line in San Diego. The report was prepared by the San Diego Metropolitan Transit Development Board (MTDB) as part of the Mid-Coast Corridor Project.

MTDB and the Federal Transit Administration (FTA) are preparing a Final Environmental Impact Statement (FEIS) for the Mid-Coast Corridor. The Locally Preferred Alternative described in the FEIS would extend the current San Diego light rail transit (LRT) system from the current LRT Station in Old Town north along the old California Southern Railroad, with new stations at Tecolote Road, Clairemont Drive and Balboa Avenue. The Locally Preferred Alternative also includes a proposed new commuter rail station at Nobel Drive for the Coaster system.

On May 19-20, 1998, David S Byrd of JRP Historical Consulting Services performed field recordation of buildings and structures within the designated area of potential effect (APE) for the proposed project. The field recordation resulted in two reports: an Historic Architectural Survey Report (HASR) that treated buildings and structures within the APE; and an Historic Resource Evaluation Report (HRER) that examined the railroad line and appurtenant facilities.

The HASR evaluated 21 buildings and found that none appears to meet the criteria for listing in the National Register of Historic Places. The HRER found that, although the railroad follows the alignment of the historic California Southern Railroad, neither the current line nor any appurtenant facilities appear to meet the criteria for listing in the National Register.
After the field work was completed, JRP was notified of the potential presence of an historic building located within the railroad alignment, just north of where Ticonderoga Street intersects with Morena Boulevard. This potential resource is identified as H-2 in the “Mid-Coast Corridor AA/DEIS/DEIR,” dated August 1992. Although JRP had not specifically searched for H-2 during the May field recordation, the site was part of a segment of the railroad line inspected on foot. Based on this field inspection, JRP confirmed that there is no standing building at the site designated as H-2.

FTA is transmitting the enclosed report as part of its coordination during completion of the subject FEIS, and FTA hereby requests your concurrence in the findings contained in the negative HRER.

If you have questions about the project please call Mr. Hymie Luden, City and Regional Planner at (415) 744-3115.

Sincerely,

[Signature]

Leslie Rogers
Regional Administrator


cc: Dennis Wahl, Metropolitan Transportation Board, San Diego, CA.
    Dave Mansen, De Leuw, Cather & Co., San Francisco, CA.
January 19, 1999

Mr. Dennis J. Wahl  
Senior Transportation Planner  
Metropolitan Transit Development Board  
1255 Imperial Avenue, Suite 1000  
San Diego, CA 92101-7490

Dear Mr. Wahl:

Subject: Proposed Nobel Drive Coaster Station

As you requested, we have reviewed and provided to you our comments on the draft Parklands section of the Mid-Coast Final Environmental Impact Statement (FEIS). The draft section discusses potential impacts and mitigation measures associated with the proposed Nobel Drive Coaster Station. This letter documents the City of San Diego Park and Recreation Department's determination of the status of the land that would be directly affected by the Nobel Drive Coaster Station and the proposed station's relationship to the Rose Canyon Open Space Park.

As we discussed in our previous meetings, the proposed Nobel Drive Coaster Station area is north of the San Diego Northern Railway (SDNR) right-of-way and is not part of the Rose Canyon Open Space Park. According to the City records, the property that would be directly affected by the Nobel Drive Station was deeded as open space to the City of San Diego by the Lake at La Jolla Village Project, or proposed for deeding as part of Five Creeks. The San Diego Park and Recreation Department is responsible for administering this land. In 1987, restoration at this site was approved as mitigation for the Renaissance La Jolla project. Approximately three acres of riparian habitat were restored at this site for mitigation of Renaissance La Jolla wetland impacts. In addition, the developer/builder hydroseeded and planted 8.6 acres disturbed during construction of Nobel Drive (i.e., fill slopes) with a native coastal sage scrub plant mix. Mitigation activities were complete in 1989. In November 1992, Ogden Environmental and Energy Services determined the site had "met the goals of the mitigation plan and its associated permits," and the City released the project's performance bond in February 1993. A biologist retained by MTDB surveyed this site in 1998 and found that the current condition of the wetland mitigation area shows continued problems with hydrology, and contains an abundance of exotic, invasive pampas grass.
Any park, recreation, or refuge activities that may occur within this area of the subject property are incidental to its primary purpose as open space and visual amenity for the community. In addition, the area is not dedicated parkland. Moreover, the land is not considered significant open space due to the condition of existing vegetation (described above) and the fact that the site is surrounded by development on three sides and separated from the Rose Canyon Open Space Park by the existing railroad right-of-way.

The San Diego Park and Recreation Department does, however, affirm its interest in ensuring that MTDB provide adequate mitigation for wetland and coastal sage habitat impacts of the Nobel Drive Coaster Station and mitigation for visual impacts to the Rose Canyon Open Space Park, which is south of the SDNR tracks. We note that the MTDB and the Park and Recreation are currently working together to identify potential mitigation sites for the coastal sage and wetland impacts associated with the proposed station. In addition, MTDB’s proposed provision of interpretive displays on the walkway to the Nobel Drive Station and the landscaping of the retaining wall appear to be appropriate mitigation for the visual impacts to the Rose Canyon Open Space Park.

We look forward to continuing our good working relationship with the MTDB on this important community project.

Sincerely,

JEFFREY C. HARKNESS
Senior Planner

JCH/jch

cc: Donald Steele, District Manager, Northern Parks Division, Park and Recreation Department
Office of the Chief  
Regulatory Branch

February 22, 2000

Mr. Thomas F. Larwin  
General Manager  
Metropolitan Transit Development Board  
1255 Imperial Avenue, Suite 1000  
San Diego, California 92101-7490

Subject: Mid-Coast Corridor—Confirmation of Jurisdiction (ACOE File No. 952017500-MAT)

Dear Mr. Larwin:

Reference is made to your letter dated December 23, 1999 requesting confirmation of the Army Corps of Engineers (Corps) jurisdiction over the unvegetated tributary to Tecolate Creek located adjacent to the proposed site of the Tecolote Station on the Balboa Extension of the Mid-Coast Corridor. The tributary channel is located east of the existing railroad tracks, south of the proposed station site, north of Tecolate Creek and west of Morena Boulevard in the City of San Diego, San Diego County, California.

Based on a site visit and a review of the information provided to us by your staff and consultant, we have determined that your proposed project does discharge dredged or fill material into a water of the United States. Therefore, the project is subject to our jurisdiction under Section 404 of the Clean Water Act and a Section 404 permit is required from our office.

The tributary has been delineated a non-wetland water. Because the acreage of the proposed temporary impact is small, your proposed project would likely be verified under a Nationwide Permit. If the drainage were relocated as part of the proposed project, the Corps would likely consider the realignment self-mitigating.

These finding are based on the facts as they stand in relation to existing regulations. Please be aware that Nationwide permits are subject to revision. Therefore pre-application consultation with the Corps is recommended.
The receipt of your letter is appreciated. If you have any questions, please contact Mark A. Tucker of my staff at (858) 674-5385.

Sincerely,

Mark Durham
Chief, South Coast Section
Regulatory Branch
Mr. Hans J. Kreutzberg, State Historian  
Office of Historic Preservation  
P.O. Box 942896  
Sacramento, CA 94296

Re: Historic Resources Review or the Mid-Coast Corridor Project, San Diego, California

Dear Mr. Kreutzberg:

Enclosed is a negative Historic Resource Evaluation Report for the California Southern Railroad Line in San Diego. The report was prepared by the San Diego Metropolitan Transit Development Board (MTDB) as part of the Mid-Coast Corridor Project.

MTDB and the Federal Transit Administration (FTA) are preparing a Final Environmental Impact Statement (FEIS) for the Mid-Coast Corridor. The Locally Preferred Alternative described in the FEIS would extend the current San Diego light rail transit (LRT) system from the current LRT Station in Old Town north along the old California Southern Railroad, with new stations at Tecolote Road, Clairemont Drive and Balboa Avenue. The Locally Preferred Alternative also includes a proposed new commuter rail station at Nobel Drive for the Coaster system.

On May 19-20, 1998, David S Byrd of JRP Historical Consulting Services performed field recording of buildings and structures within the designated area of potential effect (APE) for the proposed project. The field recording resulted in two reports: an Historic Architectural Survey Report (HASR) that treated buildings and structures within the APE; and an Historic Resource Evaluation Report (HRER) that examined the railroad line and appurtenant facilities.

The HASR evaluated 21 buildings and found that none appears to meet the criteria for listing in the National Register of Historic Places. The HRER found that, although the railroad follows the alignment of the historic California Southern Railroad, neither the current line nor any appurtenant facilities appear to meet the criteria for listing in the National Register.
After the field work was completed, JRP was notified of the potential presence of an historic building located within the railroad alignment, just north of where Ticonderoga Street intersects with Morena Boulevard. This potential resource is identified as H-2 in the “Mid-Coast Corridor AA/DEIS/DEIR,” dated August 1992. Although JRP had not specifically searched for H-2 during the May field recordation, the site was part of a segment of the railroad line inspected on foot. Based on this field inspection, JRP confirmed that there is no standing building at the site designated as H-2.

FTA is transmitting the enclosed report as part of its coordination during completion of the subject FEIS, and FTA hereby requests your concurrence in the findings contained in the negative HRER.

If you have questions about the project please call Mr. Hymie Luden, City and Regional Planner at (415) 744-3115.

Sincerely,

[Signature]
Leslie Rogers
Regional Administrator


cc: Dennis Wahl, Metropolitan Transportation Board, San Diego, CA.
Dave Mansen, De Leuw, Cather & Co., San Francisco, CA.
February 12, 2001

Mr. Mark S. Thomsen  
Senior Transportation Planner  
Metropolitan Transit Development Board  
1255 Imperial Avenue, Suite 1000  
San Diego, CA 92101-7490

Dear Mr. Thomsen:

This letter is in response to your inquiry regarding the ability of the Metropolitan Transit Development Board (MTDB) to gain Third Party Beneficiary status from the City of San Diego for the proposed Mid-Coast Corridor Project.

I understand, based on our telephone conversations, that the Mid-Coast Corridor Project would result in impacts to coastal sage scrub, which provides habitat for the federally-listed threatened California gnatcatcher (*Polioptila californica californica*), and impacts to non-native grassland, which provides foraging habitat for raptors. The City’s Multiple Species Conservation Program (MSCP) covers impacts to the California gnatcatcher and the habitats cited above. I also understand from our conversations that the Mid-Coast Corridor project would involve the use of City-owned land and that MTDB would apply for a Site Development Permit from the City for this project.

Third Party Beneficiary status is granted through the permit process (i.e. City approval of a Site Development Permit) after the project is deemed to be in compliance with the MSCP Subarea Plan, the associated Implementing Agreement, and the Environmentally Sensitive Land (ESL) Ordinance. Third Party Beneficiary status would allow for “incidental take” of endangered species covered under the City’s MSCP. If you have any questions, please give me a call at (619) 236-6545.

Sincerely,

Jeanne Krosch  
Senior Planner  
MSCP

JK/jk

cc: Laura Prickett, Parsons Transportation Group

Planning Department  
202 C St, MS 5A • San Diego, CA 92101-3845  
Tel (619) 236-6479 Fax (619) 236-6478
DATE: July 31, 1995

TO: Dennis Wahl
MTDB Project Manager

FROM: Rick Pilgrim

SUBJECT: Gilman Drive Commuter Rail Station Assessment; Mid-Coast AA/DEIS/DEIR 221-8912

This memorandum documents the feasibility of constructing a Commuter Rail station at the Gilman Drive site. The Gilman Drive site was evaluated as a Park-and-Ride and an LRT Station in the Mid-Coast AA/DEIS/DEIR.

GILMAN DRIVE COMMUTER RAIL STATION DESCRIPTION

The Gilman Drive Commuter Rail Station would be a major access point for the North County Transit District (NCTD) Coaster Commuter Rail line. The station would be located on the site of the Proposed Gilman Park-and-Ride at the interchange of Gilman Drive with I-5.

The commuter rail station was suggested by NCTD in comments on the AA/DEIS/DEIR during the circulation period. The station would be used in place of the proposed Nobel Commuter Rail station which would be located just east of the Genesee Avenue bridge over Rose Canyon.

Among the reasons stated by NCTD and MTDB Project staff for considering the Gilman Drive location over the Nobel Drive site include the following:

- The Nobel site would be on a 2 degree curve and 0.4 percent grade of the rail line, requiring some reconstruction of the rail line and adjustment to the station platforms to meet design requirements. The vertical distance from the platform to Nobel Drive is over 30 feet, requiring ramps down into the parking area. The design at the Nobel site was arrived at after working with NCTD and other railroad consultants.

- The Nobel site is below the level of the surrounding area and is therefore difficult to see. The site is also difficult to access from areas other than North University City until the interchange of
Nobel Drive with I-805 is completed within the next five years. Even with the interchange, the station would not be visible from the freeway. The Gilman site is isolated also, but may appear to be more accessible from I-5 because it is located at a direct off-ramp.

- The Nobel site is on the southern edge of a predominantly residential neighborhood on the southern edge. The Gilman site is significantly removed from adjacent residential uses, and is located along the I-5 freeway.

- The Gilman site would provide a logical focal point for the North University City travel shed, lying in the predominant direction of travel towards Centre City. This would potentially allow for a better intercept point for trips destined to the south than would the Nobel site.

- The use of the Gilman site by commuter rail could provide for a more direct access point from the south to the UCSD campus. The campus is served from the north via the Sorrento Valley commuter rail station.

Gilman Drive Park-and-Ride

A park-and-ride is included in the TSM Alternative at the Gilman Drive location. The commuter rail station at Nobel is included in the TSM/Commuter Rail alternative. The Gilman site is planned to be a smaller facility serving mostly carpool patrons or bicyclists using the Rose Canyon trail system. A total of 70 parking spaces are planned. Route 960 would serve the site. Access to the site is planned from Gilman Drive which becomes La Jolla Colony Drive on the south side of the I-5 interchange. The only driveway to the site would be slightly more than 100 feet east of the I-5 northbound off-ramp to Gilman Drive/La Jolla Colony Drive.

According to the traffic impact analysis for this site, changes to the intersection geometrics in this area will need to consider freeway operations as well as the street traffic operations. While no mitigation measures were identified for the Gilman Drive park-and-ride, an additional right-turn lane for the northbound approach at the Gilman Drive/La Jolla Colony Drive intersection with I-5 was recommended as a mitigation measure to provide acceptable vehicle storage and intersection operations under the LRT Alternatives.

Gilman Drive Commuter Rail Station

Construction of the commuter rail station at the Gilman Drive site would require some modifications to the current plan for the Gilman Park-and-Ride. The commuter rail site was assumed to require the same level of facility improvements that would be found at the Nobel site. The commuter rail activity would be overlaid on the expected park-and-ride activity in an additive fashion.
Figure 1 shows a conceptual layout for the site. The facility would add more parking by following the space between the AT&SF tracks and the I-5 right-of-way currently owned by Caltrans. The park-and-ride was planned for about 70 spaces. An LRT station is also proposed to be located here for either the LRT I-5 or LRT Genesee Alternatives. The commuter rail station would use the lot, and would require more space to provide for both the park-and-ride and commuter rail operations. Additional parking could be developed south of the existing parking area just east of the frontage road on the north side of the interchange if needed.

The physical space available for the site would allow both the commuter rail platform and the LRT tracks and platform for either LRT option. However, the activity level and design of the access driveway and turn lanes from La Jolla Colony Drive for a combined LRT/Commuter Rail station could be more activity than can reasonably be handled at this site.

The site (approximately 3.0 acres) would include a 500-foot long platform on a tangent track section within the AT&SF right-of-way, extending to the north from the north end of the site. From that point to the south, the rail line begins a 2 degree curve which would not be desirable for a platform location. However, this segment is also on a 1 percent grade to the east which would be a greater slope through the station than at the Nobel site. An additional 500 feet of platform length could be provided on tangent track on the east end of the initial platform as demand grows and train length dictates. The elevation difference between the track and La Jolla Colony Drive in this area ranges between 10 and 15 feet, which is less than the elevation difference at Nobel. The difference is much steeper because the roadway is closer to the tracks in this area.

The University City Community plan does not recommend a specific land use designation for the Gilman Drive property as it lies within Caltrans right-of-way. The plan does discuss the future implementation of LRT and/or Commuter Rail. The Land Use and Economic Development Technical Report (October 1991) identifies a community plan implementation overlay zone in the low density neighborhoods which overlook the interchange and Rose Canyon. While minimal parking provided under the Park-and-Ride scenario was not expected to be an adverse impact, the proximity to Rose Canyon and La Jolla Colony's southern edge would cause community concern. Open space would not be impacted by the site. Non-native grasslands dominate the immediate vicinity, while east of the AT&SF right-of-way there is willow scrub and other disturbed habitat. One site of Southern Willow Scrub (Site C-12, Figure 3-20 of the AA/DEIS/DEIR) was identified as impacted and requiring mitigation for any of the Build Alternatives. No other impacts would be expected as construction would be limited to existing roadways and disturbed areas.
The upgrade of the site to be the principal commuter rail station in the North University City area would result in a significant increase in activity as compared to the TSM park-and-ride. Although both LRT Alternatives also include a station at this location, the expected activity levels would be less than that of the commuter rail station. Table 1 compares the levels of activity for each of the alternatives. As indicated in Table 1, peak hour boardings at the Nobel Commuter Rail station are approximately three times greater than for either of the LRT Alternatives at the Gilman station.

For simplicity sake, the comparison in this memo was made assuming all patronage forecast to be generated at the Nobel site would be generated at the Gilman site as well. Factors which could affect this assumption include:

- Ridership could be lower because of less attractive access to UTC and the employment core of University City.
- Lower ridership because South University City (between Rose Canyon and SR-52) would be cut off from station access.
- Higher ridership to UCSD from trips originating from the south.
- Similar ridership from adjacent residential at both locations.

### TABLE 1
**STATION ACTIVITY LEVELS**
**PEAK HOUR VOLUMES**

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
</tr>
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<tr>
<td>Gilman Park-and-Ride</td>
<td>80</td>
<td>45</td>
<td>40</td>
<td>10</td>
<td>10</td>
<td>15</td>
<td>4</td>
</tr>
<tr>
<td>Nobel Commuter Rail Station</td>
<td>410</td>
<td>150</td>
<td>120</td>
<td>55</td>
<td>80</td>
<td>125</td>
<td>10</td>
</tr>
<tr>
<td>Difference</td>
<td>+385</td>
<td>+105</td>
<td>+80</td>
<td>+45</td>
<td>+70</td>
<td>+110</td>
<td>+6</td>
</tr>
<tr>
<td>Gilman LRT I-5</td>
<td>150</td>
<td>60</td>
<td>50</td>
<td>10</td>
<td>10</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Gilman LRT Genesee</td>
<td>130</td>
<td>55</td>
<td>50</td>
<td>10</td>
<td>10</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

SOURCE: Mid-Coast AA/DEIS/DEIR; April 1995.
Four bus routes are planned to serve the Nobel station. Three of the four routes could also be directed to the Gilman Drive site with some out-of-direction travel for two of the routes. The routes would consist of:

- Route 30 - Mira Mesa/La Jolla Express
- Route 961 - Carmel Valley/North University City Circulator
- Route 962 - Mira Mesa/North University City Circulator
- Route 991 - UCSD/ North University City Circulator

The Route 962 would probably not be directed to the Gilman commuter rail site, and would instead serve the Sorrento Valley station only. The three routes would provide 10 buses in the peak hour to the site. The routing through this area is somewhat restricted with service required to use Gilman or La Jolla Colony Drives. To the extent possible, buses would be kept on the street since the site itself would have limited area within which to stage or turn buses. Pull-outs would be used east of the parking entrance on La Jolla Colony Drive for Routes 30, 961 and 991. These pullouts would need to be constructed in a very constrained area, resulting in the need for retaining walls, extensive fill and added costs. Buses may need to be staged elsewhere or arrive on a time-transfer operating scheme to meet trains, especially at the end of the day.

The higher level of peak period activity would require some additional modifications to the streets in the area. The AA/DEIS/DEIR identifies improvements to the I-5 northbound off-ramp to lengthen the storage capacity and create a right-turn lane. The intersection of the ramp terminal is controlled by a signal. The station site entrance is probably too close to this intersection to allow a signal to be installed without direct connection to the two freeway intersection signals and a control scheme to limit the amount of time available to the entrance in favor of the ramp operations.

A barrier median with concrete K-rail currently exists in the median of La Jolla Colony Drive. This median would need to be cut back and a left turn lane into the site constructed. Sight distance would be a critical concern for the left-turn movements into or out of the station because of the curvature in La Jolla Colony Drive to the east and north.

**Traffic Operations**

The expected traffic operations with the Commuter Rail station in place were studied. As shown in Table 1, an additional 125 vehicle trips would access the site in the peak period. The anticipated directional split would be 60 percent to the west up Gilman Drive and 40 percent to the east up La Jolla Colony Drive.

Intersection operations at the I-5 ramp were analyzed. The additional trips would degrade the intersection volume to capacity ratio (V/C) from 0.84 to 0.88, still within the generally acceptable level of service (LOS) D.
Access into the site in the morning peak hour is not a problem, since the heavy
movements are turning from the main road into the site. The problem in this area in
terms of traffic operations would occur as vehicles attempt to exit the site to the west
up Gilman Drive. Approximately 100 feet is available between the I-5 intersection and
the parking lot entry. This distance is not sufficient for storage for both the through
volumes from La Jolla Colony Drive and exiting vehicles. A separate lane would need
to be constructed for the through traffic and for the exiting station traffic to queue at
the I-5 intersection. Figure 2 illustrates this concept.

The median storage lane would be a unique configuration to accommodate the left turn
movements from the station. Merging from this storage lane with the westbound
through traffic would need to occur under the I-5 bridge. These are the same lanes
where vehicles turning left to southbound I-5 must weave into the left-turn lane. This
double-weave would result in unacceptable traffic operations through the interchange.
MID-COAST CORRIDOR
ALTERNATIVES ANALYSIS/DRAFT ENVIRONMENTAL IMPACT
STATEMENT/DRAFT ENVIRONMENTAL IMPACT REPORT STUDY

Figure 2
Gilman Dr./La Jolla
Colony Dr./I-5 (2005)

Metropolitan Transit Development Board
San Diego, California

Source: BRW, Inc., July 1995
However, this configuration could work acceptably with lower volumes. The TSM or LRT Alternatives expected volumes would be less than one-third the volume of the Commuter Rail station. In this case, separate median lane and lane change could be accommodated.

Two options exist to allow for manageable traffic operations with the Commuter Rail station activity levels:

1. Build an underpass to the area between the I-5 northbound on-ramp and La Jolla Colony Drive with the driveway looping back for the right-turn to proceed westbound. This option would add several million dollars to the capital cost.

2. Limit the parking lot to right-in, right-out, left-in only. This would have the result of forcing all exiting traffic east on La Jolla Colony Drive to access Nobel Drive before returning to the west side of I-5, or executing a u-turn at the first opportunity such as at Rosenda Court or Porte La Paz.

Capital Costs

Capital costs for the Nobel Drive Commuter Rail station were estimated to be $4.9 million (1992 dollars). The following capital costs (in millions of 1992 dollars) are estimated to construct the Gilman commuter rail station:

<table>
<thead>
<tr>
<th>Task</th>
<th>Cost</th>
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<tbody>
<tr>
<td>Project Administration</td>
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</tr>
<tr>
<td>Design Engineering</td>
<td>0.34</td>
</tr>
<tr>
<td>Construction Management</td>
<td>0.34</td>
</tr>
<tr>
<td>Right-of-Way</td>
<td>0.00</td>
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<tr>
<td>Box Culvert</td>
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<tr>
<td>Parking Lot</td>
<td>2.0</td>
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<tr>
<td>Platform</td>
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<tr>
<td>Fare Vending Machine</td>
<td>0.12</td>
</tr>
<tr>
<td>Shelters</td>
<td>0.12</td>
</tr>
<tr>
<td>Subtotal</td>
<td>2.64</td>
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<tr>
<td>Contingency (30%)</td>
<td>0.79</td>
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<tr>
<td>Total</td>
<td>3.43</td>
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<tr>
<td>Vehicles</td>
<td>0.00</td>
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<tr>
<td>Fare Collection</td>
<td>0.12</td>
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<tr>
<td>Project Reserve</td>
<td>0.44</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$4.85 Million</strong></td>
</tr>
</tbody>
</table>

Notes: Administration - 5% of ROW and construction.
Engineering - 10% of construction.
Construction Management - 10% of construction.
ROW is assumed to be donated by Caltrans.
Project Reserve - 10% of all costs.
Environmental mitigation costs are yet to be determined but are assumed in the project reserve.
Potential Environmental Impacts

The checklist in Table 2 provides a planning level fatal flaw analysis intended to screen for potentially significant environmental impacts within environmental issue categories defined in the AA/DEIS/DEIR. Each category identifies whether there are potential significant environmental impacts by indicating "Yes", "Maybe" or "No". Those indicating "Yes" or "Maybe" include a more detailed explanation in the following sections, which provide an explanation of the potentially significant environmental impacts.

The "Yes" and "Maybe" designations were based on the identified impacts in the AA/DEIS/DEIR for the Gilman Drive park-and-ride and the Gilman Drive LRT Station. The primary impacts beyond those identified for these facilities is that the Commuter Rail station will require additional right-of-way from Caltrans for expanded parking as well as for the platform within the AT&SF right-of-way.

- Bicycle Facility Impact - Construction of a Commuter Rail station would impact an existing Class I bikeway along the AT&SF tracks. This impact can be mitigated by relocating the bicycle path trail head at the station site. No impacts will remain.

- Traffic operations - The potentially significant impacts that would result with the implementation of a commuter rail station at Gilman Drive were described earlier in this memo under the "Traffic Operations" section. The proposed mitigation would consist of a median storage lane which would necessitate double weaving of westbound through movements and traffic turning left to southbound I-5. This would not result in acceptable traffic operations for the Commuter Rail station, but would work acceptably for the TSM or LRT Alternatives. The low cost option would be to limit the driveway to right-in/right-out/left-in movements. The high cost option would be to construct an exit underpass of La Jolla Colony Drive to reach the north side and allow a right-turn for westbound traffic.

- Visual and Aesthetic Resources - Section 5.4.2 of the AA/DEIS/DEIR indicates that developing the Gilman Drive site would be a significant, long-term adverse impact to the visual environment for adjacent properties. This is due to the introduction of asphalt parking lots in a natural setting. These impacts could be reduced to a less than significant level with the use of natural vegetation, landform grading and berms for partial screening.

- Cultural Resources - The Phase I Cultural Resources Inventory (ERC, November 1991) identified one cultural resource CA-SDI-11,787 which was in the Area of Potential Effect (APE) of the LRT alignment. This site is located to the east of the proposed LRT alignment near the Gilman Drive/La Jolla Colony Drive intersection. This site was undergoing evaluation for significance at the time of the report and would be reevaluated during preliminary engineering.
### TABLE 2
ENVIRONMENTAL CHECKLIST

<table>
<thead>
<tr>
<th>Environmental Impact</th>
<th>Potentially Significant</th>
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<tbody>
<tr>
<td></td>
<td>Yes</td>
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<tr>
<td>Traffic and Transportation</td>
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<tr>
<td>- Bicycle Facility Impact</td>
<td>X</td>
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<tr>
<td>- Traffic/Intersection operations</td>
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<tr>
<td>Land use and Economic Development</td>
<td></td>
</tr>
<tr>
<td>- Conformity with Planning Documents</td>
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<tr>
<td>- Displacements/Relocations</td>
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<tr>
<td>- Employment</td>
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<td>- Enhancement of Surrounding Dev.</td>
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<td>Neighborhoods</td>
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<tr>
<td>- Barriers to Social Interaction</td>
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<tr>
<td>- Public Facilities &amp; Services</td>
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<tr>
<td>Safety and Security</td>
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<td>Visual and Aesthetic Resources</td>
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<td>Air quality</td>
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<td>- Travel Related Impacts</td>
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<td>- Local Impacts</td>
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<td>- Conformity with RTIP</td>
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<td>Noise and Vibration</td>
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<td>- Noise</td>
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<td>- Vibration</td>
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<td>- Geotechnical</td>
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<td>Hazardous Wastes</td>
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</tr>
</tbody>
</table>

**SOURCE:** Mid-Coast AA/DEIS/DEIR; April 1995; BRW, Inc.; July 1995
A stand of Southern Willow Scrub will be impacted by the construction of the parking area south and west of the La Jolla Colony Drive intersection with I-5. The Willow Scrub stand would be impacted by any of the Build Alternatives (TSM, LRT or Commuter-Rail) with a site at this location. Mitigation of replacement is described in the AA/DEIS/DEIR.

Construction Impacts - The majority of construction impacts are short-term and insignificant. However, potentially significant impacts could result to accessibility, water resources, utilities and Geotechnical issues. Although, accessibility impacts were not found for the LRT Alternative at this site because the majority of construction would take place on property outside the street right-of-way, the Commuter Rail station would require additional geometric improvements to the adjacent circulation system. These construction accessibility impacts would be short-term.

Erosion control measures would be used to prevent erosion and sedimentation during construction of the site. In addition, utilities not identified may be encountered during construction. These facilities would be relocated or protected in place. Lastly, alluvial soils are susceptible to settlement from construction of embankments and the possibility of liquefaction is present. Mitigation would consist of the use of exploratory borings at the Gilman site during preliminary engineering and remedial grading of fill soils to lessen potential impacts to an insignificant level.
DATE: July 31, 1995

TO: Dennis Wahl
MTDB Project Manager

FROM: Rick Pilgrim
Kay Bremer

SUBJECT: Ashton Street Station Concept Assessment;
Mid-Coast AA/DEIS/DEIR 221-8912

This memorandum documents the Ashton Street LRT station proposal and
assesses the advantages and disadvantages of this station as compared to
the planned Clairemont Drive and Tecolote Road LRT stations. A
conceptual station layout is presented. The analysis also includes a brief
background discussion, emphasizing the impetus for the proposal and the
initial findings by MTDB.

Background

In a letter dated July 12, 1993, Mr. Jim Neri, ASLA, and Mr. Martin
Schmidt, ASLA, presented the idea of constructing a trolley
station/pedestrian bridge at Ashton Street and Morena Boulevard, midway
between the planned Clairemont Drive and Tecolote Road LRT stations, as
well as midway between the Old Town Transit Center and the planned
Balboa Avenue Station. The Ashton Street station was proposed to replace
both the Clairemont Drive and Tecolote Road station.

The primary impetus for this proposal was Mr. Neri and Mr. Schmidt's
involvement with the Mission Bay Park Master Plan. Concerns were raised
during this process regarding the need for safe pedestrian access to the
park for Clairemont and Bay Park residents across I-5. Access is currently
provided via the Clairemont Drive and Sea World Drive/Tecolote Road
overcrossings. The Ashton Street station concept was premised on three
reasons as stated in the July 12, 1993 letter: Circulation, economics, and
public safety.

MTDB responded to the Ashton Street station proposal in a letter dated
December 1, 1993. This letter included a response to the circulation,
economic and public safety issues presented in the July 12, 1993 letter, and
contained a memorandum which analyzed the three station sites in terms
of population, employment, trip-end information, field evaluations and
existing physical conditions. Table 1 summarizes the issues and the initial
response prepared by MTDB.
### TABLE 1
INITIAL RESPONSE TO ASHTON STREET STATION PROPOSAL

<table>
<thead>
<tr>
<th>Ashton Street Site Issue</th>
<th>MTDB Initial Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>The lack of congestion at the Ashton Street location would lessen the traffic impacts at</td>
<td>The Mid-Coast traffic analysis concluded that no increase in congestion would occur surrounding the Tecolote Road and Clairemont trolley stations, and that forecasted traffic volumes on I-5 decreased.</td>
</tr>
<tr>
<td>the Clairemont Drive and Tecolote Road freeway ramps.</td>
<td></td>
</tr>
<tr>
<td>Access to both the neighborhood and to the I-5 and I-8 freeways is more direct from this</td>
<td>Access to the neighborhood would be more direct. However, access to the Ashton Street site would not be more direct from I-5 or I-8 as compared to the Tecolote Road or Clairemont trolley stations.</td>
</tr>
<tr>
<td>location.</td>
<td></td>
</tr>
<tr>
<td>There is an existing bus stop near the site for intermodal connections.</td>
<td>One bus route would serve Ashton Street. Two to three (2-3) bus routes would serve Clairemont Drive and possibly one would serve Tecolote Road.</td>
</tr>
<tr>
<td>It is a practical distance between the Old Town and Balboa stations.</td>
<td>Ashton Street is well located. However, if one station is constructed it would most likely be Clairemont Drive due to its superior accessibility, higher population and employment, bus connections and existing link to Mission Bay Park.</td>
</tr>
</tbody>
</table>

#### Economics

| One LRT station could be built instead of two.                                           | As stated above, if one station were constructed, it would most likely be at Clairemont Drive.                                                                 |
| The small commercial district at Ashton Street would benefit from riders and park users.| The commercial district and the Hilton would benefit from the Ashton Street station. However, both the Tecolote Road and Clairemont Drive site have higher levels of and would serve more employment. |
| Caltrans has a responsibility to safely connect the neighborhood with the park and      | MTDB is unaware of any obligation Caltrans has to provide a pedestrian connection at this location. Access is currently available at the Tecolote Road and Clairemont Drive bridges. |
| should bear the costs of the bridge.                                                    |                                                                                                                                                        |

#### Public Safety

| Trolley riders and residents could directly access the park without having to cross      | A non-vehicular pedestrian bridge would provide safer pedestrian access to the park. However, improvements (i.e. curb cuts, signalized intersections) would be made to the Tecolote Road and Clairemont Drive bridges to improve pedestrian access/safety. |
| dangerous freeway ramps with 10" high curbs and no curb cuts.                           |                                                                                                                                                        |
| Disabled access to the park could be proactively provided.                             | The Ashton Street bridge would provide disabled access to the park as neither the Tecolote Road or Clairemont Drive bridge currently provide disabled access. However, improvements would be made to these bridges to ensure disabled access. |
| The pedestrian bridge could originate at the trolley station and end at the existing   | The Clairemont Drive bridge landing has amenities similar to those of the proposed Ashton Street bridge, and the Mission Bay Park Information Center is located there. The Ashton Street bridge would provide Hilton employees and guests with improved access to the trolley system. |
| lawn across I-5 near a guarded beach and tot lot.                                       |                                                                                                                                                        |

**SOURCE:** MTDB; BRW, Inc.; June 1995.
Station Site Descriptions

This section provides a brief description of the planned Tecolote Road and Clairemont Drive trolley stations as contained in the Mid-Coast AA/DEIS/DEIR. An assessment of the proposed Ashton Street station in terms of potential environmental consequences is also presented, as well as a comparison between the three station sites.

Tecolote Road Station

Existing land uses surrounding the Tecolote Road station site are primarily commercial and industrial. Several office, showroom and industrial buildings are located in the immediate vicinity of the site. A nursery, various restaurants and small hotels are located south of the Tecolote Road bridge, while a concrete flood channel runs parallel to the bridge to the north. Single-family residences, mobile homes and medium density apartments are located at the east end of the Tecolote Road bridge. Residents cannot directly access the bridge as the streets end in cul-de-sacs and are bordered by a fence and a steep hillside. These physical constraints force residents to walk out of direction to the east to Morena Boulevard then west on Tecolote Road to access the bridge and reach Mission Bay Park.

The Tecolote Road bridge is a full diamond interchange. Sidewalks are provided on both sides of the bridge; however, there are no curb cuts and curb height is approximately 10 inches. Traffic signals are provided at each on- and off-ramp for east-west pedestrian movements; there is no bike lane. The west end of the bridge terminates near the entrance to Fiesta Island, but direct pedestrian access is not provided, forcing pedestrians to walk approximately 500 feet to the south to reach the park.

The Tecolote Station would be located under the existing overcrossing extending north adjacent to Morena Boulevard. Two shelters would be provided for each platform. Improved pedestrian access is included in the Tecolote Road station plan. Pedestrians would access the bridge from the station platform area via vertical circulation. An elevator would be provided for disabled persons so that they are not forced to travel one mile out-of-direction from the station to the east end of the bridge and then travel west across the bridge to the park. Curb cuts on the bridge would be required. Improved pedestrian linkages at the west end of the bridge to Fiesta Island and Mission Bay Park could be included as part of the overall station design; however, the Clairemont Station would remain the primary point of access to Mission Bay.

Auto access to the station is provided via West Morena Boulevard. A "Kiss-n-Ride" auto drop-off area and 80 parking spaces will be provided. A traffic signal would be constructed at the entrance to the station area. Auto access is generally direct from I-8, although I-8 is approximately 1.2 miles from the station. Circuitous routing is required for vehicles exiting at the Tecolote Road/Sea World Drive off-ramp from I-5.
Bus service is currently provided in the area by Routes 5 and 105. Route 105 will be terminated near Jutland Drive as part of the Mid-Coast LRT Alternative. Route 5 could be rerouted from Morena Boulevard to West Morena Boulevard with no out-of-direction travel to access the station. However, this option is not currently included in the Mid-Coast LRT Alternative.

Clairemont Drive Station

The Clairemont Drive site is surrounded by several high-density residential units and diverse commercial uses. Pedestrians can easily access the station site from the east. The Clairemont Drive bridge connects to the Mission Bay Park San Diego Visitor Information Center. Various recreational amenities are also provided in the general area. The bridge provides both northbound and southbound access to I-5. The southbound on- and off-ramps form a half clover leaf configuration, while the northbound ramps form a "T" configuration. Caltrans currently utilizes yield signs to control traffic on the southbound off-ramp. Traffic signals are present at the northbound ramps.

Standard five feet wide sidewalks are provided on both sides of the bridge. As is the case with the Tecolote Road bridge, no curb cuts exist and curb height is approximately 10 inches. The sidewalks do not extend to Mission Bay Park, requiring pedestrians to utilize the on-site roadways or grass area. No bike lane is provided on the bridge, although East Mission Bay Drive has a designated Class III Bike Route, and a Class I bike path is provided to the west along the bay.

The planned Clairemont Drive station would be located under the existing overcrossing extending south adjacent to Morena Boulevard. Two shelters would be provided for each platform. An existing staircase leads to the station site along the south side of the bridge. An elevator will be provided so that disabled persons would not be forced to travel approximately 400 feet out of direction to the east to access the bridge and the park. Curb cuts would be added for disabled and wheelchair access. Additional improvements to increase pedestrian safety such as reconfiguring the southbound off-ramp, additional signage and/or traffic signals, and improved linkages to the park would also be included as part of the station design.

An example of these types of improvements would be to channelize the southbound I-5 loop off-ramp as it intersects Clairemont Drive. The free right-turn to eastbound would be brought to a controlled stop. A pedestrian crosswalk would then be constructed leading to the park.

Auto access is provided from Morena Boulevard. The street pattern in the immediate vicinity of the station site (i.e. one-way and discontinuous streets) results in some circuitous routing to access the station and parking areas. A total of 100 parking spaces will be provided, with 50 on each side of the platform area along Morena Boulevard and within the rail right-of-way. A bus and auto drop off area will be located just south of the platforms.
The station site is not currently served by any bus routes. Under the Mid-Coast LRT Alternative, this station would be served by Route 30 from the north, which would terminate at the Clairemont station. Route 25 would serve the station from the east. Route 5, from the south, currently turns east south at Milton Street but could be rerouted (approximately 0.8 mile out-of-direction) to serve the station. This option would require the route to continue north on Morena Boulevard, turn east on Jellet Street, north on Chicago Street, and west on Ingulf Street to the bus drop-off, then south to Milton Street to resume its regular routing. This option has not been considered as part of the Mid-Coast LRT Alternative.

**Ashton Street Station**

The Ashton Street station would be located 0.65 miles south of the planned Clairemont Drive station and 0.8 miles north of the Tecolote Road stations, approximately midway between the two stations where Ashton Street meets Morena Boulevard. Two small shelters would be provided for each platform. As with the Clairemont Drive and Tecolote Road stations, lighting and access improvements would be required. A pedestrian bridge would be constructed from the station site to Mission Bay Park, providing direct access to the recreation area for residents in the immediate area and trolley patrons. Figure 1 presents a conceptual site plan for the proposed Ashton Street Station.

As indicated in Figure 1, the Ashton Street station would need to provide 180 (100 at Clairemont site and 80 at Tecolote site) parking spaces to meet demand in the area. Although some patrons may travel to the Balboa or Old Town stations, the Ashton site could generate additional demand. One-way access to parking located within the AT&SF right-of-way would be provided due to the lack of excess street right-of-way or developable land in the vicinity of the site. Parking would extend to the north and south from the station platforms similar to the parking layout at the Clairemont Drive station. A bus stop and auto drop-off would be provided on the west side of Morena Boulevard adjacent to the platform area. An on-street bus stop would also be provided on the east side of Morena Boulevard.

The land uses to the east of the proposed station site consist primarily of single-family residences with some multi-family residences closer to Morena Boulevard. A local commercial core area is also located along Morena Boulevard, comprised of small retail businesses and restaurants. An Early Learning Center is located at Ashton Street and Chicago Street, and a neighborhood market is directly across the street.

Pedestrian access is generally direct from the south, southeast and north, although sidewalks are not present in several residential areas. Large commercial/industrial uses (e.g. car dealerships/services) preclude direct access from the northeast. Access from the south is somewhat limited by Tecolote Canyon and steep terrain developed with single-family residences. Overall, the local circulation system leads to a limited service area, primarily consisting of single-family residences and few employment/activity
MID-COAST CORRIDOR

ALTERNATIVES ANALYSIS/DRAFT ENVIRONMENTAL IMPACT STATEMENT/DRAFT ENVIRONMENTAL IMPACT REPORT STUDY

Metropolitan Transit Development Board
San Diego, California

Figure 1
Ashton Street Station Area
Conceptual Site Plan

Source: BRW, Inc., July 1995

* Traffic Signal

90 PARKING SPACES (ONE-WAY)

VERTICAL CIRCULATION

PED BRIDGE

NEW SIGNAL

BUS STOP

90 PARKING SPACES (ONE-WAY)

BUS STOP

CHICAGO ST.

NAPIER ST.

ASHTON ST.
centers. Vertical circulation would be required for disabled persons as is the case for the Clairemont Drive and Tecolote Road stations.

Regional auto access would generally be direct but would require patrons to travel a fairly long distance (two miles) to access the station from I-8 and Old Town via Morena Boulevard. Traffic from I-5 would utilize the Clairemont Drive or Sea World Drive/Tecolote Road exits. Access to the site would be provided from Morena Boulevard.

The Ashton Street station site is currently served by Routes 5 and 105. As stated previously, the Mid-Coast LRT proposes that Route 105 terminate from the north near Jutland Drive. There is a bus stop across Morena Boulevard from the proposed station site. However, because there is no traffic signal to allow for safe pedestrian access to and from the station, a traffic signal may be warranted at this site given the expected increase in vehicular and pedestrian activity.

Station Site Comparison

This section provides a comparison of the three station sites. Several issues are taken into consideration during this evaluation. In addition to the above station site descriptions which address existing land uses, local and regional access, pedestrian access, existing and planned bus routes, and required/recommended improvements, this evaluation presents population and employment data for 1/3 and one mile radii around each site. Potential station site expansion, transit-oriented development opportunities, estimated daily boardings and environmental consequences of the station sites must also be addressed.

Table 2 presents 1990 and 2010 population and employment information for each station site. Year 2010 data is not available for the Ashton Street station as it was not included in the initial station site planning process.

**TABLE 2**

<table>
<thead>
<tr>
<th>Station</th>
<th>1/3 Mile Radius</th>
<th>One Mile Radius</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tecolote Road</td>
<td>462</td>
<td>780</td>
</tr>
<tr>
<td>Clairemont Drive</td>
<td>944</td>
<td>1,590</td>
</tr>
<tr>
<td>Ashton Street</td>
<td>861</td>
<td>N/A</td>
</tr>
</tbody>
</table>

SOURCE: MTDB; December 1993.
As indicated in Table 2, the 1990 population within 1/3 mile of the station site was highest at the Clairemont Drive station. While the Ashton site has a greater population than the Tecolote Road station, Tecolote Road has significant employment, which is expected to increase by approximately 11 percent by Year 2010. Both employment and population are expected to increase by 42 percent and 68 percent, respectively, within 1/3 mile of the Clairemont Station site by Year 2010.

Daily boardings (2005) are estimated to be 170 at the Tecolote Station and 2,230 at the Clairemont Drive Station for the LRT I-5 alignment. Boardings are slightly lower with the LRT Genesee alignment. Table 3 presents station access by mode for the Tecolote Road and Clairemont Drive stations. Because the Tecolote and Clairemont parking areas were combined to provide 180 spaces at the Ashton site, auto park and auto drop-off access modes will be similar to the station total shown in Table 3.

One of the major modes of access of the Clairemont Station is feeder bus. The highest volumes are delivered from the Route 30 which travels the coast from La Jolla through Pacific Beach on limited-stop express service. Because of the additional time and distance to the Ashton site, the Route 30 would be redirected into the Balboa Station instead since this location is closer for patrons. Since only one, rather than two bus routes will serve the Ashton station, bus access can be expected to be lower. Walk access would also be lower than Clairemont given the lower residential densities to the east of the site as compared to the Clairemont station.

**TABLE 3**

**STATION ACCESS (LRT I-5 ALIGNMENT)**

<table>
<thead>
<tr>
<th>Station</th>
<th>Daily Boardings</th>
<th>Daily Totals Mode of Access</th>
<th>Peak Hour Boardings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tecolote</td>
<td>170</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Clairemont</td>
<td>2,230</td>
<td>100</td>
<td>90</td>
</tr>
<tr>
<td>Total</td>
<td>2,400</td>
<td>150</td>
<td>140</td>
</tr>
</tbody>
</table>

SOURCE: Mid-Coast AA/DEIS/DEIR; April 1995.

In terms of ridership it can be seen that the Ashton Street site, while most likely having higher ridership than the Tecolote Road station, offers no significant advantages over the Clairemont station. Daily boardings would be less at the Ashton Street station than are expected at the Clairemont station itself, primarily due to lower bus access. Bus access would need to be increased to provide a higher level of ridership. Given the limited
right-of-way and space to provide bus bays for layovers and increased frequency, additional bus service is unlikely.

While all three stations are limited in terms of station site expansion, the Clairemont Drive site offers the greatest possibilities for joint-use parking with commercial areas to the east. In addition, the Clairemont site was identified in the AA/DEIS/DEIR as one of three station sites with the potential for higher intensities and joint-use development, and discussions have been held with property owners and developers in the area. The Tecolote site may also have the potential for higher intensities, especially in terms of employment in commercial/light industrial uses.

The Ashton Street site is proposed to be a neighborhood serving station. However, without the construction of the Tecolote Road or Clairemont Stations, this site would become a major access point for LRT patrons and visitors, and supply 180 parking spaces. There is potential for higher intensities and transit-oriented redevelopment. However, the expansion of this station is limited given the lack of right-of-way, and single-family residents may be opposed to higher intensities and the accompanying increased pedestrian/vehicular traffic.

One of the most apparent advantages of the Clairemont Drive and Tecolote Road stations is the existing link to Mission Bay Park on the I-5 overcrossings. Although improvements will be required to the southbound off-ramp, on the bridges and surrounding linkages/sidewalks, these improvements will affect the community less in terms of visual and construction impacts and most likely cost less than constructing a new pedestrian bridge overcrossing.

Potential Environmental Impacts

Service operations of the LRT Alternative would result in up to 16 trains in both directions during the peak hours. Environmental impacts as a result of LRT operations were found to be less than significant at the Clairemont Drive and Tecolote Road station sites under all environmental categories. Land use/displacement, safety/security, noise, visual, traffic and construction impacts were screened at the Ashton Street site to identify fatal flaws as these are generally of highest concern in residential communities.

As stated previously, an LRT Station at the Ashton Street site may influence locational decisions for minor developments. It is not expected that such developments would be of sufficient magnitude to significantly affect Clairemont or Bay Park neighborhoods. While higher intensities are possible through redevelopment in the Ashton Street site area, ultimate land use decisions must come from Community Plan updates and the City of San Diego. Discussions have not been held between MTDB and property owners/developers to date regarding potential joint use developments. In addition, no private right-of-way would be required as the station would be constructed within AT&SF right-of-way. Construction of the pedestrian overcrossing would be coordinated
with Caltrans, the City of San Diego, and the Coastal Commission as the station area lies within the Coastal Zone.

Safety and security has been expressed as a concern of the LRT Alternative. While no significant impacts are expected near trolley stations, MTDB seeks to maximize security at trolley stations by ensuring that areas are visually accessible. Other security design-related features as indicated in the AA/DEIS/DEIR include the use of wrought iron fencing rather than solid walls, lighting, public telephones, and chain link fencing along the right-of-way. The Ashton Street station would utilize these design features to maximize security of patrons.

Noise levels were measured at the Littlefield/Morena Boulevard location, which is approximately 600 feet south of the Ashton Street site. The AA/DEIS/DEIR indicates that noise impact criteria were not exceeded for any portion of the LRT south segment, primarily because of noise from traffic on adjacent arterials and I-5.

Visual impacts would be significant due to the construction of the pedestrian bridge as the I-5 corridor was identified as a scenic visual resource with a large number of viewers (approximately 200,000 ADT). The portion of the corridor through Mission Bay Park was also identified as a high visual quality area. The Visual Impact Assessment Technical Report (KTU+A; February 1993) states that the determination of a significant visual impact is a change to the visual environment that is visible to a moderate level of viewers (1,000 or more) and that "permanently changes the landform character of an area and dominates the view by disrupting the unity of visual scene", and/or "clearly contrasts with the existing visual elements of a high quality landscape unit". The bridge would impact the visual quality for both I-5 drivers and Bay Park and Clairemont Mesa residents. This would result in a significant, long term impact. The impact can be reduced to a level less than significant if the bridge is designed in accordance with the Clairemont Mesa Community Plan and Mission Bay Park Master Plan objectives and constructed with appropriate materials.

Traffic impacts would be expected to be less than significant. The change in screenline average daily traffic (ADT) volumes for the east/west screenline north of Tecolote Road decreases with the LRT Alternative as compared to the No-Build alternative.

The AA/DEIS/DEIR indicated that construction impacts to utilities are potentially significant for the LRT Alternative. Utilities would be identified during preliminary engineering. Construction impacts to residents and business would be significant but short-term during the construction of the station and pedestrian bridge. Construction would be carefully scheduled and monitored to ensure safe vehicle and pedestrian access as well as alternate routes to and from residences and businesses along Morena Boulevard.
CONCLUSIONS

The Ashton Street station would be regionally accessible by auto, and locally accessible by bus, walk and bicycle. The station would not be any more accessible than the Tecolote Road and Clairemont Drive stations, and is expected to have lower daily boardings than the Clairemont Station. This is primarily because the local street system leads to a smaller service area. Furthermore, the proposed Ashton Street bridge, while primarily neighborhood serving, has the potential to significantly impact the visual quality of this portion of the Mid-Coast corridor.

Clairemont Drive is the most appropriate location for an LRT station in the Bay Park/Clairemont community. Ashton Station would be too close to the Clairemont Drive station if it was to replace the Tecolote Road station. Although Tecolote Road is not expected to generate a large portion of ridership, it is located in a high employment area and is the logical midpoint between the Old Town and Clairemont stations.

The station and pedestrian bridge would primarily serve Bay Park and Clairemont residents and employees of the San Diego Hilton on Mission Bay. A new pedestrian bridge would not serve Mission Bay Park and residents of the San Diego region significantly better than the existing bridges with improvements at the Tecolote Road or Clairemont Drive stations. It should also be recognized that an additional bridge is not a necessary component of the LRT Alternative and does not further the objectives of improving regional mobility. Furthermore, the Mission Bay Master Plan indicates that Clairemont Drive is to be the primary access point to link with the Information Center.

The following improvements should be made to the existing bridges and station plans in order to avoid the long-term significant visual impact resulting from the Ashton Street bridge and improve access:

- Vertical circulation in the form of elevator and stairs should be provided at both the Tecolote and Clairemont stations to ensure adequate pedestrian and disabled access.

- Curb cuts, additional signals for safe pedestrian crossing at on- and off-ramp intersections (Clairemont Drive only), and improved linkages/sidewalks to Mission Bay Park from both existing bridges should be provided. This includes the reconfiguration of the I-5 southbound off-ramp which currently has a free-right to eastbound Clairemont Drive controlled by a yield sign.

- Route 5 should be considered for rerouting to serve both the Tecolote Road and Clairemont Drive stations.
APPENDIX K
Letters of Support
RESOLUTION NUMBER R-286634
ADOPTED ON 11/27/84

WHEREAS, the Mid-Coast Transportation Improvement program evaluated the transportation needs within Interstate 5 corridor extending from Old Town to North University City for nearly six years; and

WHEREAS, the Locally Preferred Alternative identifies transportation improvement projects that are recommended for implementation, based upon the results of the Mid-Coast study; and

WHEREAS, the Local Preferred Alternative is consistent with the goals of the affected City of San Diego community plans and Progress Guide and General Plan; and

WHEREAS, over 100 public meetings have been held during the course of the Mid-Coast transportation study; and

WHEREAS, a Draft Environmental Impact Report was prepared and a Final Environmental Impact Report was certified in accordance with the California Environmental Quality Act; and

WHEREAS, on October 26, 1995, the Metropolitan Transit Development Board (MTDB), with participation from City of San Diego representatives, unanimously approved the Mid-Coast Locally Preferred Alternative; and

WHEREAS, a strong show of local support will assist MTDB in its efforts to gain the approval of the Federal Transit Administration and to secure federal capital dollars necessary to implement the project; NOW, THEREFORE,

-PAGE 1 OF 2-
K-1
BE IT RESOLVED, by the Council of The City of San Diego, that the Council supports the Locally Preferred Alternative (LPA) for the Mid-Coast corridor which consists of:

1. a Coaster Rail station at the Nobel Drive site and the addition of parking at the existing Sorrento Valley Station;
2. the Mid-Coast Light Rail Transit (LRT) line between Old Town and North University City; and
3. High Occupancy Vehicle (HOV) lanes in the median of Interstate 5 between the Carmel Mountain Road and Interstate 8.

APPROVED: JOHN W. WITT, City Attorney

By [Signature]
John K. Riess
Senior Deputy City Attorney

JKR:pev
11/15/95
Gr.Dept: Council.Mathis
R-96-601
Form=r-t
Passed and adopted by the Council of The City of San Diego on __________, by the following vote:

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<th>Yes</th>
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SUSAN GOLDING  
Mayor of The City of San Diego, California.

CHARLES G. ABDELNOUR  
City Clerk of The City of San Diego, California.

By _________________________, Deputy.

Office of the City Clerk, San Diego, California

Resolution K-286634  
Number:  
Adopted:  

K-3
May 25, 1993

Mr. Dennis Waht  
Senior Transportation Planner  
Metropolitan Transit Development Board  
1255 Imperial Avenue, Suite 1000  
San Diego, California 92101

Dear Dennis:

At the April 28, 1993 meeting for the Pacific Beach Community Planning Committee, a motion was made to support the Morena Boulevard and Balboa Avenue Station project proposed by the MTDB.

For: 19
Against: 0
Abstention: 0
Motion Carried

We thank you for the time you took to explain MTDB current and future plans affecting our community.

Sincerely,

Michele Addington
Michele C. Addington  
Corresponding Secretary  
Pacific Beach Community Planning Committee

mtdb.493
March 8, 1993

Councilmember Valerie Stallings
202 C Street
San Diego, CA 92101

Dear Valerie:

At the March 4, 1993 meeting of the Clairemont Mesa Planning Committee, the Board passed a motion recommending that the Mid-Coast section of the light rail be prioritized as the next section scheduled for construction (after the Mission Valley section). Further, if the controversy over routing through University City is slowing the process and if splitting construction of the Mid-Coast line into two phases could in any way accelerate the construction of the southern section of this line, the Committee strongly urged this alternative be pursued.

During discussion about the motion, various members expressed strong support for the trolley line and one member, Merlin Osterhaus, noted he had material on file stating the Mid-Coast line would be in operation by now. He, along with others, expressed disappointment and concern over subsequent delays that have prevented this line from being constructed per the schedule originally presented to the committee several years ago.

The Balboa/Morena station in particular, once constructed, will be a much-utilized point of departure, serving two well-populated communities, Clairemont and Pacific Beach. It is extremely important the construction of this section of the light rail move forward expeditiously.

Best regards,

Tim Graves
Chairman, Clairemont Mesa Planning Committee

cc: Pam Slater, Supervisor, Third District

MTDB Board Members:

James R. Mills, Chair
Jim Bartell
Dr. Robert Burns
Michael Dalla
Steve Haskins
Judy McCarty
Ron Roberts
Abbe Wolfsheimer

Leon Williams, Vice-Chair
Thomas Behr
Robert Chamberlain
Robert Emery
Jay Lasuer
Jerry Rindone
Joan Shoemaker

P.O. Box 17204, San Diego, California 92177
K-5
MOTIONS MADE FROM UCPG MEETING OCTOBER 10, 1995

Agenda Item NO. 8:

MTDB MID-COAST CORRIDOR REPORT

1st Motion---

George Lattimer made a motion that the UCPG is recommending the strong support of the Nobel Coaster station and to eliminate the consideration of the Gilman station, with the following as a basis for the statement of support:

- Better proximity to the whole community
- Will produce equal or greater ridership
- Closer to the University Towne Center transportation HUB
- Will be able to provide greater parking capacity

Motion was seconded.

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<th></th>
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<tr>
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<td>1</td>
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<tr>
<td>Abstain</td>
<td>1</td>
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2nd Motion---

Jack McRoskey made a motion recommending the strong support of the UCPG of implementing HOV lanes on the I-5 corridor. Motion was seconded.

<table>
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<td>Yea</td>
<td>12</td>
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<tr>
<td>Nay</td>
<td>1</td>
</tr>
<tr>
<td>Abstain</td>
<td>1</td>
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</tbody>
</table>
3rd Motion---

George Lattimer made a motion recommending UCPG support the proposed LRT service to University City, utilizing the I-5 alignment, with **substantial reservations** regarding the following issues to be further studied:

- Station locations be reviewed
- Vertical alignment
- Parking
- Ridership justification
- Noise issues
- Vibration
- Electromagnetic interference

Motion was seconded

**Vote**

Yea 13
Nay 0
Abstain 1
APPENDIX L

Mid-Coast Corridor Project NEPA Re-Evaluation
Technical Memorandum
Mr. Thomas F. Larwin  
General Manager  
Metropolitan Transit Development Board (MTDB)  
1255 Imperial Avenue, Suite 1000  
San Diego, CA 92101-7490

Re: Reevaluation of the Mid-Coast Corridor Draft Environmental Impact Statement (DEIS)

Dear Mr. Larwin,

FTA has received your reevaluation, in a letter dated March 19, 2001, of the Mid-Coast Corridor DEIS. When a Final Environmental Impact Statement (FEIS) is not submitted within three years of the circulation of the DEIS, the DEIS must be reevaluated to determine if the preparation of a new or a supplemental DEIS is necessary. This process is outlined by regulation in 23 CFR Part 771.129(a). Since the Mid-Coast Corridor DEIS was circulated in 1995, it clearly comes under the reevaluation criteria.

Upon reviewing the information in your letter and the attached Technical Memorandum, FTA concludes that the passage of time has not resulted in changes to the affected environment or to the project itself that would result in significant impacts not already evaluated in the DEIS; therefore, neither a new nor a supplemental DEIS is necessary.

The submitted reevaluation, as well as this correspondence, should be incorporated into the FEIS when it is submitted to FTA. Additionally, the need for the reevaluation and FTA’s determination regarding the reevaluation should be described in the introductory portion of the FEIS.

If you have any questions, please contact Tim Pennington, Planner, at 415-744-3116.

Sincerely,

[Signature]

Leslie T. Rogers  
Regional Administrator

MAY 09 2001

Parsons Transportation Group  
San Francisco
TECHNICAL MEMORANDUM

TO: File
FROM: Parson Transportation Group
DATE: December 28, 2000
RE: Mid-Coast Corridor Project NEPA Re-Evaluation

In February 1995 the Metropolitan Transportation Development Board (MTDB) circulated for public review the Mid-Coast Corridor Alternatives Analysis/Draft Environmental Impact Statement/Draft Environmental Impact Report (AA/DEIS/DEIR). After public review of the AA/DEIS/DEIR, MTDB approved Resolution No. 95-35 in October 1995, adopting the Mid-Coast Preferred Investment Strategy/Locally Preferred Alternative (LPA). Resolution No. 95-35 also certified the Mid-Coast Final Environmental Impact Report (FEIR) prepared under the California Environmental Quality Act (CEQA). MTDB is preparing this Final Environmental Impact Statement (FEIS) for the corridor project, pursuant to the National Environmental Policy Act (NEPA), in order to implement the first phase of the LPA.

MTDB is now preparing the Final Environmental Impact Statement for the Mid-Coast Corridor Project. As part of this effort a re-evaluation of the Draft EIS has also been conducted, in accordance with regulations promulgated by the Federal Highways Administration and Federal Transit Administration (23 CFR Part 771.129(a)). These regulations require a written evaluation of a draft EIS if a final EIS is not prepared within three years from the date of the draft EIS circulation. The purpose of the re-evaluation is to identify conditions that may have changed since the Draft EIS was prepared, and to determine whether it is necessary to prepare a new draft EIS or a supplement to the draft EIS. This re-evaluation has been completed, and the results indicate that there is no need to prepare a new draft EIS or a supplement to the draft EIS. This technical memorandum documents the methodology and results of the re-evaluation.

SECTION 1: RE-EVALUATION METHODOLOGY

Environmental re-evaluation was conducted for the following environmental impact categories:

Section 1  Land Use and Neighborhoods
Section 2  Transportation
Section 3  Socioeconomics
Section 4  Safety and Security
Section 5  Visual and Aesthetic Resources
Section 6  Air Quality
Section 7  Noise and Vibration
Section 8  Natural Resources
Section 9  Water Resources
Section 10 Cultural Resources
Section 11 Parklands  
Section 12 Energy  
Section 13 Hazardous Materials  
Section 14 Construction  
Section 15 Relationship Between Local Short-term Use of Resources and the Maintenance and Enhancement of Long-term Productivity  
Section 16 Irreversible and Irretrievable Commitment of Resources  

For each impact category MTDB conducted an evaluation of the following issues:  

- Has the affected environment changed since publication of the AA/DEIS/DEIR?  
- Do identified changes in the affected environment result in environmental impacts not identified in the AA/DEIS/DEIR?  
- Did AA/DEIS/DEIR evaluations cover the subject?  
- Has additional analysis been conducted in preparation of the FEIS?  
- Did the additional analysis identify any significant impacts?  

SECTION 2: LAND USE AND NEIGHBORHOODS

No substantial land use changes have occurred within the three Community Planning Areas (the Linda Vista, Clairemont Mesa and University City) that encompass improvements proposed under the Build Alternative or TSM Alternative). No changes have been identified in the mix of land uses, locations of public facilities, Community Planning Area guidelines and policies, or Coastal Zone boundaries and policies. As no changes were identified, no new impacts would occur and no additional mitigation is required.

2.1 AA/DEIS/DEIR Land Use and Neighborhood Impact Evaluations

Evaluations of land use and neighborhood impacts conducted for the AA/DEIS/DEIR consisted of the following: consistency with local planning, consistency with California Coastal Commission and other plans, potential for displacement and relocation, regional land use impacts, potential electromagnetic field (EMF) impacts, barriers to social interaction, impacts of new developments, impacts on public facilities and services, and cumulative land use and neighborhood impacts.

2.2 Additional Land Use and Neighborhood Impact Analysis for the FEIS

Previous evaluations of land use and neighborhood impacts were reviewed. The only need for additional analysis that was found necessary for preparation of the FEIS was an update of the displacement and relocation analysis.
2.2.1 Impacts Identified in Additional Analysis

The FEIS Build Alternative will require a total of 4.25 hectares (9.45 acres) of right-of-way acquisition, as compared to the 50 to 61 acres required reported in the AA/DEIS/DEIR for LRT alternatives. Two other land use impacts were also identified. The first is a re-assessment of an impact reported in the AA/DEIS/DEIR. The AA/DEIS/DEIR LRT Alternatives’ Tecolote Station was found to displace “a portion of the north end of a retail nursery” (formerly Nurseryland, now Armstrong). Coordination with the property owner during preliminary engineering, however, indicated that the impacts to the north end of the nursery property could warrant relocating the business. The FEIS therefore presents a “worst case” scenario in which the entire Nurseryland property would be taken. The second impact consists rail spur reconfiguration and minor building modifications in the vicinity of Lovelock Street, and area where the AA/DEIS/DEIR had shown elevated LRT tracks. During preliminary engineering the LRT design was modified to keep the LRT tracks at grade in this area, which required reconfiguration of the spur track serving the Union which placed the track on the opposite side of the building. Building modifications were developed in coordination with the property owner and consist of installing a new door adjacent to the new track.

2.2.2 Mitigation Measures

Acquisition of publicly owned property will be carried out in accordance with agreements with the affected public agencies. Private property acquisitions and relocations of private businesses would be carried out according to State and Federal requirements, including the following compensation and relocation procedures:

- Code of Civil Procedure (Section 1263.320a) regarding fair market value compensation;
- California Government Code (Chapter 16, Section 7260 et seq.) regarding location; and
- Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act.

To mitigate impacts to the Union Tribune warehouse, private rail spur, and retail nursery, MTDB would coordinate with the affected property owners and businesses to design and construct the necessary improvements. This coordination and design is already underway.

SECTION 3: TRANSPORTATION

The level of transit service in the Mid-Coast area is expected to be about the same in both documents. Both the AA/DEIS/DEIR and the FEIS used the year 1990 as a transit baseline. The only new transit service in the Mid-Coast area is Coaster commuter rail, but this service was anticipated by the AA/DEIS/DEIR. Arterial traffic volumes in the Mid-Coast area are now expected to be less than previously anticipated. Despite continuing growth in traffic between 1990 and 1997 on most of the arterial roads listed in Table 3-1, the projected 2015 volumes are
consistently less than the projected 2005 volumes. Table 3-2 compares the freeway traffic growth expected in the 1995 document with that of the current evaluation. Both projections show that substantial growth in freeway traffic is expected, but the FEIS projections show a flattening of the growth rate with shift of the horizon year from 2005 to 2015. The more recent forecast also projects less traffic on I-805 than previously expected. Thus the FEIS traffic projections anticipate a transportation environment either better or no worse than that anticipated in the AA/DEIS/DEIR. Thus there are no changes in the affected environment that would result in new adverse impacts.

3.1 AA/DEIS/DEIR Transportation Evaluations

The AA/DEIS/DEIR evaluated the impact of the proposed project on transit travel time, mode choice, transit ridership, transit access mode, vehicle miles traveled, daily traffic volumes, grade crossing delays, bicycle facilities, parking, safety, and rail operations.

3.2 Additional Transportation Impact Analysis for the FEIS

Previous transportation evaluations were reviewed. New traffic and patronage projections were performed to define the specific effects of the Build Alternative because of the following:

- The FEIS Build Alternative consists of the initial segment of the entire LRT extension evaluated in the AA/DEIS/DEIR and

- The Nobel Coaster Station has been included in the Build Alternative instead of being evaluated in a separate alternative as it was in the AA/DEIS/DEIR.
<table>
<thead>
<tr>
<th>Facility</th>
<th>Location</th>
<th>AA/Draft EIS/EIR</th>
<th>Final EIS/EIR</th>
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<tr>
<td></td>
<td></td>
<td>1990</td>
<td>2005 No-Build</td>
</tr>
<tr>
<td>Balboa Avenue/Garnet</td>
<td>West of I-5</td>
<td>51,000</td>
<td>109,000</td>
</tr>
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<td>East of I-5</td>
<td>29,000</td>
<td>61,000</td>
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<td>Clairemont Drive</td>
<td>East of I-5</td>
<td>27,000</td>
<td>47,000</td>
</tr>
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<td>Genesee Avenue</td>
<td>North of La Jolla Village Dr.</td>
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<td>42,000</td>
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<td>23,000</td>
<td>s</td>
</tr>
<tr>
<td>Genesee Avenue</td>
<td>North of SR 52</td>
<td>29,000</td>
<td>41,000</td>
</tr>
<tr>
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<td>West of I-5</td>
<td>48,000</td>
<td>104,000</td>
</tr>
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<td>La Jolla Village Drive</td>
<td>East of I-5</td>
<td>42,000</td>
<td>64,000</td>
</tr>
<tr>
<td>Morena Boulevard</td>
<td>North of Balboa Avenue</td>
<td>26,000</td>
<td>36,000</td>
</tr>
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<td>Morena Boulevard</td>
<td>South of Balboa Avenue</td>
<td>13,000</td>
<td>26,000</td>
</tr>
<tr>
<td>Pacific Highway</td>
<td>North of Friars Road</td>
<td>9,000</td>
<td>26,000</td>
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Source: Mid Coast AA/Draft EIS/EIR, 1995; SANDAG; City of San Diego’s Traffic Index, 1998
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<tr>
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<th>Location</th>
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<tr>
<td>I-5</td>
<td>I-805/I-5-La Jolla Village</td>
<td>125,000</td>
<td>136,000</td>
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<td></td>
<td></td>
<td>205,000</td>
<td>211,100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>64%</td>
<td>55%</td>
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<tr>
<td>2005 No-</td>
<td>Build</td>
<td>Percent</td>
<td>Change</td>
</tr>
<tr>
<td>I-5</td>
<td>Gilman-Ardath</td>
<td>129,000</td>
<td>136,000</td>
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<td></td>
<td></td>
<td>161,000</td>
<td>213,500</td>
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<td></td>
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<td>110%</td>
<td>29%</td>
</tr>
<tr>
<td>1997</td>
<td></td>
<td>Percent</td>
<td>Change</td>
</tr>
<tr>
<td>I-5</td>
<td>Balboa-Clairemont/Mission Bay</td>
<td>179,000</td>
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</tr>
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<td></td>
<td></td>
<td>221,000</td>
<td>265,500</td>
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<td>117%</td>
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<tr>
<td>2015 No-</td>
<td>Build</td>
<td>Percent</td>
<td>Change</td>
</tr>
<tr>
<td>I-805</td>
<td>I-5/I-805 Junction-La Jolla Village Drive</td>
<td>150,000</td>
<td>172,000</td>
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<td></td>
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<td>39%</td>
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</tr>
<tr>
<td>1997</td>
<td></td>
<td>Percent</td>
<td>Change</td>
</tr>
<tr>
<td>I-805</td>
<td>La Jolla Village Drive-SR52</td>
<td>175,000</td>
<td>177,000</td>
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<td></td>
<td></td>
<td>255,000</td>
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<td></td>
<td></td>
<td>46%</td>
<td>19%</td>
</tr>
<tr>
<td>2015 No-</td>
<td>Build</td>
<td>Percent</td>
<td>Change</td>
</tr>
</tbody>
</table>

Source: Mid Coast AA/Draft EIS/EIR, 1995; Caltrans 1997 ADT Freeway Volumes
Additionally, to define local traffic impacts, traffic analyses were conducted for twelve key intersections adjacent to the proposed LRT stations at Tecolote Road, Clairemont Drive, and Balboa Avenue and the new Coaster station at Nobel Drive. Both signalized and unsignalized intersections were evaluated to determine if these improvements would cause unacceptable increases in congestion at those locations.

3.3 Impacts Identified in Additional Analysis

Under the Balboa LRT Extension/Nobel Drive Coaster Station (Build) Alternative, impacts to transit services were found to be comparable to those disclosed in the AA/DEIS/DEIR, namely that additional LRT service would increase total transit ridership at the expense of slightly lower bus transit and commuter rail ridership. Thus no additional adverse impacts were identified.

In the FEIS projections, traffic volumes varied slightly throughout the study area, with a slight net improvements in congestion. The length of roadway operating at LOS A to C is projected to increase by approximately ten kilometers (six miles), as compared to the No-Build and TSM Alternatives, while the length of roadway at LOS E to F is projected to decrease by about five to six kilometers (three to four miles). Thus no roadway level of service impacts were identified.

Under 2015 No-Build conditions, three of the evaluated intersections are projected to operate below acceptable levels of service, at LOS E or worse. The three intersections are Nobel Drive/Towne Centre Drive, Balboa-Garnet/Mission Bay Drive, and Clairemont Drive/I-5 NB Ramps.

Where the LOS standard is exceeded, as at these three intersections, the City of San Diego has specified guidelines for determining project impact. Since none of the delay increases resulting from the project alternatives equals or exceeds the City’s criterion of two seconds, the project would not have a significant negative impact based on these criteria. The project would lower the level of service at Morena Boulevard/West Morena Boulevard from LOS C to a borderline LOS D. This level of impact is acceptable within the City of San Diego guidelines. Thus no unacceptable intersection level of service impacts were identified.

SECTION 4: SOCIOECONOMICS

The San Diego Association of Governments (SANDAG) developed new (Series 8) population and employment forecasts after the AA/DEIS/DEIR was published. The AA/DEIS/DEIR used SANDAG’s Series 7 forecasts as the basis for socioeconomic analyses. As shown in Table 4-1, both Series 7 and Series 8 forecasts show strong population and economic growth. These changes in projected growth do not result in any new adverse impacts.
# Table 4-1
Comparison of SANDAG Series 7 and Series 8 Forecasts

<table>
<thead>
<tr>
<th></th>
<th>1990 Baseline</th>
<th>Series 7</th>
<th>Series 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Diego Region Population</td>
<td>2,498,016</td>
<td>3,154,500</td>
<td>+26.2%</td>
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<tr>
<td>San Diego Region Employment</td>
<td>1,198,265</td>
<td>1,672,900</td>
<td>+39.6%</td>
</tr>
</tbody>
</table>

Sources: SANDAG, Series 7 and Series 8 Forecasts, [years]

## 4.1 AA/DEIS/DEIR Evaluations

The following socioeconomic evaluations conducted for the AA/DEIS/DEIR: employment impacts, regional impacts, environmental justice, and cumulative economic development impacts.

## 4.2 Additional Analysis for the FEIS

Additional socioeconomic analysis conducted for the FEIS consisted of updating previous analyses using Series 8 projections and taking into consideration project revisions that occurred during preliminary engineering. The updates of socioeconomic analyses identified no adverse impacts. No mitigation needs were indicated.

## SECTION 5: SAFETY AND SECURITY

No changes were identified in the safety and security environment. Safety and security evaluations conducted for the AA/DEIS/DEIR consisted of the following: security impacts, seismic safety, and provision of emergency services.

## 5.1 Additional Safety and Security Analysis

In preparation of the FEIS previous safety and security evaluations were reviewed. The assumptions and findings of previous evaluations required no revisions. The only additional analysis conducted for the FEIS was an evaluation of children’s safety, based on Executive Order 13045, which was signed in April 1997 and requires federal agencies to ensure their activities address disproportionate risks to children that result from environmental health risks or safety risks.
The evaluation of children's safety showed that disproportionate effects on children due to construction activities would not occur, largely due to the physical separation between most land uses occupied by children and construction areas, as well as the use of construction fencing. Additionally, no impacts to child safety are expected during operations of the Build Alternative. The LRT trains would operate within existing right-of-way, which will be fenced, and no at-grade rail crossings are proposed on the Balboa LRT Extension. With the exception of the Nobel Drive Station area, nearby parks and residential areas are separated from the right-of-way by major roadways (I-5, Morena Boulevard, and the Balboa Avenue Ramp).

The Coaster Station at Nobel Drive will enable pedestrians to cross the existing SDNR tracks in the station area. Warning devices will be installed at this crossing, based on NCTD policies and procedures. These measures were found adequate to ensure that no disproportionate risks to children's safety would result from the proposed action. o mitigation measures were indicated.

SECTION 6: VISUAL AND AESTHETIC

No changes to the affected visual and aesthetic environment were identified.

6.1 AA/DEIS/DEIR Visual and Aesthetic Evaluations

Visual and aesthetic evaluations conducted for the AA/DEIS/DEIR included an analysis of objective visual resource change that would be created by each alternative, and subjective viewer response to that change. The following five categories of visual impacts were assessed: landform quality, visual quality, visual resources, view quality, and neighborhood character. Cumulative visual impacts were also evaluated.

6.2 Additional Visual and Aesthetic Analysis for the FEIS

Visual and aesthetic evaluations were reviewed and updated to address changes to design that occurred during preliminary engineering.

MTDB changed the layout of Nobel Drive Station during preliminary engineering, in order to reduce wetland impacts reported in the AA/DEIS/DEIR. The parking lot was relocated to street level, with the station, approximately 10 meters (33 feet) below street level. The previous proposal had located the parking lot closer to the station platform, below street level. This would have affected more wetlands, and required more extensive cut of canyon slopes. The new design reduces these impacts, although it requires construction of a 10-meter (33-foot) retaining wall to support the parking lot. The parking area at street level would interrupt the existing visual quality of natural vegetation from Nobel Drive and homes north of Nobel Drive. Views from Rose Canyon would be also be changed by the construction of the retaining wall, although the impact to views from the canyon is not as extensive as those resulting from the previous design.
6.2.1 Mitigation Measures

The visual quality impacts of the parking lot will be mitigated by landscaping along the perimeter to partially screen the lot without reducing the visibility of the station. Visual impacts of the retaining wall will be mitigated through the use of a terraced wall, which will allow for extensive landscaping. The wall will be a natural color and will be landscaped with native vegetation.

SECTION 7: AIR QUALITY

7.1 Changes in Affected Environment

In 1995 two air quality reclassifications were made in the San Diego Air Basin: the U.S. Environmental Protection Agency (USEPA) reclassified the Basin from “severe” nonattainment to “serious” nonattainment for ozone, and the State of California reclassified it as an attainment area for carbon monoxide (CO). Classifications for all other monitored pollutants are as reported in the AA/DEIS/DEIR. Regional air quality monitoring since publication of the AA/DEIS/DEIR has showed a continuation in air quality trends: the number of days with high levels of ozone has continued to decrease, carbon monoxide levels have remained below state and federal standards, nitrogen oxide levels have continued to drop, and concentrations of particulates (measured as particulate matter less than 10 microns in diameter, or PM10) have shown no clear trend. The changes in affected environment for air quality resulted in no adverse impacts.

7.2 AA/DEIS/DEIR Evaluations

The AA/DEIS/DEIR evaluated regional air quality impacts from auto/truck travel, bus travel, and electric power generation; local microscale CO impacts at eight intersections; conformity with the State Implementation Plan, and cumulative impacts.

7.3 Additional Analysis for the FEIS

Additional CO analyses were conducted for three intersections in the vicinity of LRT stations and P&R lots proposed under the alternatives evaluated in the FEIS. Results of the analysis indicated that no exceedences of CO standards would occur. No mitigation is required.

SECTION 8: NOISE AND VIBRATION

No changes were identified in the affected environment for noise and vibration.

8.1 Noise and Vibration Evaluations for the AA/DEIS/DEIR

Noise evaluations conducted for the AA/DEIS/DEIR included a the projection of measured noise levels to expected levels for year 2010 and 2015 conditions, and an evaluation of cumulative effects. Expected increases would be primarily due to increased vehicular traffic volumes on I-5.
The AA/DEIS identified the potential for noise impacts to result from the construction of new ramps to access the Balboa LRT station. Projected levels for alternatives were compared to FTA and FHWA noise criteria. The analysis conducted for the AA/DEIS/DEIR concluded that a sound barrier along the northbound loop-ramp may be required.

Vibration evaluation conducted for the AA/DEIS/DEIR included the projection of future ground-borne vibration for the commuter rail tunnel, the alternative with the greatest potential to result in vibration impacts, and analysis revealed that this alternative was unlikely to result in vibration impacts to residential uses.

8.2 Additional Analysis

With regard to potential noise impacts from a new ramp near Balboa Station, MTDB elected to provide noise attenuation walls along the top of the slope above the loop ramp without conducting additional analysis. This decision was based on the relatively limited area of potential impact and the limited specificity of existing noise models.

MTDB changed the layout of Nobel Drive Station during preliminary engineering, in order to reduce wetland impacts reported in the AA/DEIS/DEIR. The station platforms were moved further east than originally proposed, which would also place the station closer to the existing Towne Centre Racquet Club Apartment complex, and additional noise analysis was required. The principal noise impacts associated with the reconfigured Nobel Drive Station was found to be the sounding of horns by Amtrak and freight trains as they approach the station. Projected future noise levels were found to result in minor effects on the overall noise environment, which are well below the criteria for adverse noise impacts. The revised location of the Nobel Drive Coaster Station was therefore found to have no adverse noise impacts.

SECTION 10: NATURAL RESOURCES

10.1 Changes in Affected Environment

A biological study was conducted in 1994 in preparation of the AA/DEIS/DEIR, and the results of this study were updated in 1998. Results of the biological update are documented in the technical report, Updated Biology Technical Report. The 1998 study found that habitat was present for several special-status species that were not identified in the AA/DEIS/DEIR. These are as follow: light footed clapper rail, willow flycatcher, San Diego marsh elder, and yellow warbler. The wetland delineation conducted in 1998 identified wetlands and waters of the U.S. in generally the same locations and configurations as in 1994.

A change also occurred in the regulatory environment in San Diego, which affects mitigation of impacts to special status species in the project study area. In 1996 the City of San Diego, USFWS, and CDFG signed an implementing agreement resulting in the issuance of a 10(a) permit (authorizing incidental takings of ESA-covered species) to the City based on the recently adopted Multiple Species Conservation Program (MSCP). The MSCP Plan establishes a preserve
system designed to conserve large blocks of interconnected habitat having high biological value that are delineated in multiple habitat planning areas (MHPA). This plan created a schedule of mitigation ratios that varies depending on where a project is located with relation to the MHPA and whether the mitigation will occur inside or outside of the MHPA. Varying mitigation ratios and requirements are based on the sensitivity of the habitat being affected.

10.1.1 Environmental Impacts Resulting from Changes

Two special status species that in the 1994 biological study were described as “reported from the general area but not documented onsite” were observed at the Nobel Drive Coaster Station site during the 1998 biological update surveys. These species are the California gnatcatcher (a federally listed threatened species) and San Diego black-tailed jackrabbit (a state and federal species of concern). Both species are found in coastal sage scrub habitats. The project would result in a loss of 1.04 hectares (2.57 acres) of coastal sage scrub in the Nobel Drive Coaster Station area, which is an increase of 0.07 hectare (0.13 acre) over the coastal sage scrub impact reported in the AA/DEIS/DEIR, which was based on an earlier design of the Nobel Drive Coaster Station. The new design of Nobel Station reduces the wetland impact by 0.41 hectare (1.02 acre). A small area (0.12 hectare, or 0.29 acre) of poor-quality coastal sage scrub habitat would also be affected in the Balboa LRT Extension right-of-way. The habitat in the LRT right-of-way is not suitable for the gnatcatcher or jackrabbit, due to its small size and degraded condition.

10.1.2 Mitigation Measures

Impacts to vegetation communities and special status species will be in accordance with the City of San Diego, USFWS, and CDFG implementation agreement for the Multiple Species Conservation Plan, described above. The MTDB will purchase area credits from a USFWS-approved mitigation bank, located in the City of San Diego.

10.2 AA/DEIS/DEIR Evaluations

The biological evaluations conducted for the AA/DEIS/DEIR identified impacts to wetlands, other waters of the U.S., and special-status species.

10.3 Additional Analysis for the FEIS

As noted above, a biological study update was conducted in preparation of the FEIS, evaluating impacts to wetlands, other waters of the U.S., and special-status species.
10.3.1  Impacts Identified in Additional Analysis

The Build Alternative was found to result in impacts to coastal sage scrub (habitat for special-status species, described above in Section 7.1), non-native grasslands, wetlands, and waters of the U.S. The AA/DEIS/DEIR also reported impacts to each of these habitat types. Impacts to vegetation and wildlife resources reported in the FEIS are shown in Table 10-1. All of these total amounts are lower than impacts to corresponding habitats reported in the AA/DEIS/DEIR. Wetlands impacts of the proposed Nobel Drive Station were reduced from 0.51 hectares (1.14 acres) to 0.04 hectares (0.12 acres) due to design changes made in preliminary engineering (described in Section 7.1).

<table>
<thead>
<tr>
<th></th>
<th>Hectares</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Affected Wetlands</td>
<td>0.30</td>
<td>0.74</td>
</tr>
<tr>
<td>Total Affected Waters of U.S.</td>
<td>0.104</td>
<td>0.26</td>
</tr>
<tr>
<td>Total Coastal Sage Scrub</td>
<td>0.157</td>
<td>2.86</td>
</tr>
<tr>
<td>Total Non-native Grassland</td>
<td>0.356</td>
<td>0.88</td>
</tr>
</tbody>
</table>


10.3.2  Mitigation Measures

Mitigation for wetlands and other waters of the U.S. will be in accordance with ACOE policies, as documented in the conceptual mitigation plan in the Updated Biology Technical Report (December, 1998). The conceptual mitigation plan is summarized in the FEIS. Wetlands will be created to compensate for the loss of these habitats, at ratios determined through consultation with the USACOE. Proposed mitigation ratios are included in Table 5.7-2 of the FEIS.

SECTION 11: WATER RESOURCES

No changes were identified in the affected water resources environment.

11.1  AA/DEIS/DEIR Evaluations

The following water resource impact evaluations were conducted for the AA/DEIS/DEIR: impacts to surface waters, increases in non-point source pollutants, encroachment into FEMA-defined floodways, and cumulative impacts.
11.2 Additional Analysis for the FEIS

Previous water resources analyses were reviewed and updated as necessary to account for changes in project design made during preliminary engineering. Changes to the design of the San Diego River Bridge included placement of nine columns within the San Diego River 100-year floodway. These columns will be aligned with columns of the existing railroad bridge west of the proposed Mid-Coast LRT San Diego River bridge.

11.2.1 Impacts Identified in Additional Analysis

A location hydraulic study was conducted for the San Diego River Bridge pursuant to 23 CFR 650 (Bridges, Structures, and Hydraulics). It was found that the probability of flooding attributable to the encroachment of the columns is low, in part due to their alignment with the existing San Diego Northern Railroad (SDNR) bridge.

11.2.2 Mitigation Measures

Activities would be timed to the extent practicable so the construction encroachments occur during the dry season and outside the breeding season for special status species; construction operations would be timed so the total elapsed time of encroachment into the channel is minimized; no temporary or permanent storage or deposition of materials into the channel would be allowed. The channel bottom would be returned to its original ‘natural’ condition as soon as possible after the bridge is built. To achieve this, a revegetation plan would be incorporated into this project. This vegetation plan would address water quality/flood control only. It would be coordinated with any vegetation specified in the Natural Resources section of this FEIS. The vegetation plan would incorporate like species of plants to ensure that the channel capacity is maintained. The channel capacity aspect of the vegetation plan would be reviewed and approved by a qualified civil engineer prior to construction.

SECTION 12: CULTURAL RESOURCES

Areas of potential effects for historic and archaeological resources, respectively, were delineated in preparation of the AA/DEIS/DEIR. All improvements associated with the Build Alternative as defined in the FEIS are within the respective APE’s. No changes have occurred in the affected environment that would result in new adverse impacts. Cultural resource evaluations conducted for the AA/DEIS/DEIR included impacts to historic, archaeological, and paleontological resources, as well as cumulative impacts.

12.1 Additional Analysis for the FEIS

In preparation of the FEIS the previous cultural resource evaluations were reviewed. The historical and archaeological APE’s were revised to include only all Build Alternatives improvements, no additional studies were required. Changes in the LRT design during preliminary engineering resulted in reduced total cultural resources impacts, as described below.
12.1.1 Impacts Identified in Additional Analysis

No historic architectural or archaeological resources were identified in the project area of potential effects (APE). Monitoring during construction is recommended for the possible foundation remains noted in Section 3.10.3.2.

12.1.2 Mitigation Measures

Monitoring of the site identified in Section 3.10.3.2 during construction is recommended. Based on the field reconnaissance and archival research conducted for this project, it is not anticipated that construction activities will disturb buried cultural materials. If such materials are unearthed during construction, work in the vicinity of the find will be halted until a qualified archaeologist can assess their significance. If human remains are unearthed during construction, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code 5097.88. In either instance, MTDB shall be immediately notified.

SECTION 13: PARKLANDS

No changes in the affected parklands environment were identified.

13.1 AA/DEIS/DEIR Evaluations

Parklands evaluations for the AA/DEIS/DEIR included direct, indirect, and cumulative effects on parklands, and addressed the requirements of Section 4(f) of the U.S. Department of Transportation Act, as amended. The AA/DEIS/DEIR identified one Section 4(f) property and two potential 4(f) properties in the vicinity of the proposed Nobel Drive Coaster Station. The evaluations found that Rose Canyon Open Space Park, located south of the SDNR right-of-way, was protected under Section 4(f) but would not experience adverse impacts from the Nobel Drive Coaster Station. The two potential 4(f) properties were a mitigation site and a parcel zoned for open space. Both are located north of the right-of-way, and both would be affected by the Nobel Drive Coaster Station. The AA/DEIS/DEIR concluded that further evaluation was required to determine the Section 4(f) status of the northerly properties.

13.2 Additional Analysis for the FEIS

Section 4(f) protection applies specifically to publicly owned land that has national, state, or local significance. In preparation of the FEIS, FTA coordinated with the City of San Diego, the officials having jurisdiction over the two Nobel Drive Open Space/ Renaissance/ La Jolla Mitigation Site and the City-owned open space both located north of the existing SDNR right-of-way. Based on this coordination, FTA has determined that these properties do not have national, state, or local significance. Correspondence from the City of San Diego, dated January 19, 1999, and included in Appendix I, states that the City of San Diego concurs with this determination that
these open space areas do not have significance. Therefore, Section 4(f) does not apply to these properties.

13.2.1 Impacts Identified in Additional Analysis

Parkland evaluations for the FEIS identified visual changes would occur for viewers looking from the Rose Canyon Open Space Park north to the station, as described in Section 4 of this memorandum. These visual changes would not be a Section 4(f) impact because they do not constitute “use” of the dedicated parkland. Additionally, development of the rail station will offer benefits to the Open Space Park. Provision of access to the commuter rail station platform would serve as access to Rose Canyon Open Space Park, which, at this point in time, is not readily accessible.

MTDB has coordinated with the Park and Recreation Department of the City of San Diego, owner of the Open Space Park. The Park and Recreation Department stated that station development would provide access across the rail right-of-way to the Open Space Park. The Park and Recreation Department noted that station development would have visual effects and requested several mitigation measures, which MTDB has agreed to provide. These measures are described in the mitigation measures section below.

MTDB and FTA also coordinated with the City Park and Recreation Department with regard to the City-owned parcel of open space north of the right-of-way, identified in the AA/DEIS/DEIR as a potential 4(f) property. The Park and Recreation Department has written a letter, dated January 19, 1999, and included in Appendix I, which states that any park, recreation, or refuge activities that may occur within this area are incidental to its primary purpose as open space and visual amenity for the community. The area is not dedicated parkland, and the Park and Recreation Department does not consider it significant open space, due to the condition of existing vegetation at this site (described in Section 3.7.3.1 of the FEIS), and the fact that the site is surrounded by development on three sides and separated from the Rose Canyon Open Space Park by the existing railroad right-of-way. The other parcel that would be acquired for the Nobel Drive Coaster Station is a wetland mitigation area for the Renaissance La Jolla Project and is not dedicated parkland. Mitigation for impacts to this property is included in the conceptual wetland mitigation plan.

13.2.2 Mitigation Measures

To mitigate the impacts to the Rose Canyon Open Space Park from the Nobel Drive Coaster Station, MTDB will provide the following measures, consistent with the requests of the San Diego Park and Recreation Department:

1. MTDB will provide one or more interpretive displays along the walkway leading down to the station, preferably at location(s) offering views of the Rose Canyon Open Space Park. MTDB and the San Diego Park and Recreation Department shall jointly agree to the type of ease to be provided, and the Park and Recreation Department
shall determine the type of information to be displayed. If the case allows for changes to the display, access to this display case shall be provided to the San Diego Park and Recreation Department so that it can provide display information regarding the Park.

2. The retaining wall to be constructed south of the station parking area shall be a natural color, shall be a terraced wall allowing for extensive landscaping of the wall, and shall be landscaped by MTDB with vegetation native to the immediate area. Concurrence by staff of the City Park and Recreation Department will be obtained.

SECTION 14: ENERGY

No changes in the affected environment were identified. Analyses conducted for the AA/DEIS/DEIR evaluated the energy required for operations/maintenance and construction of each alternative. Based on changes made to the design of the project, operations/maintenance and construction energy requirements were recalculated. In comparison to the No-Build Alternative and the TSM Alternative, the Build Alternative would consume less direct energy for operations both in 2015 and over the life of the project.

14.1 Mitigation Measures

Although no mitigation is required, measures to improve the energy efficiency of LRT vehicles are under consideration. Regenerative braking, which supplies power back to the traction power system when a vehicle brakes, would reduce net propulsion energy consumption. Automatic vehicle control systems can also produce benefits in energy consumption. These features will be included in future light rail vehicles whenever possible. Increasing transit ridership on light rail and commuter rail systems would also reduce energy consumption assuming new riders shift from more energy intensive motor vehicle modes. Marketing and other promotional efforts will be undertaken to increase ridership growth associated with the Build Alternative.

SECTION 15: HAZARDOUS MATERIALS

No changes were identified in the affected environment.

15.1 AA/DEIS/DEIR Evaluations

Hazardous waste records searches, field investigations, and regulatory agency staff interviews were conducted in preparation of the AA/DEIS/DEIR. Hazardous waste sites under investigation at the publication of the AA/DEIS/DEIR were found to be distant from the LRT alignment and unlikely to affect the project.

15.2 Additional Analysis for the FEIS

The geographical area that would be affected by the FEIS alternatives is entirely within the AA/DEIS/DEIR study area. Results of previous analysis were reviewed and a Phase 1 site
assessment was completed during the preliminary engineering, which updated the work in the AA/DEIS/DEIR. No new impacts were identified. Based on findings of the previous study and the Phase 1 site assessment, it was determined that no further analysis was necessary for the FEIS.

15.2.1 Mitigation Measures

Mitigation for PCBs and creosote-containing wastes will include handling of the utility poles with appropriate protective gloves and coveralls and removal to an appropriate hazardous waste disposal facility by a licensed waste transporter. If the poles are relocated rather than replaced, they may not be considered as hazardous waste, and therefore may not be required to be disposed.

Analysis of the “tacky” oil on the utility poles would be performed to determine whether PCBs and metals are present and at what concentration. According to the California Department of Health Services (DHS) Guidelines (April 1991) for PCB handling, treatment and disposal, the utility poles may be a hazardous waste if a PCB concentration of 50 mg/kg, or greater, is present. As a hazardous waste, the poles would be subject to the Land Disposal Restrictions (LDRs) which require that the poles either be disposed of as hazardous waste at a disposal facility such as Kettlemen Hills Landfill in Kettlemen City, California, or incinerated at an approved facility outside California. LDRs may also apply to the utility poles and any wood debris containing creosote.

If unanticipated sources of hazardous materials and/or wastes are encountered during construction activities, the following mitigation measures will be implemented:

- Notify San Diego Hazardous Materials Management Division (HMMD) and/or the San Diego Fire Department within 24 hours;
- Prepare a Work Plan and a Health and Safety Plan to characterize encountered contamination. Appropriate health and safety precautions as specified by Title 8 California Code of Regulations (Section 5194) of California Occupational Safety and Health (Cal/OSHA) must be followed;
- Implement Work Plan and Health & Safety Plan; and
- Properly identify and off haul any contaminated soils and/or groundwater encountered.

SECTION 16: CONSTRUCTION IMPACTS

Any changes in affected environment for construction impacts are described in the previous sections that correspond to category of impact. For example, the affected environment for neighborhood construction impacts is discussed in Section 1 of this memorandum.
16.1 Construction Impacts: Transportation and Circulation

The AA/DEIS/DEIR evaluated the impacts on traffic, transit, and pedestrians. Because the TSM and Build alternatives evaluated in the FEIS are a subset of the alternatives evaluated in the AA/DEIS/DEIR, the reported construction impacts on transportation and circulation were very similar in both documents.

16.3.1 Additional Transportation and Circulation Impact Analysis for the FEIS

Construction of the Build Alternative would include three LRT stations and a Coaster station with parking areas, track, catenary, substations, and other ancillary facilities. The FEIS analyzed the local issues associated with identification of the Build Alternative and additional preliminary engineering detail. The analyses were similar in nature to those of the AA/DEIS/DEIR but addressed additional detail available with further preliminary engineering. They addressed transit, traffic, rail operations, pedestrians, and bicycles. The following paragraphs give examples of the additional detail.

With proper traffic handling measures, construction of park-and-ride lots for the four stations included in the Build Alternative would not be expected to affect adjoining roadways or require detours around work activity. Disruption of bus transit would be minimal as a result.

The Balboa LRT Extension would connect at-grade with the existing Old Town and Mission Valley LRT lines at the south end of the Balboa Extension. Construction of this connection has the potential to affect LRT revenue service. To avoid significant disruption of current LRT operations, construction of track turnouts and related junction improvements would be scheduled during non-revenue hours.

The Balboa LRT Extension track would be located in SNDR right-of-way, which is owned by MTDB. A portion of existing SDNR track would be relocated from just north of the San Diego River/Friars Road Bridge to just south of the Tecolote Station, a distance of approximately 800 meters (2,625 feet). Three existing turnouts would be replaced with a single turnout south of Tecolote Station. The proximity of LRT track construction to the existing tracks that serve Amtrak, Coaster commuter rail, and freight rail traffic may result in occasional impacts to rail service.

Construction of LRT stations would have traffic impacts in which traffic in the vicinity of the proposed stations could be disrupted by construction equipment and traffic. Roadway improvements would occur in the vicinity of Clairemont and Balboa LRT Stations and the Nobel Drive Coaster Station. At Clairemont Station, the southbound lanes of Morena Boulevard would be shifted slightly east, reducing the width of the existing median. At Balboa Station, the ramp from eastbound Balboa Avenue to Morena Boulevard would be reconfigured, which would allow the elimination of the existing southbound on-ramp from Balboa to Morena. At the Nobel Coaster Station the median in Nobel Drive would be modified to allow left turn access to/from...
the station. Other impacts to roadways are related to the construction of spur tracks, which would affect Lovelock Street and Cudahy Place, roadways south of Tecolote Station.

16.3.2 Mitigation Measures

To mitigate traffic and transit impacts, the FEIS would require a traffic management plan to be developed and agreed upon by MTDB, the City of San Diego, the California Department of Transportation, and other appropriate agencies. The plan would include traffic handling measures, and would address vehicular traffic, bus service, and pedestrian activity while allowing for the delineation of a construction area. MTDB would notify the public and transit riders of any temporary changes in stop locations and bus service that may result from P&R lot development.

The following additional mitigation measures would be implemented to reduce rail and bus transit impacts of the Build Alternative: construction staging plans would be developed to minimize impact on existing rail services. MTDB would coordinate construction staging plans with the users of the adjacent tracks. The contractor would be required to provide advance notice of any potential disruptions in service. To avoid parking impacts, provisions would be incorporated into the construction contracts to designate areas for construction worker parking, and to avoid substantial parking impacts to residential or business areas. No significant adverse construction impacts are anticipated.

16.2 Construction Impacts: Accessibility

Evaluations for the AA/DEIS/DEIR identified areas in which lane closures would be required and access to land uses may be affected.

Evaluations for the FEIS include a review of effects on lanes of travel and access to land uses based on changes to design made during preliminary engineering. Impacts identified corresponded to those reported in the AA/DEIS/DEIR, which designated areas in which land uses could experience accessibility impacts. Impacts not specifically identified in the AA/DEIS/DEIR included short-term accessibility impacts on the retail nursery adjacent to the Tecolote LRT Station, the Union Tribune warehouse, and other warehouse facilities fronting on the freight spur track relocation areas.

16.2.1 Mitigation Measures

The AA/DEIS/DEIR’s mitigation measure that construction staging and traffic management plans be prepared was augmented as follows. These plans would be based on MTDB, City and State guidelines and procedures, and would be followed by the contractor. Additional construction traffic control plans may be required of the contractor and would be reviewed and approved prior to construction activities. MTDB would coordinate with owners of properties and businesses whose access would be affected during construction of the LRT project and the freight spur relocation.
16.3 Construction Impacts: Neighborhoods

The AA/DEIS/DEIR identified construction-related noise, dust and traffic as the primary anticipated impacts to neighborhoods. Localized air quality impacts were also identified in Clairemont Mesa and University City, due to the proximity of homes to the construction areas.

16.3.1 Additional Neighborhood Impact Analysis for the FEIS

Construction-related noise, dust and traffic remain the primary anticipated impacts to neighborhoods. The potential for localized air quality impacts was identified in the vicinity of Clairemont Station, Balboa Station, and Nobel Station, due to the proximity of residential neighborhoods in these areas. The potential conflicts between construction vehicles and neighborhood traffic was also identified.

16.3.2 Mitigation Measures for Neighborhood Impacts

Mitigation measures as described in the following sections for possible noise and air quality impacts would limit the negative effects of construction on adjoining neighborhoods. Traffic conflicts from staging areas could be mitigated by limiting the number of access points to construction sites.

16.4 Construction Impacts: Air Quality

The AA/DEIS/DEIR identified construction related emissions and dispersion of particulate matter as construction-related air quality impacts. This evaluation was revisited to consider whether any additional impacts could result due to changes to the project during preliminary engineering. No new impacts were identified, and no new mitigation measures were developed.

16.5 Construction Impacts: Noise

The AA/DEIS/DEIR identified construction noise impacts as greatest in areas where construction would occur near residences and commercial uses, and identified mitigation measures to address noise impacts to such uses. The previous evaluation was reviewed to consider whether any additional impacts could result due to changes to the project during preliminary engineering. No new impacts were identified, and no new mitigation measures were developed.

16.6 Construction Impacts: Natural and Water Resources

Impact evaluations included identifying the potential for erosion and sedimentation, construction within floodplain areas, and effects on ground water. The AA/DEIS/DEIR did not specifically identify temporary construction-related impacts to vegetation, but included both temporary and permanent impacts in categories of direct impact (areas in which resources would be disturbed by grading, construction lay-down, and infrastructure facilities) and indirect impact (habitat fragmentation, "edge" effects of development).
16.6.1 Additional Natural and Water Resource Analysis for the FEIS

Erosion, sedimentation, floodplain, and ground water evaluations were reviewed and updated based on changes to the project. One impact not specifically identified in the AA/DEIS/DEIR is construction of the San Diego River Bridge within the 100-year floodplain of the San Diego River. Additional analysis was conducted to identify short-term construction related impacts to wildlife and vegetation communities. Indirect impacts to biological resources may result from construction. These impacts include increased dust, increased erosion, or movement of excavated or other materials into protected habitats and wetlands.

16.6.2 Mitigation Measures for Impacts to Natural and Water Resource

Impacts will be mitigated through the incorporation of appropriate construction site erosion control measures. Since 1992 these erosion control measures have been required as part of the SWRCB’s General Construction Activity Storm Water Permit (Part of the United States Environmental Protection Agency's Clean Water Act). The permit is required for all storm water discharges associated with a construction activity that results in a land disturbance of 2.1 hectares (5 acres) or more. The Balboa LRT Extension/Nobel Drive Coaster Station Alternative would disturb more than 2.1 hectares (5 acres) and would be subject to the State's General Construction Activity Storm Water Permit.

In addition, various run-off and erosion control practices would be used by MTDB:

- Write erosion and sediment control requirements into plans, specifications, and estimates for Federal aid construction projects for highways and bridges (FHWA, 1991) and develop erosion control plans for earth disturbing activities.
- Coordinate erosion and sediment controls with FHWA, AASHTO, and State guidelines.
- Install permanent erosion and sediment control structures at the earliest practicable time in the construction phase.
- Coordinate temporary erosion and sediment control structures with permanent practices;
- Vehicles entering or leaving the site with trash or other loose materials would be covered to prevent transport of dust, dirt, and debris. Install and maintain mud and silt traps.
- Minimize the area that is cleared for construction.
- Construct cut-and-fill slopes in a manner that will minimize erosion.
- Minimize runoff entering and leaving the site through perimeter and on-site sediment controls.
- Inspect and maintain erosion and sediment control practices (both on-site and perimeter) until disturbed areas are permanently stabilized.
- Divert and convey off-site runoff around disturbed soils and steep slopes to stables areas in order to prevent transport of pollutants off site.
• After construction, remove temporary control structures and restore the affected area. Dispose of sediments in accordance with State and Federal regulations.
• All storm drain inlets that are made operable during construction would be protected so that sediment-laden water will not enter the conveyance system without first being filtered or otherwise treated to remove sediment.

Construction methods will be designed to have minimal disturbance to existing native vegetation. Excavated material will be hauled out and stockpiled in disturbed areas without native vegetation. Construction access will be from existing roads through disturbed areas or within the designated 18.3-meter (60-foot) construction corridor; no culverts will be placed in the river for access roads. Stockpile areas, staging areas, and construction access will be described on the final grading plans and/or standard specifications, A qualified biologist will review plans and specifications in the design phase of the project. These construction-related areas shall be restricted to previously disturbed areas within the project site. Prior to the start of construction, a qualified biologist shall delineate on grading plans all areas that contain federally- and state-protected biological resources that are not to be disturbed.

On-site mitigation at the San Diego River crossing will consist of restoration of areas within the project limits affected by temporary construction impacts. In addition, special measures will be considered to salvage and replant existing vegetation in order to preserve, as much as possible, the existing canopy and shrub cover.

MTDB’s final natural resources mitigation plan (described in Section 5.7.2) will include the restriction of brushing, grading and construction during the avian breeding season (February 15 to September 1), unless otherwise approved by the USFWS and the CDFG.

16.7 Construction Impacts: Geotechnical

Evaluations conducted for the AA/DEIS/DEIR identified known geological hazards associated with construction of each alternative. Impacts identified included potential for ground settlement, liquefaction, seismic activity, and slope stability. Mitigation measures were developed to address each identified potential hazard.

16.7.2 Additional Geotechnical Analysis and Mitigation Measures

Further geotechnical evaluations were conducted in preliminary engineering, as reported in the technical report, Foundation Report: Mid-Coast Light Rail. No new geological hazards were identified, and based on the report’s recommendations the following mitigation measures were included in the FEIS:

• Submit approved construction plans to a geotechnical consultant to evaluate adherence to Foundation Report recommendations.
• Hold a pre-construction conference with the owner or agency representative, geotechnical consultant, civil engineer, structural engineer, and contractor.
Prior to placement of any fill, clear surface of debris and obstructions, pavement and concrete structures, brush and vegetation. Areas of soft, saturated, or otherwise unsuitable subgrade soils will be removed to competent material, to the extent possible.

- Fill will be placed in horizontal lifts and compacted by appropriate mechanical methods.
- Material imported to the project, if any, will consist of clean, low expansive, low corrosive, granular material.
- Subsurface conditions interpolated by the Foundation Report should be evaluated in the field during construction. A geotechnical consultant will observe the implementation of Foundation Report recommendations in the field.

16.8 Construction Impacts: Utilities

The AA/DEIS/DEIR identified construction-related impacts to utilities as within the norms for roadway construction projects. Utility work associated with the alternatives was expected to consist of consolidating, protecting, or relocating utilities.

16.8.1 Additional Utility Analysis for the FEIS

During preliminary engineering detailed information regarding each of the utilities affected by the proposed project was assembled and included in the Preliminary Engineering Report. Impacts identified (to fiber optic, telephone, sewer line, water, and gas utilities) were consistent with the level of impact anticipated in the AA/DEIS/DEIR. In addition to mitigation measures already stated in the AA/DEIS/DEIR, the FEIS refers to the Preliminary Engineering Report’s recommendations for specific utilities. Discussions will be held with affected utility operators to determine specific measures to minimize disruptions and maintain system integrity.

SECTION 17: RELATIONSHIP BETWEEN LOCAL SHORT-TERM USE OF RESOURCES AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The AA/DEIS/DEIR reported that the lack of available traffic carrying capacity combined with an increase in population and job growth would generate future transportation demands that cannot be met by the existing highway and transit systems in the Mid-Coast Corridor. Alternatives that would reduce vehicle miles traveled and were identified as helping increase long-term economic productivity. Since publication of the AA/DEIS/DEIR the traffic carrying capacity has not increased, and population and economic projections indicate continued strong growth. No new impacts were identified.
SECTION 17: IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The AA/DEIS/DEIR identified the following irretreivable commitments: energy resources, construction materials, funding, human resources, and land. It was also noted, however, that alternatives diverting automobile trips to transit trips would reduce net fuel consumption, and that future joint development could occur on some lands committed to transportation use. This evaluation was reviewed in preparation of the FEIS. No substantial change was found in the nature of irretreivable commitments, opportunities to reduce fuel consumption, or opportunities for future joint development.