3-6 ENERGY

Changes Since the Draft EIS/EIR

Subsequent to the release of the Draft EIS/EIR in April 2004, the Gold Line Phase II project has undergone several updates:

Name Change: To avoid confusion expressed about the terminology used in the Draft EIS/EIR (e.g., Phase I; Phase II, Segments 1 and 2), the proposed project is referred to in the Final EIS/EIR as the Gold Line Foothill Extension.

Selection of a Locally Preferred Alternative and Updated Project Definition: Following the release of the Draft EIS/EIR, the public comment period, and input from the cities along the alignment, the Construction Authority Board approved a Locally Preferred Alternative (LPA) in August 2004. This LPA included the Triple Track Alternative (2 LRT and 1 freight track) that was defined and evaluated in the Draft EIS/EIR, a station in each city, and the location of the Maintenance and Operations Facility. Segment 1 was changed to extend eastward to Azusa. A Project Definition Report (PDR) was prepared to define refined station and parking lot locations, grade crossings and two rail grade separations, and traction power substation locations. The Final EIS/EIR and engineering work that support the Final EIS/EIR are based on the project as identified in the Final PDR (March 2005), with the following modifications. Following the PDR, the Construction Authority Board approved a Revised LPA in June 2005. Between March and August 2005, station options in Arcadia and Claremont were added.

Changes in the Discussions: To make the Final EIS/EIR more reader-friendly, the following format and text changes have been made:

Discussion of a Transportation Systems Management (TSM) Alternative has been deleted since the LPA decision in August 2004 eliminated it as a potential preferred alternative.

Discussions of the LRT Alternatives have eliminated the breakout of the two track configurations used in the Draft EIS/EIR (Double Track and Triple Track). The Final EIS/EIR reports the impacts of a modified triple track configuration (2 LRT tracks and 1 freight track with two rail grade separations) but focuses on the phasing/geographic boundaries included in the LPA decisions.

Two LRT alternatives in the Final EIS/EIR are discussed under the general heading "Build Alternatives," and are defined as:

1. Full Build (Pasadena to Montclair) Alternative: This alternative would extend LRT service from the existing Sierra Madre Villa Station in Pasadena through the cities of Arcadia, Monrovia, Duarte, Irwindale, Azusa, Glendora, San Dimas, La Verne, Pomona, and Claremont, terminating in Montclair. The cities from Pasadena to Azusa are also referred to in the Final EIS/EIR as Segment 1. The cities from Glendora to Montclair are also referred to in the Final EIS/EIR as Segment 2. Key changes from the Draft EIS/EIR are the inclusion of Azusa in Segment 1, the elimination of the Pacific Electric right-of-way option between Claremont and Montclair, the inclusion of a 24-acre Maintenance and Operations facility in Irwindale (the site is smaller than in the Draft EIS/EIR), and the addition of two rail grade separations. Note that the Maintenance and Operations Facility is located in Segment 1 but is part of the Full Build Alternative. In other words, it would not be constructed as an element of the Build LRT to Azusa Alternative (described below). The length of the alternative is approximately 24 miles. One station (and parking) would be located in each city, except for Azusa, which would have two. There are two options for the station locations in Arcadia and Claremont. Segment 1

would include 2 LRT tracks throughout and 1 freight track between the Miller Brewing Company in Irwindale and the eastern boundary of Azusa. The freight track that now exists west of Miller Brewing, which serves a single customer in Monrovia, would be removed from service following relocation of that customer by the City of Monrovia. Segment 2 would include two LRT tracks throughout and 1 freight track between the eastern boundary of Azusa and Claremont. In Claremont, the single freight track joins up with the double Metrolink tracks (which are also used for freight movement) and continues through to Montclair (and beyond). This alternative also includes two railroad grade separations (in Azusa and in Pomona) so that LRT tracks would pass above the at-grade freight track. These allow the LRT and freight services to operate independently (thus eliminating the time-constrained double track option discussed in the Draft EIS/EIR). Implementation of the alternative would include relocation of the existing freight track within the rail right-of-way, but there would be no changes in the service provided to customers. The alternative includes 8 new traction power substations in Segment 2, as well as the 8 in Segment 1.

2. Build LRT to Azusa Alternative: This alternative (also referred to as Segment 1) would extend LRT service from the existing Sierra Madre Villa Station in Pasadena through the cities of Arcadia, Monrovia, Duarte, Irwindale, and to the eastern boundary of Azusa. (The main change from the Draft EIS/EIR is the inclusion of the City of Azusa.) The length of the alternative is approximately 11 miles. One station (and parking facility) would be located in each city, except for Azusa, which would have two. There are two options for the station location in Arcadia. Segment 1 would include two LRT tracks throughout and 1 freight track between the Miller Brewing Company in Irwindale and the eastern boundary of Azusa. The freight track that now exists west of Miller Brewing, which serves a single customer in Monrovia, would be removed from service following relocation of that customer by the City of Monrovia. This alternative also includes the railroad grade separation in Azusa so that LRT tracks would pass above the at-grade freight track. This allows the LRT and freight services to operate independently (thus eliminating the time-constrained double track option discussed in the Draft EIS/EIR). Implementation of the alternative would include relocation of the existing freight track within the rail right-of-way, but there would be no changes in the service provided to customers. The alternative also includes 8 new traction power substations.

As in the Draft EIS/EIR, impact forecasts use 2025 conditions, except for traffic impacts, which reflects a 2030 forecast based on the recently adopted 2004 SCAG Regional Transportation Plan.

Summary of Impacts

Both LRT alternatives would have higher overall operational energy consumption compared to the No Build Alternative.

Both LRT alternatives would result in the one-time, non-recoverable energy costs associated with construction of tracks/rails, systems/equipment, and transportation-related facilities (stations and maintenance facility).~~and rail cars~~

3-6.1 Existing Conditions

Energy consumption in the state of California is dominated by transportation. Since the early 1970s there has been a drastic increase in vehicles operated, and vehicle miles traveled (VMT) in California. According to the California Energy Commission (CEC), the state's approximately 18 million automobiles consume more than 14 billion gallons of gasoline per year, accounting for roughly 51 percent of the state's

energy usage.[1] Although technological advances in vehicle engines have improved fuel economy, the benefits of these advances are less noticeable due to an increase in the number of VMT. The Southern California Area Governments (SCAG) reported that the region's VMT had doubled between 1980 and 2000.[2]

The amount of VMT is directly related to energy consumption, and infers the need for improvements in vehicles and transportation infrastructure. The American Petroleum Institute (API) estimated that the United States has roughly 70 years worth of recoverable oil at the current rate of consumption. California's anticipated population growth is 13 million persons over the next 20 years.[3] California's current rate of energy consumption, and its trend of increasing VMT and anticipated population increase, is likely to cause the state to outpace the assumptions of API.

3-6.2 Environmental Impacts

3-6.2.1 Evaluation Methodology

This analysis estimates the total amount of energy expected to be consumed in the region in 2025 by each of the alternatives. The direct (operational) energy impacts were assessed using the following methodology.

Direct energy consumption involves energy used by the operation of vehicles (automobile, truck, bus, or train) within the region. In assessing the direct energy impact, consideration was given to the following factors:

- Annual VMT for automobiles, trucks, buses, light rail transit (LRT), and commuter rail vehicles
- Variation of fuel consumption rates by vehicle type.

The direct energy analysis for each alternative was based on projected year 2025 regional traffic volumes and total VMT. The 2025 daily traffic volumes for the region were provided by the MTA transportation model and annualized using a factor of 335 days per year. The VMT fuel consumption method utilized for this project is outlined in the *Technical Guidance on Section 5309 New Starts Criteria*.[4] Energy consumption factors for the various modes identified in **Table 3-6.1** were developed by Oak Ridge Laboratory and published in the 1996 *Transportation Energy Book: Edition 16.* Direct energy, measured in British thermal units (BTUs)[5], was converted to the equivalent barrels of crude oil for comparison of alternatives. The change in annual BTUs was also calculated for the Gold Line ~~Phase II~~ Foothill Extension Build Alternatives and compared to the No Build Alternative.

[1] As indicated at California Energy Commission website www.energy.ca.gov/transportation/index.html. Site accessed on December 4, 2003.
[2] SCAG State of the Region 2002. http://www.scag.ca.gov/publications/pdf/SRp43_end.pdf. Site accessed on December 2, 2003.
[3] American Petroleum Institute as cited on the Consumer Energy Center website www.consumerenergycenter.org/vehicles/default.php. Site accessed on December 4, 2003.
[4] FTA 1999.
[5] One BTU is the quantity of energy necessary to raise the temperature of one pound of water one degree Fahrenheit.

TABLE 3-6.1
ENERGY CONSUMPTION FACTORS

Mode	Factor
Passenger vehicles (auto, van, light truck)	6,233 BTU/Vehicle Mile
Heavy trucks	22,046 BTU/Vehicle Mile
Transit bus (all vehicle types) [1]	41,655 BTU/Vehicle Mile
Rail (light or heavy)	77,739 BTU/Vehicle Mile
Commuter rail (Metrolink)	100,000 BTU/Vehicle Mile

[1] FTA recommends utilizing a transit bus energy consumption factor of 41,655 BTUs/VMT for all bus types (including alternative fueled buses). Sufficient data have not been available to develop consumption factors for alternative fuels such as CNG (compressed natural gas), LNG (liquefied natural gas), and others.

Source: Oak Ridge Laboratory, 1996.

3-6.2.2 Impact Criteria

a. NEPA Impact Criteria

There are no National Environmental Policy Act (NEPA) criteria separate from California Environmental Quality Act (CEQA) criteria for the energy analysis. Therefore, the following CEQA impact criteria are used to assess impacts.

b. CEQA Impact Criteria

Potential energy consumption of the ~~TSM~~, Full Build (Pasadena to Montclair) Alternative and the Build LRT to ~~Maintenance Facility~~ Azusa Alternative was compared to the No Build Alternative in order to assess the impacts of the project. The annual energy ~~savings~~usages are expressed in BTUs.

The determination of CEQA importance for energy resources has until now been based on the criterion in Appendix G of CEQA: *Will the proposal use fuel, water, or energy in a wasteful manner?* On January 1, 1999, Appendix G was replaced by new guidelines implementing revisions to CEQA. While there is now no energy-specific criterion within the amended guidelines, one related to mineral resources would apply:

- Would the proposed project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

By comparing the alternatives' energy demands to current and anticipated energy supplies, it is possible to determine whether the alternatives would have a significant effect on energy supplies. Although no clear significance standards or thresholds of impact are established, a one-percent increase in anticipated use over baseline conditions in the study corridor would be considered a significant impact.

3-6.2.3 Construction-Period Impacts

a. No Build Alternative

The No Build Alternative includes extension of I-210 from I-15 to I-215, implementation of increased service on Phase I of the Gold Line LRT, completion and service on the Eastside LRT Extension, and countywide bus service improvements, including the San Gabriel Valley.

Phase I – The Cities Affected and the Effects

The cities in Phase I are Los Angeles, South Pasadena and Pasadena. The projects in the No Build Alternative that could affect these cities are completion and service on the Eastside LRT Extension, implementation of increased service on the existing Phase I of the Gold Line LRT, and countywide bus service improvements.

Construction-period energy impacts would occur in the city of Los Angeles from construction of the Eastside LRT Extension. The construction-period impacts and mitigations measures of this project are described in the Draft Supplemental Environmental Impact Statement/ Draft Subsequent Environmental Impact Report (FTA and LACMTA, 2001).[6] That document concluded that there would be no significant construction-period energy impacts.

The construction-period energy impact would be expected to be less than adverse under NEPA. Increased service in Phase I of the Gold Line would not include construction, and there would be no construction-period impacts.

That portion of countywide bus improvements that may occur within the Phase I cities (Los Angeles, South Pasadena, and Pasadena) during the construction period for the proposed ~~Phase II~~Foothill Extension is not expected to include substantial amounts of construction in the Phase I cities. The planned service improvements would be likely to include upgraded or additional bus stops. Construction of these bus stops would require minor amounts of energy and would result in a less-than-significant impact under CEQA. The construction-period energy impact would be expected to be less than adverse under NEPA.

Foothill Extension Segment 1 – The Cities Affected and the Effects

The cities in ~~Phase II~~, Segment 1 of the Foothill Extension are Pasadena, Arcadia, Monrovia, Duarte, Irwindale, and Azusa. The projects in the No Build Alternative affecting these cities during the ~~Phase II~~ construction period of the Foothill Extension are implementation of increased service on Phase I of the Gold Line LRT and countywide bus service improvements. As described for the Phase I cities, the construction-related activities associated with projects in the No Build Alternative would not result in substantial construction energy consumption within the ~~Phase II~~Segment 1 area. The result would be a less than significant impact under CEQA. The construction-period energy impact would be expected to be less than adverse under NEPA.

[6] FTA and LACMTA 2001

Foothill Extension Segment 2 – The Cities Affected and the Effects

The cities in ~~Phase II~~ Foothill Extension Segment 2 are ~~Azusa~~ Glendora, San Dimas, La Verne, Pomona, Claremont, and Montclair ~~and Upland~~. The project in the No Build Alternative affecting the cities during the construction period of the proposed Foothill Extension is the Los Angeles County bus service improvements. Even though Montclair ~~and Upland are~~ is in San Bernardino County, ~~they are~~ it is affected by changes in Los Angeles County bus service because that service is linked to the Montclair TransCenter. The Eastside LRT extension and increased service on Phase I of the Gold Line LRT would not have an effect on the Segment 2 cities because there would be no stations in these cities. As noted earlier, the proposed extension of I-210 eastward is more than 5 miles east of the eastern end of the Foothill Extension area. Due to this distance, no effects from the freeway extension are expected within the study corridor.

As described for the Phase I cities, the construction-related activities associated with projects in the No Build Alternative would not result in substantial construction energy consumption within the Foothill Extension Segment 2 area. The result would be a less than significant impact under CEQA. The construction-period energy impact would be expected to be less than adverse under NEPA.

b. Build Alternatives

Phase I – The Cities Affected and the Effects

The cities in Phase I are Los Angeles, South Pasadena and Pasadena. The proposed project would have no impacts to energy in Los Angeles or South Pasadena during construction because there would be no construction activities in those cities. Within this area, construction would result in the one-time, non-recoverable energy costs associated with construction of tracks/rails and systems/equipment. Construction would result in a less than significant impact under CEQA to the availability of fossil fuels or electricity within the region or the state given the current and projected available resources. Construction-period demand would not exceed the threshold of one percent increase. The construction-period energy impact would be expected to be less than adverse under NEPA.

Foothill Extension Segment 1 – The Cities Affected and the Effects

The cities in Segment 1 of the Foothill Extension are Pasadena, Arcadia, Monrovia, Duarte, Irwindale, and Azusa. In Pasadena, construction would occur between the existing LRT station at Sierra Madre Villa and the eastern city limits. It should be noted that within the overall proposed project, only two LRT tracks would be built ~~in this specific segment since there is no need for triple tracks west of Monrovia because there are no freight customers to be served~~. It should be noted that within the overall segment, only two tracks would be built west of ~~Monrovia~~ Irwindale (i.e., through Duarte, Monrovia, Arcadia and Pasadena) because there are no freight customers to be served. Construction of the proposed project in this segment would result in the one-time, non-recoverable energy costs associated with construction of tracks/rails, systems/equipment, and transportation-related facilities (four stations and the maintenance and operations facility). Due to the size and components of the maintenance and operations facility, construction-period energy demand would be higher than in ~~Phase II~~Foothill Extension Segment 2. Short-term use of oil, gas, and electricity for construction would reduce the overall amount of fossil fuels available within the area, region, and state. However, the overall energy demand for construction would result in a less than significant impact under CEQA to the availability of fossil fuels or electricity within the region or the state given the current and projected available resources. The construction-period demand would not exceed the threshold of one percent increase. The construction-period energy impact would be expected to be less than adverse under NEPA.

Foothill Extension Segment 2 – The Cities Affected and the Effects

The cities in Segment 2 are Glendora, San Dimas, La Verne, Pomona, Claremont, Montclair, and Upland. The construction of the proposed project in this segment would result in the one-time, non-recoverable energy costs associated with construction of tracks/rails, systems/equipment, and transportation-related facilities (~~nine~~six stations). However, the overall energy demand for construction would result in a less than significant impact under CEQA to the availability of fossil fuels or electricity within the region or the state given the current and projected available resources. Construction-period demand would not exceed the threshold of one percent increase. The construction-period energy impact would be expected to be less than adverse under NEPA.

3-6.2.4 Long-Term Impacts

Long-term impacts are assessed based on changes in regional VMT. Therefore, impacts are reported only for the overall alternative, not by Phase, segment, or by city.

a. No Build Alternative

Under the No Build Alternative, the annual 2025 VMT within the region is forecasted to be:

- 431.16 million miles for automobiles[7]
- 17.96 million miles for trucks[4]
- 8.65 million miles for buses[4]
- 4.35 million miles for LRT[4]

The annual VMT for automobiles and trucks would be slightly higher than the LRT Build Alternatives, resulting in higher energy usage for these modes. The VMT for buses and rail, however, would be lower than the VMT for the LRT Build Alternatives (see **Table 3-6.2**).

Given the VMT of the No Build Alternative, and vehicle fuel consumption on an annual basis, vehicles operating within the region are anticipated to consume approximately 603,049 barrels of oil or approximately 3,498 billion BTUs annually. As shown in **Table 3-6.2**, the No Build Alternative would have lower overall operational energy consumption compared to the LRT Build Alternatives. No cities would be specifically affected, as these energy impacts would occur equally throughout the project study area.

While the No Build Alternative would have lower overall operational energy consumption compared to the LRT Build Alternatives, it would have a higher consumption of fossil fuels, due to the higher VMT of automobiles and trucks. Fossil fuels will continue to be future needs of the region and the residents of the state.

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[7] Vehicle Miles Traveled (PBQD, December 9, 2003); Energy Consumption Factors (Oak Ridge National Laboratory, 1996)

TABLE 3-6.2
ANNUAL 2025 OPERATIONAL ENERGY CONSUMPTION

	No Build Alternative	Foothill Extension Segment 2 (Full Build, Pasadena to Montclair)	Foothill Extension Segment 1 (Build LRT to Azusa Alternative)
Vehicle Miles Traveled (VMT)			
Daily Auto and Truck VMT	1,340,662	1,340,504	1,340,323
Annual Auto VMT (millions)	*431.16*	*431.11*	*431.05*
Annual Truck VMT (millions)	*17.96*	*17.96*	*17.96*
Daily Bus VMT	27,447	27,447	27,447
Annual Bus VMT	*8,645,805*	*8,645,805*	*8,645,805*
Daily LRT VMT	13,810	23,238	21,397
Annual LRT VMT	*4,350,000*	*7,320,000*	*6,740,000*
Energy Consumption (BTUs)[1] (billions)			
Annual Auto BTUs[1]	2,687	2,687	2,686
Annual Truck BTUs[1]	112	112	112
Annual Bus BTUs[1]	360	360	360
Annual LRT BTUs[1]	338	569	524
Total Annual Direct BTUs (billions[2])	**3,498**	**3,728**	**3,683**
Total Annual Barrels of Crude Oil [3]	**603,049**	**642,799**	**634,960**
Change in BTUs vs. No Build (millions[2])	**N/A**	**230,554**	**185,088**
Change in Barrels vs. No Build	**N/A**	**39,751**	**31,912**

[1]One British thermal unit (BTU) is the quantity of energy necessary to raise the temperature of one pound of water one degree Fahrenheit.

[2]Rounded.

[3]One barrel of crude oil is equal to 5.8 million BTUs.

N/A – Not Applicable

Sources: Vehicle Miles Traveled (PBQD, Dec. 9, 2003); Energy Consumption Factors (Oak Ridge National Laboratory, 1996).

b. Build Alternatives

Summary of Impacts for Full Build (Pasadena to Montclair) Alternative

Under the Full Build (Pasadena to Montclair) Alternative, the annual 2025 VMT within the region is forecasted to be:

- 431.11 million miles for automobiles
- 17.96 million miles for trucks

- 8.65 million miles for buses
- 7.32 million miles for LRT

The annual VMT for automobiles and trucks would be slightly lower than the No Build Alternative resulting in lower energy usage for these modes, but would be slightly higher than the Build LRT to Azusa Alternative. The VMT for buses and rail, however, would be higher than all other alternatives.

Given the VMT and vehicle fuel consumption on an annual basis, vehicles operating within the region are anticipated to consume approximately 642,799 barrels of oil or approximately 3,728 billion BTUs. As shown in **Table 3-6.2**, the Full Build (Pasadena to Montclair) Alternative would have higher overall operational energy consumption compared to the other alternatives. No cities would be specifically affected, as these energy impacts would occur equally throughout the project study area.

While the Full Build (Pasadena to Montclair) Alternative would result in slightly greater energy consumption than the No Build Alternative during operation, it would result in a less than a one-percent increase in energy consumption for the project study area. Thus, this alternative would not result in a significant impact to the availability of fossil fuels or electricity within the region or the state, given the current and projected available resources. The change in long-term energy does not exceed the one percent threshold and therefore would result in a less than significant impact under CEQA and less than adverse impact under NEPA.

Table 3-6.3 shows a breakdown of energy use in kilowatt hours (Kwh) with and without the stations and maintenance and storage facility associated with the two build alternatives. Stations for the Full Build (Pasadena to Montclair) Alternative would use approximately 2.3 billion BTUs (182,614 Kwh or 392.2 barrels of crude oil) annually during the operation of the project (this is based on 13 stations multiplied by 175,000,000 BTUs, using FTA's *Technical Guidance on Section 5309 New Starts Criteria*, July 1999). Stations for the Build LRT to Azusa Alternative would use approximately 700 million BTUs (56,189 Kwh or 120.7 barrels of crude oil) annually during the operation of the project (this is based on ~~4~~ 6 stations multiplied by 175,000,000 BTUs). The maintenance and storage facility would use approximately 8.7 billion BTUs (698,346 Kwh, 1,500 barrels of crude oil) annually during the operation of the project for either build alternative. (Caltrans Division of Engineering Services, Office of Transportation Laboratory, *Energy and Transportation Systems*, Table G-3, July 1983).

The total energy consumption for Full Build (Pasadena to Montclair) Alternative is shown in **Table 3-6.3** to be 6.9 percent higher than the No Build Alternative. For the Build LRT to Azusa Alternative, the incremental energy demand over the No Build Alternative is shown to be 5.5 percent higher. For either alternative, the energy demand would be less than one percent and would thus result in a less than significant impact under CEQA and a less than adverse effect under NEPA.

TABLE 3-6.3
ANNUAL 2025 ENERGY CONSUMPTION (KWH) FOR SPECIFIC FACILITIES

Alternative	No Build Alternative	Foothill Extension Segment 2 (Full Build, Pasadena to Montclair)	Foothill Extension Segment 1 (Build LRT to Azusa Alternative)
Energy Without Stations (millions)	280.76	299.26	295.61
LRT Station Energy	N/A	182,614	56,189
Maintenance and Storage Facility Energy	N/A	698,346	698,346
Total (millions)	280.76	300.15	296.37

N/A – Not Applicable

Sources: Vehicle Miles Traveled (PBQD, Dec. 9, 2003); *Technical Guidance on Section 5309 New Starts Criteria*, (FTA, July 1999), *Energy and Transportation Systems*, Table G-3, (Caltrans Division of Engineering Services, July 1983).

Summary of Impacts for Build LRT to Azusa Alternative

Under the Build LRT to Azusa Alternative, the annual 2025 VMT within the region is forecasted to be:

- 431.05 million miles for automobiles
- 17.96 million miles for trucks
- 8.65 million miles for buses
- 6.74 million miles for LRT

The annual VMT for automobiles and trucks would be slightly lower than all other alternatives, resulting in lower energy usage for these modes. The VMT for buses and rail, however, would be higher than the No Build Alternative.

Given the VMT and vehicle fuel consumption on an annual basis, vehicles operating within the region are anticipated to consume approximately 634,960 barrels of oil or approximately 3,683 billion BTUs. As shown in **Table 3-6.2**, the Build LRT to Azusa Alternative would have higher overall operational energy consumption compared to the No Build Alternative, and lower overall operational energy consumption compared to the Full Build (Pasadena to Montclair) Alternative. No cities would be specifically affected, as these energy impacts would occur equally throughout the project study area.

While the Build LRT to Azusa Alternative would result in slightly greater energy consumption than the No Build Alternative during operation, it would result in a less than a one percent increase to energy consumption in the project study area. Thus, this alternative would result in a less than significant impact to the availability of fossil fuels or electricity within the region or the state, given the current and projected available resources and would not exceed the threshold of one percent increase.

3-6.2.5 Cumulative Impacts

The proposed project's resulting incremental increase in energy consumption, while less than significant and not adverse, would contribute to a significant cumulative increase in regional energy demand. SCAG's analysis of the Regional Transportation Plan, of which the proposed project is one component, indicates substantial increases in the consumption of electricity, natural gas, gasoline, diesel, and other non-renewable energy types. The proposed project would thus contribute to this cumulative impact.

3-6.2.6 Impacts Addressed by Regulatory Compliance

a. Construction-Period Impacts

Impacts that would arise from construction of any of the alternatives were identified in Section 3-6.2.3, above. The overall impacts were reported to be less than significant under CEQA and less than adverse under NEPA. Some of the specific construction-period impacts which would occur as part of any construction process would be eliminated or reduced through compliance with local, state or federal regulations or permits that have been developed by agencies to manage construction impacts, to meet legally established environmental impact criteria or thresholds, and/or to ensure that actions occurring under agency approvals or permits are in compliance with laws and policies. Following is a discussion of the construction-period impacts for each of the alternatives that would be addressed by the regulatory compliance. It should be noted that regulatory compliance is not a mitigation measure, but is rather a legal requirement that must be met during project implementation.

To reduce the less-than-significant impacts to energy resources from construction of any of the alternatives, the Construction Authority or LACMTA will comply with all federal, state, and local requirements for separation of differing standards of waste materials. During design and construction of the LRT Build Alternative, the Construction Authority or LACMTA will comply with the requirements of Resource Conservation and Recovery Act (RCRA) Section 6002 (EPA's Buy-Recycled program) where technically feasible and appropriate. The agencies will strive to incorporate the latest Comprehensive Procurement Guide (CPG) listings of recycled or re-used materials applicable to construction, landscaping, and transportation products used on the LRT Build Alternatives. Procurement decisions regarding RCRA Section 6002 compliance will consider the price of designated items made with recovered materials versus typical products, the competition base of recovered goods suppliers, unusual and unreasonable delays for procurement of products, and the compliance of recovered and/or recycled goods with LACMTA design criteria.

b. Long-Term Impacts

Long-term impacts associated with the alternatives were identified in Section 3-6.2.4, above. The overall impacts were reported to be less than significant under CEQA and less than adverse under NEPA. Some of the specific impacts which would occur as part of any transit operation would be eliminated or reduced through compliance with local, state or federal regulations or permits that have been developed by agencies to reduce energy demands. The LACMTA design criteria and operational guidelines under which the Build Alternatives would be implemented incorporate all legal and regulatory requirements.

3-6.3 Mitigation

3-6.3.1 Construction-Period Mitigation Measures

Since construction-period impacts for energy would be less than significant under CEQA and less than adverse under NEPA, no measures to mitigate impacts are required.

3-6.3.2 Long-Term Mitigation

Since operational impacts for energy would be less than significant under CEQA and less than adverse under NEPA, no measures to mitigate impacts are required.

3-6.4 Impact Results with Mitigation

3-6.4.1 Construction Period

Construction-period impacts for energy would be less than significant under CEQA and less than adverse under NEPA. Since no measures to mitigate impacts are required, the net result remains that construction-period energy impacts would be less than significant under CEQA and less than adverse under NEPA.

3-6.4.2 Long Term

Operational impacts for energy would be less than significant under CEQA and less than adverse under NEPA. Since no measures to mitigate impacts are required, the net result remains that operational period energy impacts would be less than significant under CEQA and less than adverse under NEPA.