

*Readers' Guide:*

*This chapter includes a financial plan, which is different from the one presented in the 2004 Draft EIR/EIS. The financial plan is not required under the California Environmental Quality Act for an EIR. The Construction Authority has opted to retain this information for the benefit of readers of and commenters on the draft environmental document who may be interested in this issue. Note that actual funding for the project may be different from this plan, reflective of ongoing changes in available and potential funding sources.*

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## CHAPTER 5 - FINANCIAL ANALYSIS

### 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

## 5-1 FINANCIAL ANALYSIS

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

This section discusses both types of costs, presents the proposed capital financing plan, and then analyzes the Los Angeles to Pasadena Metro Blue Line Construction Authority (Construction Authority) ability to afford the build alternatives.

## 5-1.1 Capital Cost Estimates for Build Alternatives

This section summarizes the capital cost estimates for the Full Build (Pasadena to Montclair) Alternative and the Build LRT to Azusa Alternative. The No Build Alternative does not have any associated capital costs for comparative purposes as they are considered in the overall financial capability of the Construction Authority along with the other alternatives under consideration. The capital cost methodology and capital cost estimates are based on the estimates and methodology prepared as part of the Advanced Conceptual Engineering activities conducted as part of the Final EIS/EIR technical activities. Detailed estimates prepared by Kal Krishnan Consulting Services and Parsons Brinckerhoff Quade & Douglas are available from the Construction Authority (Advanced Conceptual Engineering Cost Estimate, September 2005).

### 5-1.1.1 LRT Build Alternatives

The capital cost estimates were prepared with all costs expressed in 2005 dollars. Cost estimates are developed by identifying quantities on conceptual drawings and applying standardized rates as defined in the Construction Cost Methodology, the Advanced Conceptual Engineering Cost Estimate, the alternatives definitions, and the Engineering Plans and Drawings. The alignment plans, typical cross sections, and station concepts are included in Volume 4. In addition, capital costs for both additional buses (for the build alternatives) and LRT vehicles, as well as an estimate for the maintenance and operations facility, have been included.

The total capital cost includes allowances for an insurance program, master agreements with agencies, professional services, testing and pre-revenue service, environmental mitigation, and artwork. Additionally, contingency has been included for construction (such as guideway, systems, facilities, and stations) and right of way (ROW).

**Table 5-1** presents the total capital costs (in millions of dollars) for the two Build Alternatives in 2005 dollars. The major differences between the build alternatives are the length of each alternative. The Full Build (Pasadena to Montclair) Alternative is 23.9 miles long and the Build LRT to Azusa Alternative is 11.4 miles. The Maintenance and Operations (M&O) Facility is only included in the Full Build (Pasadena to Montclair) Alternative.

<b>TABLE 5-1</b>			
<b>CAPITAL COST ESTIMATES (2005 \$)</b>			
<b>Cost Category</b>	<b>2005 Dollars in Millions</b>		
	<b>Full Build (Pasadena to Montclair) Alternative <sup>(1)</sup></b>	<b>Build LRT to Azusa Alternative</b>	<b>LRT M&amp;O Facility Total</b>
Guideway	\$133.0	\$64.0	\$0.0
Stations	\$55.9	\$22.7	\$0.0
LRT M&O Facility/Bus Support Facilities	\$59.9	\$6.7	\$57.3
Special Conditions	\$216.1	\$90.2	\$0.0
Systems	\$154.9	\$72.2	\$0.0
<i>Subtotal – Construction</i>	<i>\$619.8</i>	<i>\$255.8</i>	<i>\$57.3</i>

Right-of-Way	\$86.3	\$32.9	\$26.2
Vehicles	\$38.6	\$12.8	\$0.0
Professional Services	\$206.7	\$88.3	\$16.5
Unallocated Contingencies	\$24.9	\$12.5	\$2.3
<b>Total Cost</b>	<b>\$976.3</b>	<b>\$402.3</b>	<b>\$102.3</b>
Source: Kal Krishnan Consulting Services and Parsons Brinckerhoff, 2005. ( <sup>1</sup> ) M&O facility cost is included.			

### 5-1.2 Maintenance and Operations Facility

In Chapter 2 the proposed Maintenance and Operations Facility (M&O) is described. The capital cost estimate is presented in Table 5-1 and has a total estimated capital cost of approximately \$102.3 million in 2005 dollars. The proposed M&O has been designed to handle the future needs of the total Gold Line from East Los Angeles to Montclair or approximately 44 miles of LRT operations.

### 5-1.3 Operating and Maintenance Cost Estimates

This section summarizes the Operating and Maintenance (O&M) cost estimate for the LRT Build Alternatives. The LRT O&M costs were determined using a resource cost build-up model based on the current LACMTA operating costs and the incremental bus costs for Foothill Transit and LACMTA services to be provided were based on the latest O&M costs for those agencies. The LRT cost model is described in the Operations and Maintenance Cost Estimates (September 2005) report prepared by the Construction Authority. The Gold Line Foothill Extension LRT proposed operating plan and the operating and maintenance cost estimates are estimated in 2005 dollars. The LRT O&M costs have assumed that the to build alternatives are extensions of an existing service (Gold Line Phase I) and takes advantage of the existing infrastructure and staffing structure already in place.

**Table 5-2** presents the annual O&M costs for each alternative in 2005 dollars based on the proposed operations in year 2025. The table also shows the incremental O&M costs for each alternative compared to the No Build Alternative.

Provider and Mode	2005 Dollars in Millions		
	No Build	Full Build (Pasadena to Montclair) Alternative	Build LRT to Azusa Alternative
LACMTA LRT Gold Line	\$45.692	\$61.820	\$53.038
LACMTA Bus	\$1,044.356	\$1,044.831	\$1,044.782
Foothill Transit Bus	\$82.922	\$88.032	\$90.972
Total O&M Costs	\$1,172.970	\$1,194.683	\$1,188.792
Increment to No Build	NA	\$21.713	\$15.822
Source: Construction Authority and Parsons Brinckerhoff, 2005.			

## 5-1.4 Project Finance Plan

This section summarizes the capital and operating financial plans for the alternatives. The analysis focuses on the conceptual financial plans for the Full Build (Pasadena to Montclair) Alternative and the Build LRT to Azusa Alternative. A description is provided of the proposed revenue sources, commitment of these sources, and schedule of annual outlays planned.

Section 5-1.3.1 describes the proposed uses and sources of funding for the capital and O&M costs of the build alternatives. Section 5-1.3.2 presents the proposed flow of costs and revenues over the pre-2004 to 2030 period.

### 5-1.4.1 Proposed Uses and Sources of Funding

This section describes the proposed uses and sources of funding for the capital and O&M of the build alternatives. To provide a better understanding of the actual funds that would need to be expended and of the relative effects of inflation on costs and revenues, the financial analysis is presented in year-of-expenditure (YOE) dollars. YOE dollar values are computed by multiplying base year dollar values by the compounded escalation factor for the relevant year for the relevant cost factor. For example, in YOE dollars, \$1.00 in 2005 is equivalent to \$1.03 in 2006, using an inflation rate of 3.0 percent.

The escalation factors used to convert capital cost estimates in 2005 dollars to costs in YOE dollars costs were derived from forecasts of the Consumer Price Index (CPI) prepared in August 2004 by the UCLA Anderson School of Business Forecast Report for Los Angeles County. Over the 2005 – 2025 period, the annual CPI is projected to average approximately 2.65 percent, and range from a low of 2.33 percent in 2009 to a high of 3.03 percent in 2016. This is consistent with LACMTA's financial forecasting process.

#### *a. Overview of Proposed Uses of Funds*

**Table 5-3** summarizes the capital costs of the two build alternatives in 2005 constant dollars and in YOE dollars. The costs summarized are comprised of the total capital costs, including allowances for professional services and project contingencies and prior State/local expenditures on right of way and on the Metro Gold Line Phase I (Los Angeles to Sierra Madre Villa). As shown in the table, excluding prior expenditures, over the pre-2004 to 2025 period, the capital cost of the Full Build (Pasadena to Montclair) Alternative is \$976.3 million in 2005 dollars and \$1,120.1 million in YOE dollars. The capital cost of the Build LRT to Azusa Alternative is \$402.3 million in 2005 dollars and \$436.0 million in YOE dollars. Including prior State/local expenditures on right-of-way and the Metro Gold Line Phase I, the total project capital costs in YOE dollars are \$1,948.1 million and \$794.0 million for the Full Build (Pasadena to Montclair) Alternative and the Build LRT to Azusa Alternative respectively. These are total project costs that include both the LA County and San Bernardino shares.

<b>TABLE 5-3 CAPITAL COST OF THE BUILD LRT ALTERNATIVES IN 2005 DOLLARS AND IN YEAR OF EXPENDITURE DOLLARS, MILLIONS</b>				
<b>Cost Category</b>	<b>Full Build (Pasadena to Montclair) Alternative</b>		<b>Build LRT to Azusa Alternative</b>	
	<b>2005 Dollars in Millions</b>	<b>YOE Dollars in Millions</b>	<b>2005 Dollars in Millions</b>	<b>YOE Dollars in Millions</b>
Guideway and Track Elements	\$133.0	\$152.1	\$64.0	\$69.4
Stations	\$55.9	\$65.1	\$22.7	\$24.9
Support Facilities	\$59.9	\$72.8	\$6.7	\$7.9
Sitework and Special Conditions	\$216.0	\$248.6	\$90.2	\$97.8
Systems	\$154.9	\$177.4	\$72.2	\$78.3
Right-of-Way, Land, Existing Improvements	\$86.3	\$95.8	\$32.9	\$34.2
Vehicles	\$38.6	\$46.6	\$12.8	\$15.2
Professional Services	\$206.8	\$232.9	\$88.3	\$94.6
Unallocated Contingency	\$24.9	\$28.7	\$12.5	\$13.7
<b>Total Capital Cost</b>	<b>\$976.3</b>	<b>\$1,120.1</b>	<b>\$402.3</b>	<b>\$436.0</b>
Interest Cost	\$0.0	\$0.0	\$0	\$0
Prior State/Local Expenditure for Right-of-Way (Ph I and II)	\$97.1	\$97.1	\$73.0	\$73.0
Prior State/Local Expenditure for Phase I Metro Gold Line to SMV	\$731.0	\$731.0	\$285.0 (part only)	\$285.0 (part only)
<b>Total Prior Local/State Expenditure</b>	<b>\$828.1</b>	<b>\$828.1</b>	<b>\$358.0</b>	<b>\$358.0</b>
<b>TOTAL PROJECT COST</b>	<b>\$1,804.4</b>	<b>\$1,948.1</b>	<b>\$760.3</b>	<b>\$794.03</b>

Source: Parsons Brinckerhoff, 2005.

**Table 5-4** summarizes the proposed uses and sources of funds for the capital and operations and maintenance of the build alternatives over the pre-2004 – 2025 period. For the Full Build (Pasadena to Montclair) Alternative, the total cost for capital, prior State/local expenditures, and O&M is \$2,372.5 million (YOE \$). Of this total, \$1,120.1 million is for capital, \$828.1 is for prior State/local expenditures, and \$424.4 million is for O&M over the initial 16 years of operation. Included in the prior State/local expenditures are \$97.1 million for the acquisition of the railroad ROW to Montclair and \$731.0 million for the Metro Gold Line Phase I.



**TABLE 5-4  
PROPOSED SOURCES AND USES OF FUNDING  
FISCAL YEAR PRE-2004 - 2025  
(IN YEAR OF EXPENDITURE DOLLARS, MILLIONS)**

	Full Build (Pasadena to Montclair) Alternative	Build LRT to Azusa Alternative
<b>USES OF FUNDS</b>		
<b>LA County Costs</b>		
Project Capital Costs	\$1,069.8	\$436.0
Interest Cost	\$0.0	\$0.0
<b>Total Project Capital Cost</b>	<b>\$1,069.8</b>	<b>\$436.0</b>
<i>Prior Expenditure for Right-of-Way</i>	\$96.0	\$73.0
<i>Phase I Metro Gold Line (LA to Sierra Madre Villa)</i>	\$731.0	\$285.0
<b>Subtotal, LA County Capital Costs</b>	<b>\$1,896.8</b>	<b>\$794.0</b>
<b>SB County Costs</b>		
Project Capital Costs	\$50.2	\$0.0
Interest Cost	\$0.0	\$0.0
<b>Total Project Capital Cost</b>	<b>\$50.3</b>	<b>\$0.0</b>
<i>Prior Expenditure for Right-of-Way</i>	\$1.1	
<b>Subtotal, SB County Capital Costs</b>	<b>\$51.3</b>	<b>\$0.0</b>
<b>TOTAL CAPITAL COSTS</b>	<b>\$1,948.1</b>	<b>\$794.0</b>
<b>SOURCES OF CAPITAL FUNDS</b>		
<b>LA County Capital Funding Sources</b>		
<b>Federal</b>		
FTA Section 5309 New Starts	\$948.4	\$397.0
FTA Section 5309 Bus and Bus Related Intermodal	\$12.5	\$12.5
FHWA TCSP	\$2.9	\$1.5
<b>State</b>		
State Funds (Proposition 192 Seismic Bond)	\$13.9	\$13.9
<b>Regional/Local</b>		
Carryover from Phase I	\$4.0	\$4.0
Southern California Association of Governments	\$1.0	\$0.5
Interest	\$2.0	\$1.6
Corridor Cities Contribution	\$11.0	\$5.0
State/Regional/Local Sources	\$74.1	\$0.0
<b>Subtotal, LA County Capital Sources</b>	<b>\$1,069.8</b>	<b>\$436.0</b>
<i>Prior State/Local Expenditure for Right of Way</i>	\$96.0	\$73.0
<i>Phase I Metro Gold Line (LA to Sierra Madre Villa)</i>	\$731.0	\$285.0
<b>Total, LA County Capital Sources and Prior State/Local Expenditures</b>	<b>\$1,896.8</b>	<b>\$794.0</b>
<b>SB County Capital Funding Sources</b>		
<b>Federal</b>		
FTA Section 5309 New Starts	\$25.6	\$0.0
<b>Local</b>		
SANBAG Local	\$24.6	\$0.0
<b>Subtotal, SB County Capital Sources</b>	<b>\$50.2</b>	<b>\$0.0</b>
<i>Prior State/Local Expenditure for Right of Way</i>	\$1.1	\$0.0
<b>Total, SB County Capital Sources and Prior</b>	<b>\$51.3</b>	<b>\$0.0</b>

**TABLE 5-4  
PROPOSED SOURCES AND USES OF FUNDING  
FISCAL YEAR PRE-2004 - 2025  
(IN YEAR OF EXPENDITURE DOLLARS, MILLIONS)**

	Full Build (Pasadena to Montclair) Alternative	Build LRT to Azusa Alternative
<i>State/Local Expenditures</i>		
<b>TOTAL CAPITAL FUNDING SOURCES</b>	<b>\$1,948.1</b>	<b>\$794.0</b>
<b>O&amp;M COSTS AND REVENUES</b>		
<b>O&amp;M COSTS</b>		
LRT	\$303.0	\$159.7
MTA Bus	\$10.4	\$9.3
Foothill Transit	\$111.0	\$174.8
<b>Total O&amp;M Costs</b>	<b>\$424.4</b>	<b>\$343.8</b>
<b>SOURCES OF O&amp;M FUNDS</b>		
LRT Farebox Revenues	\$63.1	\$32.9
Bus Farebox Revenues	\$32.4	\$49.1
MTA Local Funds	\$328.9	\$261.8
<b>TOAL O&amp;M Sources</b>	<b>\$424.4</b>	<b>\$343.8</b>
Notes:		
<ol style="list-style-type: none"> <li>1. The prior State/local expenditure on Right of Way reflects actual expenditure in 1992 and is in 1992 dollars. Per comments received from FTA, the Authority has not inflated this number to 2005 dollars. However, the Authority reserves the right to escalate this figure to 2005 dollars if it is found later to be acceptable to FTA. The ROW costs shown for the Full Build and Build LRT to Azusa alternatives reflect costs from downtown Los Angeles to Montclair and Azusa respectively.</li> <li>2. The prior State/local expenditure on the Metro Gold Line Phase I reflects the total actual cost for the Full Build Alternative and a share of the total for the Build LRT to Azusa Alternative.</li> <li>3. Capital costs for the Full Build Alternative include 10 rail cars, 11 buses, and a new maintenance facility.</li> <li>4. Capital costs for the Build LRT to Azusa Alternative include 28 buses.</li> <li>5. San Bernardino Associated Governments (SANBAG) has committed up to \$35.0 million in local funds.</li> </ol>		
Source: Sharon Greene & Associates, 2005.		

For the Build LRT to Azusa Alternative, the total cost for capital, prior State/local expenditure for ROW and the Gold Line Phase I, and O&M is \$1,137.9 million (YOE \$). Of this total, \$436.0 million is for capital, \$358.0 for prior State/local expenditure, and \$343.9 million is for O&M over the initial 16 year period of operations. Included in the prior State/local expenditures are \$73.0 million for the acquisition of the railroad ROW to Azusa and a \$278.6 million share of the total cost for the Metro Gold Line Phase I.

The capital costs would be shared by two county level jurisdictions, each with a separate funding plan. For this reason, the cash flows distinguish between the costs and revenues for each county. The Los Angeles County share is 97.4 percent of the capital costs and prior State/local expenditure for the Full Build (Pasadena to Montclair) Alternative and 100.0 percent of the capital costs and prior State/local expenditure for the Build LRT to Azusa Alternative. Of the \$1,948.1 million in capital cost and prior expenditure for the Full Build (Pasadena to Montclair) Alternative, \$1,896.8 million is the Los Angeles County share and \$51.3 million is the San Bernardino County share. Of the \$794.0 million in capital cost and prior expenditure for the Build LRT to Azusa Alternative, all costs are for Los Angeles County.

Table 5-4 also summarizes the incremental O&M costs of the Build alternatives over the No Build Alternative over the 2010 – 2025 period in which the LRT project would be in operation. Of the \$424.4 million in O&M costs for the Full Build (Pasadena to Montclair) Alternative, \$303.0 million (71.3 percent) are for LRT service, \$10.4 million (2.5 percent) is for bus service provided by MTA, and \$111.0 million (26.2 percent) are for bus service provided by Foothill Transit. Of the \$343.9 million in O&M costs for the Build LRT to Azusa Alternative, \$159.7 million (46.4 percent) are for LRT service, \$9.4 (2.8 percent) million for bus service provided by MTA, and \$174.8 million (50.8 percent) are for bus service provided by Foothill Transit.

*b. Overview of Proposed Sources of Funds*

This section focuses on the proposed sources of funding for the Build Alternatives over the pre-2004 – 2025 period. Capital funding sources are described first, followed by a description of O&M funding sources.

Capital Funding Sources

**Table 5-5** and **Figure 5-1** illustrate the variety of revenue sources proposed to fund the capital costs of the Build alternatives. These sources consist of:

Federal Sources:

- FTA Section 5309 New Starts
- FTA Section 5309 Bus and Bus Related Intermodal
- FHWA Transportation and Community and Systems Preservation Program (TCSP)

State Sources:

- State Funds (Proposition 192 Seismic Bond)

Regional/Local Sources:

- Carryover from Phase I
- Southern California Association of Governments
- Interest
- Corridor Cities Contributions
- State/Regional/Local Sources

Prior State/Local Expenditures for Right-of-Way

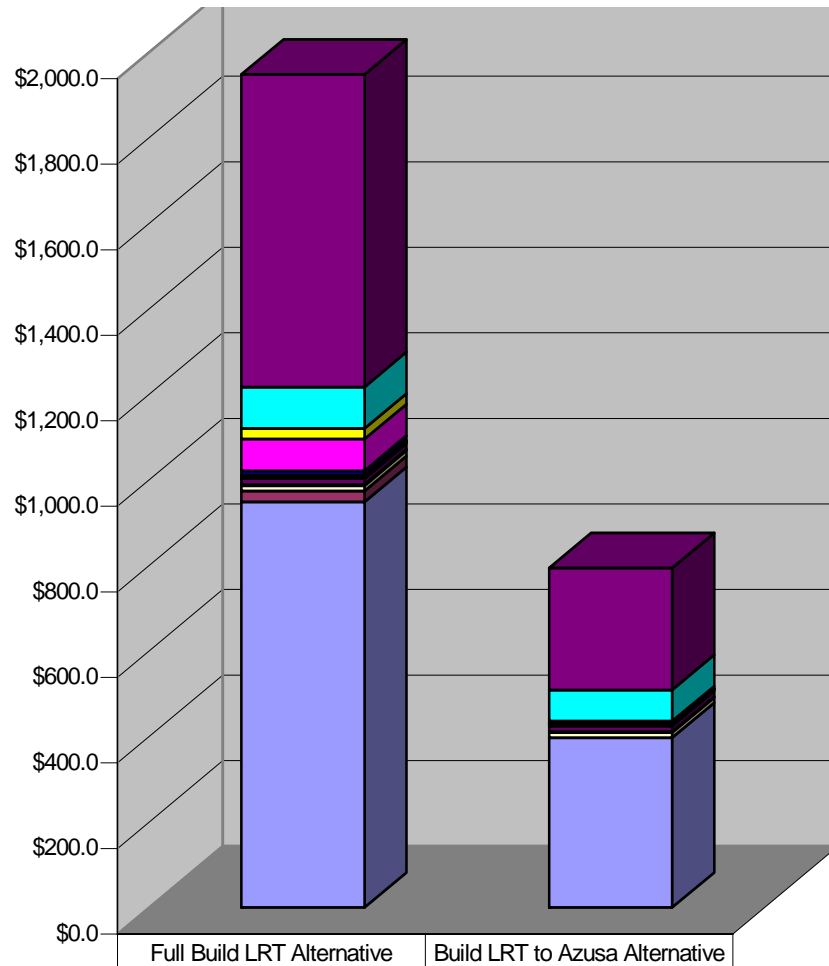
Prior State/Local Expenditures for the Metro Gold Line Phase I (Los Angeles to Sierra Madre Villa)

**TABLE 5-5  
PROPOSED CAPITAL REVENUE SOURCES  
(IN YEAR OF EXPENDITURE DOLLARS, MILLIONS)**

	FULL BUILD (PASADENA TO MONTCLAIR) ALTERNATIVE		BUILD LRT TO AZUSA ALTERNATIVE	
	YOE Dollars, Millions	Percent of Total	YOE Dollars, Millions	Percent of Total
<b>LOS ANGELES COUNTY</b>				
<b>CAPITAL COSTS</b>				
Project Capital Cost	\$1,069.8	56.4%	\$436.0	54.9%
Interest Cost	\$0.0	0.0%	\$0.0	0.0%
<b>Total Project Capital Cost</b>	<b>\$1,069.8</b>	<b>56.4%</b>	<b>\$436.0</b>	<b>54.9%</b>
<i>Prior State/Local Expenditure for Right of Way</i>	\$96.0	5.1%	\$73.0	9.2%
<i>Phase I Metro Gold Line (Los Angeles to Sierra Madre Villa)</i>	\$731.0	38.5%	\$285.0	35.9%
<b>TOTAL CAPITAL COSTS AND PRIOR STATE/LOCAL EXPENDITURES</b>	<b>\$1,896.8</b>	<b>100.0%</b>	<b>\$794.0</b>	<b>100.0%</b>
<b>CAPITAL REVENUE SOURCES</b>				
<b>Federal</b>				
FTA Section 5309 New Starts	\$948.4	50.0%	\$397.0	50.0%
FTA Section 5309 Bus and Bus Related Intermodal	\$12.5	0.7%	\$12.5	1.6%
FHWA TCSP	\$2.9	0.2%	\$1.5	0.2%
<b>State</b>				
Proposition 192 Seismic Bond	\$13.9	0.7%	\$13.9	1.8%
<b>Regional/Local</b>				
Carryover from Phase I	\$4.0	0.2%	\$4.0	0.5%
Southern California Association of Governments	\$1.0	0.1%	\$0.5	0.1%
Interest	\$2.0	0.1%	\$1.6	0.2%
Corridor Cities Contribution	\$11.0	0.6%	\$5.0	0.6%
State/Regional/Local Sources	\$74.1	3.9%	\$0.0	0.0%
<b>Subtotal, LA County Capital Revenue Sources</b>	<b>\$1,069.8</b>	<b>56.4%</b>	<b>\$436.0</b>	<b>54.9%</b>
<i>Prior State/Local Expenditure on Right of Way</i>	\$96.0	5.1%	\$73.0	9.2%
<i>Phase I Metro Gold Line (Los Angeles to Sierra Madre Villa)</i>	\$731.0	38.5%	\$285.0	35.9%
<b>TOTAL CAPITAL REVENUE SOURCES, LA COUNTY</b>	<b>\$1,896.8</b>	<b>100.0%</b>	<b>\$794.0</b>	<b>100.0%</b>

**TABLE 5-5  
PROPOSED CAPITAL REVENUE SOURCES  
(IN YEAR OF EXPENDITURE DOLLARS, MILLIONS)**

	FULL BUILD (PASADENA TO MONTCLAIR) ALTERNATIVE		BUILD LRT TO AZUSA ALTERNATIVE	
	YOE Dollars, Millions	Percent of Total	YOE Dollars, Millions	Percent of Total
<b>SAN BERNARDINO COUNTY</b>				
<b>CAPITAL COSTS</b>				
Project Capital Cost	\$50.2	98.0%	\$0.0	0.0%
Interest Cost	\$0.0	0.0%	\$0.0	0.0%
<b>Total Project Capital Cost</b>	<b>\$50.2</b>	<b>98.0%</b>	<b>\$0.0</b>	<b>0.0%</b>
<i>Prior State/Local Expenditure for Right of Way</i>	\$1.1	2.0%	\$0.0	0.0%
<b>TOTAL CAPITAL COSTS AND PRIOR STATE/LOCAL EXPENDITURES</b>	<b>\$51.3</b>	<b>100.0%</b>	<b>\$0.0</b>	<b>0.0%</b>
<b>CAPITAL REVENUE SOURCES</b>				
<b><i>Federal</i></b>				
FTA Section 5309 New Starts	\$25.6	50.0%	\$0.0	0.0%
<b><i>Local</i></b>				
SANBAG Local *	\$24.6	48.0%	\$0.0	0.0%
<b>Subtotal, SB County Capital Revenue Sources</b>	<b>\$50.2</b>		<b>\$0.0</b>	<b>0.0%</b>
<i>Prior State/Local Expenditure on Right of Way</i>	\$1.1	2.0%	\$0.0	0.0%
<b>TOTAL CAPITAL REVENUE SOURCES, SB COUNTY</b>	<b>\$51.3</b>	<b>100.0%</b>	<b>\$0.0</b>	<b>0.0%</b>
* San Bernardino Associated Governments (SANBAG) has committed up to \$35.0 million in local funds. Source: Sharon Greene & Associates, 2005.				



	Full Build LRT Alternative	Build LRT to Azusa Alternative
■ Phase I - Metro Gold Line (Los Angeles to Sierra Madre)	\$731.0	\$284.9
■ Prior Local/State Expenditure for Ph II Right of Way	\$97.1	\$73.0
■ Countywide Sales Tax (San Bernardino)	\$24.6	\$0.0
■ State/Regional/Local Sources	\$74.1	\$0.0
■ Corridor Cities Contribution	\$11.0	\$5.0
■ Interest	\$2.0	\$1.6
■ Southern California Association of Governments	\$1.0	\$0.5
■ Carryover from Phase I	\$4.0	\$4.0
■ State Funds (Proposition 192 Seismic Bond)	\$13.9	\$13.9
■ FHWA TCSP	\$2.9	\$1.5
■ 5309 Bus and Bus Related Intermodal	\$12.5	\$12.5
■ 5309 New Starts (San Bernardino County)	\$25.6	\$0.0

**FIGURE 5-1: SUMMARY OF PROPOSED CAPITAL RESOURCES (IN MILLIONS OF YEAR-OF-EXPENDITURE DOLLARS)**

Of the sources proposed for the LA County share, federal sources comprise 50.9 percent of the capital revenues proposed for the Full Build (Pasadena to Montclair) Alternative and 51.8 percent of the revenues for the Build LRT to Azusa Alternative. The predominant federal source is FTA Section 5309 New Starts funding, which comprises 50.0 percent of the capital revenues for each alternative. State sources contribute between 1 and 2 percent of total revenues. Regional/Local sources comprise 4.8 percent and 1.4 percent. Prior State/Local expenditures comprise the remaining 43.6 percent and 45.1 percent of the funding for the two Build alternatives respectively.

Of the sources proposed for the San Bernardino County share, federal sources comprise 50.0 percent of the capital revenues for the Full LRT Build (Pasadena to Montclair) Alternative. All federal funding for the San Bernardino share is proposed to be derived from FTA New Starts funds. Of the 50.0 percent balance, 48.0 percent is proposed to be provided from local sources, with 2.0 percent from prior State/Local expenditures for Right of Way. While local funding of \$24.6 million is proposed in the financial plan, SANBAG has committed up to \$35.0 million in local funding for the Full Build (Pasadena to Montclair) Alternative.

Each of the proposed capital funding sources is described briefly in the sections following.

❑ Federal Sources for Capital

Federal sources proposed for capital consist of FTA Section 5309 New Start funds, FTA Section 5309 Bus and Bus Related Intermodal funds, and FHWA Transportation and Community and Systems Preservation Program (TCSP).

FTA Section 5309 New Start Funds

Under this program, FTA provides federal discretionary funding for proposed fixed guideway New Starts and extensions. New Starts funds represent 50.0 percent of the funding for both Build alternatives, or \$974.1 million and \$397.0 million for the alternatives respectively. The Construction Authority will coordinate with San Bernardino Associated Governments in securing New Starts funding for the Gold Line Foothill Extension.

For the portion of the alternatives allocated to LA County, this source is proposed to provide 50.0 percent of the capital funding. The total level of FTA New Starts proposed for the LA County share is \$948.4 million for the Full Build (Pasadena to Montclair) Alternative and \$390.6 for the Build LRT to Azusa Alternative. Of these totals, \$4.0 million and \$0.5 million in FTA New Starts funding was authorized in the 2004 and 2005 Federal Budget respectively. An additional \$25.6 million in FTA New Starts funding is proposed for the San Bernardino County share of the Full Build Alternative, representing 50.0 percent of the capital funding for the San Bernardino County portions of this alternative. The Section 5309 shares for these build alternatives, total and by county, are within the 50% maximum share objective for New Starts Program contributions.

**Table 5-6** summarizes the annual schedule of projected for drawdown of FTA Section 5309 funds through 2014 for the Full Build Alternative and through 2013 for the Build LRT to Azusa Alternative.

**TABLE 5-6  
ANNUAL DRAWDOWN LEVELS OF NEW STARTS FUNDING  
PROPOSED OVER THE PRE-2004 - 2014 PERIOD  
(IN YEAR OF EXPENDITURE DOLLARS, MILLIONS)**

Fiscal Year	FULL BUILD (PASADENA TO MONTCLAIR) ALTERNATIVE		BUILD LRT TO AZUSA ALTERNATIVE	
	LOS ANGELES COUNTY	SAN BERNARDINO COUNTY	LOS ANGELES COUNTY	SAN BERNARDINO COUNTY
2005	\$ 0.9	\$ 0.0	\$ 0.9	
2006	\$ 18.3	\$ 0.3	\$ 18.3	
2007	\$108.3	\$ 0.0	\$108.3	
2008	\$102.9	\$ 0.0	\$102.9	
2009	\$ 99.8	\$ 0.0	\$ 99.8	
2010	\$ 61.3	\$ 1.3	\$ 39.6	
2011	\$157.0	\$ 7.1	\$ 10.3	
2012	\$176.0	\$ 7.3	\$ 10.6	
2013	\$163.6	\$ 6.8	\$ 6.3	
2014	\$ 60.4	\$ 2.8	\$ 0.0	
<b>Total</b>	<b>\$948.4</b>	<b>\$25.6</b>	<b>\$397.0</b>	<b>\$0.0</b>

Note: Revenues not rounded.

Source: Sharon Greene & Associates, 2005.

#### FTA Section 5309 Bus and Bus Related Intermodal Funds

Under this program, FTA provides federal discretionary funding for bus and bus related capital projects, including construction or rehabilitation of facilities and acquisition of vehicles. FTA Section 5309 Bus funds are proposed to fund intermodal transfer facilities, transportation centers, shelters, and related uses along the Gold Line Foothill Extension. A total of \$12.5 million in FTA Section 5309 Bus funding is authorized for the Gold Line Foothill Extension in SAFETEA-LU.

#### FHWA TCSP Funds

The Metro Gold Line Construction Authority was awarded \$2.9 million in funding through the Transportation and Community and Systems Preservation Program. These funds have been authorized to San Gabriel Valley Council of Governments as the local transportation funding organization and the COG has agreed to assign these funds to the project in their capital program.

#### State Sources for Capital

The Metro Gold Line Construction Authority received State funds through the Proposition 192 Seismic Retrofit and Replacement Bond program. These funds are being expended on the Extension beginning in 2003. A total of \$13.9 million in such funding is proposed in both LRT build alternatives.



❑ Regional/Local Sources for Capital

Regional/Local sources are projected to provide \$92.1 million and \$11.1 million for the LA portions of the Full Build (Pasadena to Montclair) Alternative and the Build LRT to Azusa Alternative, respectively, representing 4.9 percent and 1.4 percent of proposed capital revenues. Within San Bernardino County, of the \$35.0 million in local funding committed by SANBAG, \$24.6 million is proposed to fund 48.0 percent of the San Bernardino County portion of the Full Build Alternative.

The sources of Regional/Local funding proposed for LA County consist of carryover funds from Phase I, SCAG, interest earnings, Corridor cities contributions, and a combination of State/Regional/Local sources. Local funding for the San Bernardino County share would be provided through the extension of the Measure I county sales tax program approved by county voters in November 2004.

Carryover Funds from Phase I

The Authority has approved the use of \$4.0 million in carryover funds from Phase I for the Metro Gold Line Foothill Extension.

Southern California Association of Governments

The Authority has received \$1.0 million from the Southern California Association of Governments for use on the Metro Gold Line Foothill Extension. Of this total, \$0.5 million is for the Build LRT to Azusa Alternative, with the full \$1.0 million available for the Full Build Alternative.

Interest Earnings

The Authority has programmed a total of \$2.0 million in interest earnings for use on the Metro Gold Line Foothill Extension. Of this total, \$1.6 million is available for use on the Build LRT to Azusa Alternative, with the full \$2.0 million available for the Full Build Alternative.

Corridor Cities Contribution

The local jurisdictions along the Gold Line Foothill Extension corridor have indicated their commitment to assist in funding the capital cost of the project. Each city is proposed to contribute \$1 million. With 11 cities along the Full Build Alternative and five along the Build LRT to Azusa, a total of \$11.0 million and \$5.0 million is proposed for the two alternatives respectively.

Local jurisdictions could potentially use a variety of funding sources for their contributions or in-kind services. Among possible funding sources are Proposition A 25 Percent Local Return sales tax funds, Proposition C 20 Percent Local Return sales tax funds, local gas tax subventions, tax increment financing revenues from redevelopment, and joint development revenue sources.

State/Regional/Local Sources

A combination of State/Regional/Local sources are proposed to provide \$74.1 million in funding for the Full Build Alternative in Los Angeles County. These sources could include funds secured directly from the State, State Highway Account funds programmed by Caltrans and by the MTA, Proposition A and C sales tax funds, and Transportation Development Act funds. Currently, the MTA relies on three existing sales tax-based revenue sources: Proposition A, Proposition C, and Transportation Development Act

(TDA). Propositions A and C are each projected to generate \$592.1 million in 2005, with TDA forecasted to generate \$302.3 million in 2005. The MTA receives, programs, and allocates these funds and audits their usage. In addition, enabling legislation was passed in 2003 authorizing the MTA to place an interim sales tax on the ballot. As described below, portions of these sources could be used to fund the LA County share of the Gold Line Foothill Extension. San Bernardino County Measure I sales tax funds are proposed for use in funding the San Bernardino County share of the alternatives.

Proposition A is a half-cent sales tax for public transit approved by Los Angeles County voters in 1980. Of the revenues generated annually, 25 percent are distributed back to the cities and county of LA on a per capita basis; 35 percent are used for rail development in LA County as specified on the Proposition A Rail Corridor Map and for rail operations; and 40 percent are set-aside by MTA for discretionary programs related to bus capital and operations. As a designated Proposition A Corridor, the Gold Line Extension is eligible to receive Proposition A rail development funds.

Proposition C is a half-cent sales tax for public transportation purposes approved by the voters in 1990. Of the revenues generated, 5 percent is for rail and bus security; 10 percent is for commuter rail and transit centers; 25 percent is for transit-related improvements to streets and highways; 20 percent is for local return for transit use; and 40 percent is for discretionary programs to improve and expand rail and bus transit services. The MTA Reform and Accountability Act was approved by the voters in 1998 permitting the expenditure of Proposition C funds for transit improvements to rail rights of way.

TDA authorizes the use of  $\frac{1}{4}$  of 1 percent of the state sales tax for transportation purposes. The MTA allocates TDA funds to municipal transit operators based on established criteria and formulas. Before allocation, 1 percent of TDA funds are set-aside for MTA administrative costs and  $\frac{3}{4}$  percent for transportation planning and programming by Southern California Association of Governments. Of the remaining funds, up to 2 percent are for bicycle and pedestrian facilities; up to 93 percent are allocated to municipal operators for transit capital and operations; and up to 4.8 percent are for transit and paratransit services provided under contract.

County sales tax funds are also proposed for use in San Bernardino County. Initially approved by county voters in 1989, San Bernardino County's Measure I is a half-cent sales tax authorized for a 20-year period to fund a defined multimodal transportation expenditure program including the Gold Line Foothill Extension. The extension of the Measure I program was approved by county voters in November 2004.

#### **□ Prior State/Local Expenditure for Right-of-Way**

In 1992, the MTA and SANBAG purchased the Pasadena Subdivision railroad right-of-way within their jurisdictions. The acquisition was 100 percent funded with MTA Proposition A sales tax funds, SANBAG Measure I sales tax funds, and State Proposition 116 Rail Bonds funds, with no federal funding used.

The proposed capital financial plan calls for this prior expenditure of funds to be credited as part of the non-federal match for the Gold Line Foothill Extension project. Extending from downtown Los Angeles to Montclair, the total cost expended for the right-of-way for the Full Build Alternative was \$97.1 million (1992 dollars). Of this total, \$96.0 million was in Los Angeles County and \$1.1 million in San Bernardino County. For the Build LRT to Azusa Alternative, a total of \$73.0 million was expended in Los Angeles County for the right-of-way from downtown Los Angeles to Azusa.

The Prior State/Local Expenditure on Right of Way reflects actual expenditure in 1992 and is in 1992 dollars. Per comments received from FTA, the Authority has not inflated this number to 2005 dollars, however the Authority reserves the right to escalate this figure to 2005 dollars if it is found later to be acceptable to FTA.

❑ Prior State/Local Expenditure for Phase I Metro Gold Line

A total of \$731.0 million in State and local funding was expended for Phase I of the Metro Gold Line from downtown Los Angeles to Sierra Madre Villa, with no federal funds expended. This prior expenditure of State/Local funds is also proposed to be credited as part of the non-federal match for the Gold Line Foothill Extension project. For the Full Build Alternative, the entire \$731.0 million is proposed as match. For the Build LRT to Azusa Alternative, \$285.0 million of the total prior State/Local expenditure is proposed as match.

Revenue Sources for Operations and Maintenance

**Table 5-7** summarizes the costs and the revenue sources proposed to fund the incremental O&M costs associated with the build alternatives. As shown in the table, a total of \$424.4 million and \$343.9 million in incremental O&M costs are projected over the FY 2010-2025 period for the Full Build (Pasadena to Montclair) Alternative and the Build LRT to Azusa Alternative, respectively. These costs consist of three components: LRT and incremental MTA and Foothill Transit bus service.

Approximately 71.4 percent of the incremental O&M costs of the Full Build (Pasadena to Montclair) Alternative are attributable to the extension of the Gold Line LRT service, with 2.5 percent and 26.2 percent attributable to additional MTA and Foothill Transit bus service respectively. With its reduced miles of LRT service and greater reliance on MTA and Foothill Transit buses, the Build LRT to Azusa Alternative has O&M costs that are divided between LRT (46.4 percent) and MTA and Foothill Transit bus services (2.7 percent and 50.8 percent respectively).

<b>TABLE 5-7 PROPOSED OPERATIONS AND MAINTENANCE FUNDING FISCAL YEARS 2010 - 2025 (IN YEAR OF EXPENDITURE DOLLARS, MILLIONS)</b>				
	<b>Full Build (Pasadena to Montclair) Alternative</b>		<b>Build LRT to Azusa Alternative</b>	
	<b>Cost</b>	<b>Percent</b>	<b>Cost</b>	<b>Percent</b>
<b>O&amp;M COSTS &amp; REVENUES</b>				
<b>O&amp;M COSTS</b>				
LRT	\$303.0	71.4%	\$159.7	46.4%
MTA Bus	\$10.4	2.5%	\$9.3	2.7%
Foothill Transit	\$111.0	26.2%	\$174.8	50.8%
<b>Total O&amp;M Costs</b>	<b>\$424.4</b>	<b>100.0%</b>	<b>\$343.8</b>	<b>100.0%</b>
<b>SOURCES OF O&amp;M FUNDS</b>				
LRT Farebox Revenues	\$63.0	14.9%	\$32.9	9.6%
Bus Farebox Revenue	\$32.4	7.6%	\$49.1	14.3%
MTA Local Funds	\$328.9	77.5%	\$261.8	76.1%
<b>Total O&amp;M Sources</b>	<b>\$424.4</b>	<b>100.0%</b>	<b>\$343.8</b>	<b>100.0%</b>
Source: Sharon Greene & Associates, 2005.				

Incremental O&M costs are projected to grow annually over the 2010-2025 period. **Table 5-8** summarizes the increases in O&M costs at key intervals in 2005 dollars and in YOE dollars. In constant 2005 dollars, the total annual O&M costs of the Full Build (Pasadena to Montclair) Alternative are

projected to be \$6.5 million in 2010, increase to \$21.7 million per year in 2015, and remain at this level through 2025. In constant 2005 dollars, the total annual O&M costs of the Build LRT to Azusa Alternative are projected to be \$7.9 million in 2010, increase to \$15.8 million per year in 2015, and remain at this level through 2025. With respect to LRT service, in 2005 constant dollars, the operating cost for LRT service is projected to be \$3.7 million in 2010, increase to \$16.1 million per year in 2015 and remain at this level through 2025 for the Full Build (Pasadena to Montclair) Alternative. In 2005 constant dollars, the LRT operating costs for the Build LRT to Azusa Alternative are projected to be \$3.7 million in 2010, increase to \$7.4 million per year in 2015 and remain at this level through 2025.

Funding for the O&M costs of the Build Alternatives is proposed to be derived from three sources. These sources are Gold Line Foothill Extension LRT fare revenues, MTA and Foothill Transit bus fare revenues, and MTA Operating Support.

Fare Revenues

Fares comprise an average of 30.1percent for MTA operations, 26.6 for municipal operators including Foothill Transit and 21.3 percent for MTA rail operations revenues for the Gold Line Phase I under the “Long Range Transportation Plan Financial Forecasting Model, August 5, 2004”, based on current fare revenue assumptions. Fare recovery is assumed to adjust to reflect changes in fare media types. Fare recovery adjustments are based on the CPI rate, opening of new projects and transit corridors, and fare media projections (cash, monthly pass usage increase or decrease, and universal fare card).

<b>TABLE 5-8 INCREMENTAL OPERATIONS AND MAINTENANCE COSTS OVER NO BUILD IN FY 2010, FY 2015, FY 2025 (IN YEAR OF EXPENDITURE DOLLARS, MILLIONS)</b>				
<b>Fiscal Year</b>	<b>Full Build (Pasadena to Montclair) Alternative</b>		<b>Build LRT to Azusa Alternative</b>	
	<b>2005 \$</b>	<b>Year of Expenditure \$</b>	<b>2005 \$</b>	<b>Year of Expenditure \$</b>
<b>FY 2010</b>				
LRT	\$3.7	\$4.2	\$3.7	\$4.2
MTA Bus	\$0.2	\$0.3	\$0.2	\$0.2
Foothill Transit	\$2.6	\$2.9	\$4.0	\$4.6
<b>Total</b>	<b>\$6.5</b>	<b>\$7.3</b>	<b>\$7.9</b>	<b>\$9.0</b>
<b>FY 2015</b>				
LRT	\$16.1	\$20.9	\$7.4	\$9.5
MTA Bus	\$0.5	\$0.6	\$0.4	\$0.6
Foothill Transit	\$5.1	\$5.3	\$8.1	\$10.4
<b>Total</b>	<b>\$21.7</b>	<b>\$28.1</b>	<b>\$15.9</b>	<b>\$20.5</b>
<b>FY 2025</b>				
LRT	\$16.1	\$30.8	\$7.4	\$14.0
MTA Bus	\$0.5	\$0.9	\$0.4	\$0.8
Foothill Transit	\$5.1	\$9.7	\$8.1	\$15.4
<b>Total</b>	<b>\$21.7</b>	<b>\$41.4</b>	<b>\$15.9</b>	<b>\$30.2</b>
Source: Sharon Greene & Associates, 2005				

Over the 2010-2025 period, for the Full Build (Pasadena to Montclair) Alternative, LRT fare revenues are projected to fund a total of \$63.1 million, or fund 14.9 percent of total O&M costs. Bus fare revenues are projected to total \$32.4 million, and fund 7.6 percent of total O&M costs. The 77.5 percent balance or \$328.9 million is proposed to be derived from MTA local funds.

With respect to the Build LRT to Azusa Alternative, LRT fare revenues are projected to fund a total of \$32.9 million, or 9.6 percent of total O&M costs. Bus fare revenues are projected to total \$49.2 million, and fund 14.3 percent of total O&M costs. The 76.1 percent balance or \$261.8 million is proposed to be derived from MTA local funds.

#### MTA Operating Support

In July 2005, the MTA Board voted to approve MTA's operation of the Gold Line Foothill Extension. Over the 2010-2025 period, MTA operating support is proposed to fund a total of \$328.9 million (77.5 percent) and \$261.8 million (76.1 percent) of total O&M costs for the Full Build (Pasadena to Montclair) and Build LRT to Azusa Alternatives respectively. This level of operating support would be funded as part of the funding MTA currently provides for operation of public transportation services, totaling over \$50.0 billion. MTA operations and maintenance support is provided from a variety of revenue sources. Key sources of operating funds are described below.

#### Reliance on Sales Tax Based Revenues

The MTA relies on the three sales tax-based revenue sources described earlier: Proposition A, Proposition C, and Transportation Development Act (TDA). Propositions A and C sales tax revenues account for 33.5% of the total MTA bus operations and 67.3% of MTA rail operations over the financial plan period. Based on the MTA Long Range Financial Model updated in August 2004, the specific uses of the sales tax based revenues are as follows:

*Proposition A Half-Cent Sales Tax.* MTA rail operations are funded in part by the Proposition A 35% rail program. MTA bus operations are funded in part by the Proposition A 40% discretionary program. Approximately 68.0% of the available Proposition A revenues fund MTA bus and rail operations through the financial forecasting model period of 2025, with 54.4 percent for bus operations and 13.6% for rail operations.

*Proposition C Half-Cent Sales Tax.* The Proposition C 40% Discretionary program funds a portion of the MTA bus and rail operations along with the Proposition C 5% security funds. These Proposition C funds contribute approximately 12.4% of the total MTA bus operations funding and approximately 25.8% of rail operations funding through 2025.

*Transportation Development Act.* A statewide quarter-percent sales tax is provided to counties for transportation purposes under the Transportation Development Act (TDA). Under Article 4 of the Act, funds can be used for transit operations or capital purposes. Currently, approximately \$200.0 million is generated annually for Article 4 purposes. TDA funds about 21.8% of MTA bus operations.

#### FTA Section 5307

Under TEA-21 and SAFETEA-LU, FTA grant recipients may use Section 5307 formula funds to pay for preventive maintenance costs. MTA is using these flexible funds for eligible bus and rail preventive maintenance costs in the operating budget. Approximately 8.8% of the MTA bus operations costs are funded with this source through 2025.

## Other Revenues

MTA has historically pursued one-time revenues from a variety of sources, such as the sale of surplus assets, lapsed funds from other programs, and fund balance transfers, as well as federal funds through the Congestion Mitigation and Air Quality (CMAQ) program. Specific one-time revenues, such as anticipated lease-leaseback arrangements and the liquidation of reserve funds that are no longer required, are also used for O&M.

### 5-1.4.2 Proposed Flow of Costs and Revenues from Pre-2004 - 2025

Pro forma, year-by-year cash flow analyses were conducted to assess the overall adequacy of revenues to cover the proposed capital and operations and maintenance costs associated with the Full Build (Pasadena to Montclair) Alternative and the Build LRT to Azusa Alternative. **Table 5-9** and **Table 5-10** contain the cash flow analyses of the two alternatives respectively.

The cash flow models used in the financial assessment define the magnitude, timing, and type of expenditure for which revenues may be required. The cash flow models consist of four basic components: Operating Costs, Capital Costs, Operating Revenues, and Capital Revenues, each of which has sub-components. With respect to the capital and operating revenues, consideration was given to the types of costs eligible to receive particular sources of funding as well as potential legal restrictions and/or matching requirements associated with each revenue source.

**Figures 5-2 through 5-4** illustrate the flow of costs proposed over the pre-2004 to 2025 period. Figures 5-2 and 5-3 indicate the annual cost expenditures by category for the Full Build (Pasadena to Montclair) Alternative and the Build LRT to Azusa Alternative, respectively. As shown in the figures, peak expenditures are proposed to occur in 2011-2013 for the Full Build (Pasadena to Montclair) Alternative and in 2007-2009 for the Build LRT to Azusa Alternative.

**Figure 5-4** illustrates the annual build-up of O&M costs over the period. As shown in the figure, over the 2009–2014 period, O&M costs are greater for the Build LRT to Azusa Alternative due to the more extensive bus service associated with this alternative. Beginning in 2014, with the extension of LRT revenue service to Montclair, annual O&M costs are greater for the Full Build Alternative.

TABLE 5-9

**FULL BUILD LRT ALTERNATIVE: METRO GOLD LINE PHASE II EXTENSION – SEGMENTS 1 + 2 TO MONTCLAIR—ESCALATED CAPITAL COSTS CASHFLOW REVENUE OPERATION DATE: NOVEMBER 2009 TO AZUSA; APRIL 2014 TO MONTCLAIR (IN YOE DOLLARS, THOUSANDS)**

LOS ANGELES COUNTY USES AND SOURCES						
	TOTAL	FY 2004 and before	FY 2005	FY 2006	FY 2007	FY 2008
<b>CAPITAL COSTS &amp; REVENUES</b>						
<b>Capital Costs</b>						
10 Guideway and Track Elements	\$144,137.7	\$0.0	\$0.0	\$0.0	\$20,212.5	\$20,715.8
20 Stations	\$62,494.6	\$0.0	\$0.0	\$0.0	\$0.0	\$11,020.7
30 Support Facilities *	\$72,848.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
40 Sitework & Special Conditions	\$231,671.8	\$0.0	\$0.0	\$0.0	\$26,487.6	\$29,198.9
50 Systems	\$188,879.3	\$0.0	\$0.0	\$0.0	\$22,814.1	\$23,382.2
60 ROW, Land, Existing Improvements	\$95,817.4	\$0.0	\$0.0	\$15,398.0	\$18,851.0	\$0.0
70 Vehicles *	\$46,553.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
80 Professional Services *	\$220,347.0	\$3,520.0	\$4,520.0	\$21,759.7	\$26,841.1	\$24,271.5
90 Unallocated Contingency *	\$27,381.1	\$0.0	\$0.0	\$0.0	\$3,475.2	\$3,681.7
100 Special Conditions	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
<b>Total Project Capital Cost</b>	<b>\$1,069,830.5</b>	<b>\$3,520.0</b>	<b>\$4,520.0</b>	<b>\$37,155.7</b>	<b>\$120,681.5</b>	<b>\$112,148.8</b>
<b>Interest Cost</b>						
<b>Total Interest Cost</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
** Prior Local/State Expenditure for Ph I and II Right of Way (LA Co)	\$96,020.0	\$96,020.0				
*** Phase I - Metro Gold Line (Los Angeles to Sierra Madre)	\$731,000.0	\$731,000.0				
<b>Total Prior Local/State Expenditure</b>	<b>\$827,020.0</b>	<b>\$827,020.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>TOTAL CAPITAL COST AND PRIOR EXPENDITURE</b>	<b>\$1,896,850.5</b>	<b>\$830,540.0</b>	<b>\$4,520.0</b>	<b>\$37,155.7</b>	<b>\$120,681.5</b>	<b>\$112,148.8</b>
<b>Capital Revenues</b>						
<b>Federal</b>						
5309 New Starts (Los Angeles)	\$948,425.3	\$0.0	\$850.0	\$18,290.8	\$108,201.9	\$102,888.4
5309 Bus and Bus Related Intermodal FHWA TCSP	\$12,540.0	\$0.0	\$750.0	\$3,111.8	\$3,009.6	\$3,260.4
	\$2,900.0	\$800.0	\$2,100.0			
<b>State</b>						
State Funds (Proposition 192 Seismic Bond)	\$13,910.0	\$520.0	\$420.0	\$11,353.1	\$1,616.9	
Other State Funds						
<b>Regional/Local</b>						
Carryover from Phase I	\$4,000.0	\$800.0		\$3,200.0		
Southern California Association of Governments	\$1,000.0	\$1,000.0				
Interest	\$2,000.0	\$400.0	\$400.0	\$1,200.0		
Corridor Cities Contribution	\$11,000.0				\$2,500.0	\$2,500.0
State/Regional/Local Sources	\$74,055.3	\$0.0	\$0.0	\$0.0	\$5,293.1	\$3,500.0
<b>Total Capital Revenues</b>	<b>\$1,099,830.5</b>	<b>\$3,520.0</b>	<b>\$4,520.0</b>	<b>\$37,155.7</b>	<b>\$120,681.5</b>	<b>\$112,148.8</b>
** Prior Local/State Expenditure for Ph I and II Right of Way (LA Co)	\$96,020.0	\$96,020.0				
*** Phase I - Metro Gold Line (Los Angeles to Sierra Madre)	\$731,000.0	\$731,000.0				
<b>Total Prior Local/State Expenditure</b>	<b>\$827,020.0</b>	<b>\$827,020.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>TOTAL CAPITAL REVENUES AND PRIOR EXPENDITURE</b>	<b>\$1,896,850.5</b>	<b>\$830,540.0</b>	<b>\$4,520.0</b>	<b>\$37,155.7</b>	<b>\$120,681.5</b>	<b>\$112,148.8</b>
	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
<b>O&amp;M COSTS AND REVENUES</b>						
<b>O&amp;M Costs</b>						
LRT	\$302,997.8					
MTA Bus	\$10,425.7					
Foothill Transit Bus	\$110,889.8					
<b>Total O&amp;M Costs</b>	<b>\$424,413.1</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>O&amp;M Revenues</b>						
LRT Farebox Revenues	\$63,072.3					
Bus Farebox Revenues	\$32,403.7					
MTA Local Funds	\$328,937.1					
<b>TOTAL O&amp;M REVENUES</b>	<b>\$424,413.1</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>

SAN BERNARDINO COUNTY USES AND SOURCES						
	TOTAL	FY 2004 and before	FY 2005	FY 2006	FY 2007	FY 2008
<b>CAPITAL COSTS &amp; REVENUES</b>						
<b>Capital Costs</b>						
10 Guideway and Track Elements	\$7,938.6	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
20 Stations	\$2,619.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
30 Support Facilities	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
40 Sitework & Special Conditions	\$16,903.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
50 Systems	\$8,585.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
60 ROW, Land, Existing Improvements	\$297.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
70 Vehicles	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
80 Professional Services	\$12,568.2	\$480.0	\$480.0	\$656.9	\$0.0	\$0.0
90 Unallocated Contingency	\$1,329.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
100 Special Conditions	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
<b>Total Project Capital Cost</b>	<b>\$50,220.9</b>	<b>\$480.0</b>	<b>\$480.0</b>	<b>\$656.9</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>Interest Cost</b>						
<b>Total Interest Cost</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
** Prior State/Local Expenditure for Right of Way (SB Co)	\$1,030.0	\$1,030.0				
<b>TOTAL CAPITAL COST</b>	<b>\$51,250.9</b>	<b>\$1,510.0</b>	<b>\$480.0</b>	<b>\$656.9</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>Capital Revenues</b>						
5309 New Starts (SANBAG)	\$25,625.5			\$328.4	\$0.0	\$0.0
SANBAG Local	\$24,595.5	\$480.0	\$480.0	\$328.4	\$0.0	\$0.0
** Prior State/Local Expenditure for Right of Way (SB Co)	\$1,030.0	\$1,030.0				
<b>TOTAL CAPITAL REVENUES</b>	<b>\$51,250.9</b>	<b>\$1,510.0</b>	<b>\$480.0</b>	<b>\$656.9</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>Net Surplus/(Deficit)</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>

Notes:  
 \* Include costs associated with 10 LRT cars and additional buses.  
 \*\* The Prior State/Local Expenditure on Right of Way reflects actual expenditure in 1992 and is in 1992 dollars. Per comments received from FTA, the Authority has not inflated this number to 2005 dollars, however the Authority reserves the right to escalate this figure to 2005 dollars if it is found later to be acceptable to FTA.  
 \*\*\* Reflects total uninflated cost of Phase I.



TABLE 5-9

**FULL BUILD LRT ALTERNATIVE: METRO GOLD LINE PHASE II EXTENSION – SEGMENTS 1 + 2 TO MONTCLAIR—ESCALATED CAPITAL COSTS CASHFLOW REVENUE OPERATION DATE: NOVEMBER 2009 TO AZUSA; APRIL 2014 TO MONTCLAIR (IN YOE DOLLARS, THOUSANDS)**

LOS ANGELES COUNTY USES AND SOURCES							
	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
<b>CAPITAL COSTS &amp; REVENUES</b>							
<b>Capital Costs</b>							
10 Guideway and Track Elements	\$21,198.5	\$7,236.5	\$21,719.2	\$22,294.7	\$22,912.3	\$7,848.2	\$0.0
20 Stations	\$11,277.4	\$2,566.6	\$0.0	\$16,832.9	\$17,093.6	\$3,903.4	\$0.0
30 Support Facilities *	\$0.0	\$0.0	\$1,531.5	\$26,861.6	\$26,045.4	\$14,409.7	\$0.0
40 Sitemwork & Special Conditions	\$29,877.2	\$10,199.1	\$38,896.1	\$39,926.9	\$41,032.8	\$14,055.1	\$0.0
50 Systems	\$23,927.0	\$8,167.9	\$26,312.5	\$27,009.7	\$27,757.9	\$9,508.0	\$0.0
60 ROW, Land, Existing Improvements	\$0.0	\$15,079.5	\$46,190.9	\$0.0	\$0.0	\$0.0	\$0.0
70 Vehicles *	\$0.0	\$0.0	\$1,982.9	\$22,045.3	\$22,525.1	\$0.0	\$0.0
80 Professional Services *	\$13,281.1	\$23,728.8	\$34,423.5	\$35,337.0	\$18,910.7	\$13,753.8	\$0.0
90 Unallocated Contingency *	\$3,844.7	\$1,244.2	\$3,776.1	\$3,876.1	\$3,967.0	\$3,830.2	\$0.0
100 Special Conditions	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
<b>Total Project Capital Cost</b>	<b>\$103,206.0</b>	<b>\$68,222.4</b>	<b>\$174,832.6</b>	<b>\$195,984.2</b>	<b>\$182,244.9</b>	<b>\$67,314.5</b>	<b>\$0.0</b>
<b>Interest Cost</b>							
<b>Total Interest Cost</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
** Prior Local/State Expenditure for Ph I and II Right of Way (LA Co)							
*** Phase I - Metro Gold Line (Los Angeles to Sierra Madre)							
<b>Total Prior Local/State Expenditure</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>TOTAL CAPITAL COST AND PRIOR EXPENDITURE</b>	<b>\$103,206.0</b>	<b>\$68,222.4</b>	<b>\$174,832.6</b>	<b>\$195,984.2</b>	<b>\$182,244.9</b>	<b>\$67,314.5</b>	<b>\$0.0</b>
<b>Capital Revenues</b>							
<b>Federal</b>							
5309 New Starts (Los Angeles)	\$69,820.2	\$81,259.0	\$156,987.6	\$175,980.3	\$163,843.3	\$60,443.8	
5309 Bus and Bus Related Intermodal FHWA TCSP	\$2,408.2						
<b>State</b>							
State Funds (Proposition 192 Seismic Bond)							
Other State Funds							
<b>Regional/Local</b>							
Carryover from Phase I							
Southern California Association of Governments							
Interest							
Corridor Cities Contribution				\$3,000.0	\$3,000.0		
State/Regional/Local Sources	\$977.6	\$6,963.4	\$17,845.0	\$17,003.9	\$15,601.6	\$6,870.7	
<b>Total Capital Revenues</b>	<b>\$103,206.0</b>	<b>\$68,222.4</b>	<b>\$174,832.6</b>	<b>\$195,984.2</b>	<b>\$182,244.9</b>	<b>\$67,314.5</b>	<b>\$0.0</b>
** Prior Local/State Expenditure for Ph I and II Right of Way (LA Co)							
*** Phase I - Metro Gold Line (Los Angeles to Sierra Madre)							
<b>Total Prior Local/State Expenditure</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>TOTAL CAPITAL REVENUES AND PRIOR EXPENDITURE</b>	<b>\$103,206.0</b>	<b>\$68,222.4</b>	<b>\$174,832.6</b>	<b>\$195,984.2</b>	<b>\$182,244.9</b>	<b>\$67,314.5</b>	<b>\$0.0</b>
	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
<b>O&amp;M COSTS AND REVENUES</b>							
<b>O&amp;M Costs</b>							
LRT		\$4,162.5	\$8,539.9	\$6,766.1	\$9,009.2	\$9,258.0	\$20,888.2
MTA Bus		\$271.5	\$556.9	\$571.7	\$587.6	\$603.8	\$621.6
Foothill Transit Bus		\$2,990.0	\$5,929.2	\$6,096.3	\$6,295.9	\$6,427.7	\$6,617.4
<b>Total O&amp;M Costs</b>	<b>\$0.0</b>	<b>\$7,323.9</b>	<b>\$15,026.0</b>	<b>\$15,424.1</b>	<b>\$15,851.8</b>	<b>\$16,289.5</b>	<b>\$28,127.1</b>
<b>O&amp;M Revenues</b>							
LRT Farebox Revenues		\$902.3	\$1,646.1	\$1,689.7	\$1,736.6	\$1,784.5	\$4,283.2
Bus Farebox Revenues		\$839.9	\$1,723.3	\$1,768.9	\$1,818.0	\$1,868.2	\$1,930.7
MTA Local Funds		\$5,681.6	\$11,656.7	\$11,965.4	\$12,297.3	\$12,636.8	\$21,913.2
<b>TOTAL O&amp;M REVENUES</b>	<b>\$0.0</b>	<b>\$7,323.9</b>	<b>\$15,026.0</b>	<b>\$15,424.1</b>	<b>\$15,851.8</b>	<b>\$16,289.5</b>	<b>\$28,127.1</b>
<b>SAN BERNARDINO COUNTY USES AND SOURCES</b>							
	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
<b>CAPITAL COSTS &amp; REVENUES</b>							
<b>Capital Costs</b>							
10 Guideway and Track Elements	\$0.0	\$0.0	\$2,305.9	\$2,367.0	\$2,432.5	\$833.2	
20 Stations	\$0.0	\$0.0	\$0.0	\$1,157.7	\$1,189.7	\$271.7	
30 Support Facilities	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	
40 Sitemwork & Special Conditions	\$0.0	\$0.0	\$4,909.7	\$5,039.8	\$5,179.4	\$1,774.1	
50 Systems	\$0.0	\$0.0	\$2,488.0	\$2,553.9	\$2,624.6	\$899.0	
60 ROW, Land, Existing Improvements	\$0.0	\$297.5	\$0.0	\$0.0	\$0.0	\$0.0	
70 Vehicles	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	
80 Professional Services	\$0.0	\$1,341.5	\$3,172.1	\$3,255.0	\$1,804.2	\$1,378.5	
90 Unallocated Contingency	\$0.0	\$0.0	\$319.1	\$327.5	\$336.6	\$345.9	
100 Special Conditions	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	
<b>Total Project Capital Cost</b>	<b>\$0.0</b>	<b>\$1,638.9</b>	<b>\$13,194.7</b>	<b>\$14,700.8</b>	<b>\$13,567.1</b>	<b>\$5,502.5</b>	<b>\$0.0</b>
<b>Interest Cost</b>							
<b>Total Interest Cost</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
** Prior State/Local Expenditure for Right of Way (SB Co)							
<b>TOTAL CAPITAL COST</b>	<b>\$0.0</b>	<b>\$1,638.9</b>	<b>\$13,194.7</b>	<b>\$14,700.8</b>	<b>\$13,567.1</b>	<b>\$5,502.5</b>	<b>\$0.0</b>
<b>Capital Revenues</b>							
5309 New Starts (SANBAG)	\$0.0	\$1,299.5	\$7,112.4	\$7,350.4	\$6,783.5	\$2,751.2	
SANBAG Local	\$0.0	\$339.5	\$6,082.4	\$7,350.4	\$6,783.5	\$2,751.2	
** Prior State/Local Expenditure for Right of Way (SB Co)							
<b>TOTAL CAPITAL REVENUES</b>	<b>\$0.0</b>	<b>\$1,638.9</b>	<b>\$13,194.7</b>	<b>\$14,700.8</b>	<b>\$13,567.1</b>	<b>\$5,502.5</b>	<b>\$0.0</b>
<b>Net Surplus/(Deficit)</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>



TABLE 5-9

**FULL BUILD LRT ALTERNATIVE: METRO GOLD LINE PHASE II EXTENSION – SEGMENTS 1 + 2 TO MONTCLAIR—ESCALATED CAPITAL COSTS CASHFLOW REVENUE OPERATION DATE: NOVEMBER 2009 TO AZUSA; APRIL 2014 TO MONTCLAIR (IN YOY DOLLARS, THOUSANDS)**

LOS ANGELES COUNTY USES AND SOURCES									
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
<b>CAPITAL COSTS &amp; REVENUES</b>									
<b>Capital Costs</b>									
10 Guideway and Track Elements									
20 Stations									
30 Support Facilities *									
40 Sitework & Special Conditions									
50 Systems									
60 ROW, Land, Existing Improvements									
70 Vehicles *									
80 Professional Services *									
90 Unallocated Contingency *									
100 Special Conditions									
<b>Total Project Capital Cost</b>	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
<b>Interest Cost</b>									
<b>Total Interest Cost</b>	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
** Prior Local/State Expenditure for Ph I and II Right of Way (LA Co)									
*** Phase I - Metro Gold Line (Los Angeles to Sierra Madre)									
<b>Total Prior Local/State Expenditure</b>	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
<b>TOTAL CAPITAL COST AND PRIOR EXPENDITURE</b>	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
<b>Capital Revenues</b>									
<b>Federal</b>									
5309 New Starts (Los Angeles)									
5309 Bus and Bus Related Intermodal									
FHWA TCSP									
<b>State</b>									
State Funds (Proposition 192 Seismic Bond)									
Other State Funds									
<b>Regional/Local</b>									
Carryover from Phase I									
Southern California Association of Governments									
Interest									
Corridor Cities Contribution									
State/Regional/Local Sources									
<b>Total Capital Revenues</b>	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
** Prior Local/State Expenditure for Ph I and II Right of Way (LA Co)									
*** Phase I - Metro Gold Line (Los Angeles to Sierra Madre)									
<b>Total Prior Local/State Expenditure</b>	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
<b>TOTAL CAPITAL REVENUES AND PRIOR EXPENDITURE</b>	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
<b>O&amp;M COSTS AND REVENUES</b>									
<b>O&amp;M Costs</b>									
LRT	\$21,519.7	\$22,077.2	\$22,677.9	\$23,286.8	\$23,910.1	\$24,516.9	\$25,127.9	\$25,794.4	\$26,413.6
MTA Bus	\$640.4	\$657.0	\$674.9	\$693.0	\$711.5	\$729.6	\$747.8	\$767.6	\$786.0
Foothill Transit Bus	\$6,817.5	\$6,994.1	\$7,184.4	\$7,377.3	\$7,574.7	\$7,780.0	\$7,985.5	\$8,171.7	\$8,387.9
<b>Total O&amp;M Costs</b>	\$28,977.5	\$29,728.2	\$30,537.1	\$31,357.0	\$32,196.3	\$33,013.5	\$33,836.2	\$34,733.7	\$35,567.5
<b>O&amp;M Revenues</b>									
LRT Farebox Revenues	\$4,412.7	\$4,527.0	\$4,650.2	\$4,775.1	\$5,126.6	\$5,256.7	\$5,387.7	\$5,530.6	\$5,683.4
Bus Farebox Revenues	\$1,989.1	\$2,040.6	\$2,096.1	\$2,152.4	\$2,218.1	\$2,274.4	\$2,331.1	\$2,393.0	\$2,450.4
MTA Local Funds	\$22,575.7	\$23,160.6	\$23,790.7	\$24,429.5	\$24,851.6	\$25,482.3	\$26,117.4	\$26,810.1	\$27,453.7
<b>TOTAL O&amp;M REVENUES</b>	\$28,977.5	\$29,728.2	\$30,537.1	\$31,357.0	\$32,196.3	\$33,013.5	\$33,836.2	\$34,733.7	\$35,567.5
<b>SAN BERNARDINO COUNTY USES AND SOURCES</b>									
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
<b>CAPITAL COSTS &amp; REVENUES</b>									
<b>Capital Costs</b>									
10 Guideway and Track Elements									
20 Stations									
30 Support Facilities									
40 Sitework & Special Conditions									
50 Systems									
60 ROW, Land, Existing Improvements									
70 Vehicles									
80 Professional Services									
90 Unallocated Contingency									
100 Special Conditions									
<b>Total Project Capital Cost</b>	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
<b>Interest Cost</b>									
<b>Total Interest Cost</b>	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
** Prior State/Local Expenditure for Right of Way (SB Co)									
<b>TOTAL CAPITAL COST</b>	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
<b>Capital Revenues</b>									
5309 New Starts (SANBAG)									
SANBAG Local									
** Prior State/Local Expenditure for Right of Way (SB Co)									
<b>TOTAL CAPITAL REVENUES</b>	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
<b>Net Surplus/(Deficit)</b>	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0

Notes:  
 \* Include costs associated with 10 LRT cars and additional buses.  
 \*\* The Prior State/Local Expenditure on Right of Way reflects actual expenditure in 1992 and is in 1992 dollars. Per comments received from FTA, the Authority has not inflated this number to 2005 dollars, however the Authority reserves the right to escalate this figure to 2005 dollars if it is found later to be acceptable to FTA.  
 \*\*\* Reflects total uninflated cost of Phase I.

TABLE 5-9

**FULL BUILD LRT ALTERNATIVE: METRO GOLD LINE PHASE II EXTENSION – SEGMENTS 1 + 2 TO MONTCLAIR—ESCALATED CAPITAL COSTS CASHFLOW REVENUE OPERATION DATE: NOVEMBER 2009 TO AZUSA; APRIL 2014 TO MONTCLAIR (IN YOE DOLLARS, THOUSANDS)**

LOS ANGELES COUNTY USES AND SOURCES		
	FY 2025	Total
<b>CAPITAL COSTS &amp; REVENUES</b>		
<b>Capital Costs</b>		
10 Guideway and Track Elements		\$144,137.7
20 Stations		\$62,494.6
30 Support Facilities *		\$72,848.2
40 Sitework & Special Conditions		\$231,671.8
50 Systems		\$168,879.3
60 ROW, Land, Existing Improvements		\$95,517.4
70 Vehicles *		\$46,553.3
80 Professional Services *		\$220,347.0
90 Unallocated Contingency *		\$27,381.1
100 Special Conditions		\$0.0
<b>Total Project Capital Cost</b>	<b>\$0.0</b>	<b>\$1,069,830.5</b>
<b>Interest Cost</b>		\$0.0
<b>Total Interest Cost</b>	<b>\$0.0</b>	<b>\$0.0</b>
** Prior Local/State Expenditure for Ph I and II Right of Way (LA Co)		\$96,020.0
*** Phase I - Metro Gold Line (Los Angeles to Sierra Madre)		\$731,000.0
<b>Total Prior Local/State Expenditure</b>	<b>\$0.0</b>	<b>\$827,020.0</b>
<b>TOTAL CAPITAL COST AND PRIOR EXPENDITURE</b>	<b>\$0.0</b>	<b>\$1,896,850.5</b>
<b>Capital Revenues</b>		
<b>Federal</b>		
5309 New Starts (Los Angeles)		\$948,425.3
5309 Bus and Bus Related Intermodal		\$12,540.0
FHWA TCSP		\$2,900.0
<b>State</b>		
State Funds (Proposition 192 Seismic Bond)		\$13,910.0
Other State Funds		\$0.0
<b>Regional/Local</b>		
Carryover from Phase I		\$4,000.0
Southern California Association of Governments		\$1,000.0
Interest		\$2,000.0
Corridor Cities Contribution		\$11,000.0
State/Regional/Local Sources		\$74,055.3
<b>Total Capital Revenues</b>	<b>\$0.0</b>	<b>\$1,069,830.5</b>
** Prior Local/State Expenditure for Ph I and II Right of Way (LA Co)		\$96,020.0
*** Phase I - Metro Gold Line (Los Angeles to Sierra Madre)		\$731,000.0
<b>Total Prior Local/State Expenditure</b>	<b>\$0.0</b>	<b>\$827,020.0</b>
<b>TOTAL CAPITAL REVENUES AND PRIOR EXPENDITURE</b>	<b>\$0.0</b>	<b>\$1,896,850.5</b>
	\$0.0	\$0.0
<b>O&amp;M COSTS AND REVENUES</b>		
<b>O&amp;M Costs</b>		
LRT	\$27,049.3	\$302,997.6
MTA Bus	\$804.9	\$10,425.7
Foothill Transit Bus	\$8,569.2	\$110,989.5
<b>Total O&amp;M Costs</b>	<b>\$36,423.5</b>	<b>\$424,413.1</b>
<b>O&amp;M Revenues</b>		
LRT Farebox Revenues	\$5,799.7	\$63,072.3
Bus Farebox Revenues	\$2,509.4	\$32,403.7
MTA Local Funds	\$28,114.4	\$328,937.1
<b>TOTAL O&amp;M REVENUES</b>	<b>\$36,423.5</b>	<b>\$424,413.1</b>
<b>SAN BERNARDINO COUNTY USES AND SOURCES</b>		
	FY 2025	Total
<b>CAPITAL COSTS &amp; REVENUES</b>		
<b>Capital Costs</b>		
10 Guideway and Track Elements		\$7,938.6
20 Stations		\$2,619.1
30 Support Facilities		\$0.0
40 Sitework & Special Conditions		\$16,903.0
50 Systems		\$8,565.5
60 ROW, Land, Existing Improvements		\$297.5
70 Vehicles		\$0.0
80 Professional Services		\$12,568.2
90 Unallocated Contingency		\$1,329.1
100 Special Conditions		\$0.0
<b>Total Project Capital Cost</b>	<b>\$0.0</b>	<b>\$60,220.9</b>
<b>Interest Cost</b>		\$0.0
** Prior State/Local Expenditure for Right of Way (SB Co)		\$1,030.0
<b>TOTAL CAPITAL COST</b>	<b>\$0.0</b>	<b>\$51,250.9</b>
<b>Capital Revenues</b>		
5309 New Starts (SANBAG)		\$25,625.5
SANBAG Local		\$24,595.5
** Prior State/Local Expenditure for Right of Way (SB Co)		\$1,030.0
<b>TOTAL CAPITAL REVENUES</b>	<b>\$0.0</b>	<b>\$51,250.9</b>
<b>Net Surplus/(Deficit)</b>	<b>\$0.0</b>	<b>\$0.0</b>

Notes:  
 \* Include costs associated with 10 LRT cars and additional buses.  
 \*\* The Prior State/Local Expenditure on Right of Way reflects actual expenditure in 1992 and is in 1992 dollars. Per comments received from FTA, the Authority has not inflated this number to 2005 dollars, however the Authority reserves the right to escalate this figure to 2005 dollars if it is found later to be acceptable to FTA.  
 \*\*\* Reflects total uninflated cost of Phase I.

Note: Includes capital costs of maintenance facility and 11 buses.

TABLE 5-10

**BUILD LRT TO AZUSA ALTERNATIVE: METRO GOLD LINE PHASE II EXTENSION – SEGMENTS 1 + 2 TO MONTCLAIR—ESCALATED CAPITAL COSTS CASHFLOW REVENUE OPERATION DATE: NOVEMBER 2009 TO AZUSA (IN YOE DOLLARS, THOUSANDS)**

LOS ANGELES COUNTY USES AND SOURCES						
	TOTAL	FY 2004 and before	FY 2005	FY 2006	FY 2007	FY 2008
<b>CAPITAL COSTS &amp; REVENUES</b>						
<b>Capital Costs</b>						
10 Guideway and Track Elements	\$69,363.3	\$0.0	\$0.0	\$0.0	\$20,212.5	\$20,715.8
20 Stations	\$24,864.6	\$0.0	\$0.0	\$0.0	\$0.0	\$11,020.7
30 Support Facilities *	\$7,000.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
40 Sitemwork & Special Conditions	\$97,780.9	\$0.0	\$0.0	\$0.0	\$28,497.6	\$29,195.9
50 Systems	\$70,291.2	\$0.0	\$0.0	\$0.0	\$22,814.1	\$23,382.2
60 ROW, Land, Existing Improvements	\$34,247.0	\$0.0	\$0.0	\$15,390.0	\$18,851.0	\$0.0
70 Vehicles *	\$15,224.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
80 Professional Services *	\$94,825.6	\$2,000.0	\$2,500.0	\$13,179.0	\$26,841.1	\$24,271.5
90 Unallocated Contingency *	\$13,712.4	\$0.0	\$0.0	\$0.0	\$3,475.2	\$3,561.7
100 Special Conditions	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
<b>Total Project Capital Cost</b>	<b>\$435,989.4</b>	<b>\$2,000.0</b>	<b>\$2,500.0</b>	<b>\$28,575.0</b>	<b>\$120,681.5</b>	<b>\$112,148.8</b>
<b>Interest Cost</b>						
<b>Total Interest Cost</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
** Prior Local/State Expenditure for Right of Way (Ph I and Ph II to Azusa)	\$73,040.0	\$73,040.0				
*** Phase I - Metro Gold Line (Los Angeles to Sierra Madre - part of total)	\$284,949.4	\$284,949.4				
<b>Total Prior Local/State Expenditure</b>	<b>\$357,989.4</b>	<b>\$357,989.4</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>TOTAL CAPITAL COST AND PRIOR EXPENDITURE</b>	<b>\$793,978.7</b>	<b>\$359,989.4</b>	<b>\$2,500.0</b>	<b>\$28,575.0</b>	<b>\$120,681.5</b>	<b>\$112,148.8</b>
<b>Capital Revenues</b>						
<b>Federal</b>						
5309 New Starts (Los Angeles)	\$396,889.4	\$0.0	\$850.0	\$18,200.8	\$108,261.9	\$102,888.4
5309 Bus and Bus Related Intermodal	\$12,540.0			\$2,884.2	\$3,009.6	\$3,200.4
FIHWA TCSP	\$1,450.0		\$1,450.0			
<b>State</b>						
State Funds (Proposition 192 Seismic Bond)	\$13,910.0	\$500.0		\$3,000.0	\$6,910.0	\$3,500.0
Other State Funds						
<b>Regional/Local</b>						
Carryover from Phase I	\$4,000.0	\$800.0		\$3,200.0		
Southern California Association of Governments	\$500.0	\$500.0				
Interest	\$1,000.0	\$200.0	\$200.0	\$1,200.0		
Corridor Cities Contribution	\$5,000.0				\$2,500.0	\$2,500.0
State/Regional/Local Sources	\$0.0					
<b>Total Capital Revenues</b>	<b>\$435,989.4</b>	<b>\$2,000.0</b>	<b>\$2,500.0</b>	<b>\$28,575.0</b>	<b>\$120,681.5</b>	<b>\$112,148.8</b>
** Prior Local/State Expenditure for Right of Way (Ph I and Ph II to Azusa)	\$73,040.0	\$73,040.0				
*** Phase I - Metro Gold Line (Los Angeles to Sierra Madre - part of total)	\$284,949.4	\$284,949.4				
<b>Total Prior Local/State Expenditure</b>	<b>\$357,989.4</b>	<b>\$357,989.4</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>TOTAL CAPITAL REVENUES AND PRIOR EXPENDITURE</b>	<b>\$793,978.7</b>	<b>\$359,989.4</b>	<b>\$2,500.0</b>	<b>\$28,575.0</b>	<b>\$120,681.5</b>	<b>\$112,148.8</b>
<b>O&amp;M COSTS AND REVENUES</b>						
<b>O&amp;M Costs</b>						
LRT	\$159,006.9					
MTA Bus	\$8,339.7					
Foothill Transit Bus	\$174,847.0					
<b>Total O&amp;M Costs</b>	<b>\$343,883.6</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>O&amp;M Revenues</b>						
LRT Farebox Revenues	\$32,009.4					
Bus Farebox Revenues	\$49,158.2					
MTA Local Funds	\$261,817.9					
<b>TOTAL O&amp;M REVENUES</b>	<b>\$343,883.6</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>SAN BERNARDINO COUNTY USES AND SOURCES</b>						
	TOTAL	FY 2004 and before	FY 2005	FY 2006	FY 2007	FY 2008
<b>CAPITAL COSTS &amp; REVENUES</b>						
<b>Capital Costs</b>						
10 Guideway and Track Elements	\$0.0					
20 Stations	\$0.0					
30 Support Facilities	\$0.0					
40 Sitemwork & Special Conditions	\$0.0					
50 Systems	\$0.0					
60 ROW, Land, Existing Improvements	\$0.0					
70 Vehicles	\$0.0					
80 Professional Services	\$0.0					
90 Unallocated Contingency	\$0.0					
100 Special Conditions	\$0.0					
<b>Total Project Capital Cost</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>Interest Cost</b>						
<b>Total Interest Cost</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
** Prior State/Local Expenditure on Right of Way(SB Co)	\$0.0					
<b>TOTAL CAPITAL COST</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>Capital Revenues</b>						
5309 New Starts (SANBAG)	\$0.0					
SANBAG Local	\$0.0					
** Prior State/Local Expenditure on Right of Way (SB Co)	\$0.0					
<b>TOTAL CAPITAL REVENUES</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>Net Surplus/(Deficit)</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>

Notes:  
 \* Include costs associated with additional buses.  
 \*\* The Prior State/Local Expenditure on Right of Way reflects actual expenditures in 1992 and is in 1992 dollars. Per comments received from FTA, the Authority has not inflated this number to 2005 dollars, however the Authority reserves the right to escalate this figure to 2005 dollars if it is found later to be acceptable to FTA.  
 \*\*\* Of the \$731.0 million total actual cost of Phase I, \$278.6 million has been used as match.



TABLE 5-10

**BUILD LRT TO AZUSA ALTERNATIVE: METRO GOLD LINE PHASE II EXTENSION – SEGMENTS 1 + 2 TO MONTCLAIR—ESCALATED CAPITAL COSTS CASHFLOW REVENUE OPERATION DATE: NOVEMBER 2009 TO AZUSA (IN YOE DOLLARS, THOUSANDS)**

LOS ANGELES COUNTY USES AND SOURCES							
	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
<b>CAPITAL COSTS &amp; REVENUES</b>							
<b>Capital Costs</b>							
10 Guideway and Track Elements	\$21,108.5	\$7,236.5	\$0.0	\$0.0	\$0.0		
20 Stations	\$11,277.4	\$2,506.5	\$0.0	\$0.0	\$0.0		
30 Support Facilities *	\$0.0	\$0.0	\$3,898.5	\$4,001.8	\$0.0		
40 Sitework & Special Conditions	\$29,877.2	\$10,199.1	\$0.0	\$0.0	\$0.0		
50 Systems	\$23,927.0	\$8,107.9	\$0.0	\$0.0	\$0.0		
60 ROW, Land, Existing Improvements	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0		
70 Vehicles*	\$0.0	\$0.0	\$5,048.9	\$5,182.0	\$4,892.7		
80 Professional Services *	\$13,281.1	\$10,188.7	\$789.8	\$804.5	\$776.0		
90 Unallocated Contingency *	\$3,844.7	\$1,244.2	\$592.3	\$608.0	\$586.3		
100 Special Conditions	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0		
<b>Total Project Capital Cost</b>	<b>\$103,206.0</b>	<b>\$39,602.8</b>	<b>\$10,323.4</b>	<b>\$10,596.9</b>	<b>\$6,355.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>Interest Cost</b>							
<b>Total Interest Cost</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
** Prior Local/State Expenditure for Right of Way (Ph I and Ph II to Azusa)							
*** Phase I - Metro Gold Line (Los Angeles to Sierra Madre - part of total)							
<b>Total Prior Local/State Expenditure</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>TOTAL CAPITAL COST AND PRIOR EXPENDITURE</b>	<b>\$103,206.0</b>	<b>\$39,602.8</b>	<b>\$10,323.4</b>	<b>\$10,596.9</b>	<b>\$6,355.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>Capital Revenues</b>							
<b>Federal</b>							
5309 New Starts (Los Angeles)	\$99,820.2	\$30,002.8	\$10,323.4	\$10,596.9	\$6,355.0	\$0.0	
5309 Bus and Bus Related Intermodal FHWA TCSP	\$3,385.8						
<b>State</b>							
State Funds (Proposition 192 Seismic Bond)							
Other State Funds							
<b>Regional/Local</b>							
Carryover from Phase I							
Southern California Association of Governments							
Interest							
Corridor Cities Contribution							
State/Regional/Local Sources							
<b>Total Capital Revenues</b>	<b>\$103,206.0</b>	<b>\$39,602.8</b>	<b>\$10,323.4</b>	<b>\$10,596.9</b>	<b>\$6,355.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
** Prior Local/State Expenditure for Right of Way (Ph I and Ph II to Azusa)							
*** Phase I - Metro Gold Line (Los Angeles to Sierra Madre - part of total)							
<b>Total Prior Local/State Expenditure</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>TOTAL CAPITAL REVENUES AND PRIOR EXPENDITURE</b>	<b>\$103,206.0</b>	<b>\$39,602.8</b>	<b>\$10,323.4</b>	<b>\$10,596.9</b>	<b>\$6,355.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>O&amp;M COSTS AND REVENUES</b>							
<b>O&amp;M Costs</b>							
LRT		\$4,162.5	\$8,539.9	\$8,706.1	\$9,009.2	\$9,258.0	\$9,518.2
MTA Bus		\$243.2	\$498.9	\$512.2	\$526.4	\$540.9	\$556.8
Foothill Transit Bus		\$4,552.7	\$9,340.5	\$9,587.9	\$9,853.8	\$10,125.9	\$10,424.7
<b>Total O&amp;M Costs</b>	<b>\$0.0</b>	<b>\$8,958.4</b>	<b>\$18,379.3</b>	<b>\$18,866.2</b>	<b>\$19,389.4</b>	<b>\$19,924.7</b>	<b>\$20,499.7</b>
<b>O&amp;M Revenues</b>							
LRT Farebox Revenues		\$802.3	\$1,646.1	\$1,689.7	\$1,736.8	\$1,784.5	\$1,951.7
Bus Farebox Revenues		\$1,274.2	\$2,814.2	\$2,683.4	\$2,757.9	\$2,834.0	\$2,928.9
MTA Local Funds		\$9,881.8	\$14,119.0	\$14,493.0	\$14,865.0	\$15,308.2	\$15,610.0
<b>TOTAL O&amp;M REVENUES</b>	<b>\$0.0</b>	<b>\$8,958.4</b>	<b>\$18,379.3</b>	<b>\$18,866.2</b>	<b>\$19,389.4</b>	<b>\$19,924.7</b>	<b>\$20,499.7</b>
<b>SAN BERNARDINO COUNTY USES AND SOURCES</b>							
	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
<b>CAPITAL COSTS &amp; REVENUES</b>							
<b>Capital Costs</b>							
10 Guideway and Track Elements							
20 Stations							
30 Support Facilities							
40 Sitework & Special Conditions							
50 Systems							
60 ROW, Land, Existing Improvements							
70 Vehicles							
80 Professional Services							
90 Unallocated Contingency							
100 Special Conditions							
<b>Total Project Capital Cost</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>Interest Cost</b>							
<b>Total Interest Cost</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
** Prior State/Local Expenditure on Right of Way(SB Co)							
<b>TOTAL CAPITAL COST</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>Capital Revenues</b>							
5309 New Starts (SANBAG)							
SANBAG Local							
<b>Total Capital Revenues</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>Net Surplus/(Deficit)</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>

Notes:  
 \* Include costs associated with additional buses.  
 \*\* The Prior State/Local Expenditure on Right of Way reflects actual expenditure in 1992 and is in 1992 dollars. Per comments received from FTA, the Authority has not inflated this number to 2005 dollars, however the Authority reserves the right to escalate this figure to 2005 dollars if it is found later to be acceptable to FTA.  
 \*\*\* Of the \$731.0 million total actual cost of Phase I, \$276.0 million has been used as match.

TABLE 5-10

**BUILD LRT TO AZUSA ALTERNATIVE: METRO GOLD LINE PHASE II EXTENSION – SEGMENTS 1 + 2 TO MONTCLAIR—ESCALATED CAPITAL COSTS CASHFLOW REVENUE OPERATION DATE: NOVEMBER 2009 TO AZUSA (IN YOE DOLLARS, THOUSANDS)**

LOS ANGELES COUNTY USES AND SOURCES									
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
<b>CAPITAL COSTS &amp; REVENUES</b>									
<b>Capital Costs</b>									
10 Guideway and Track Elements									
20 Stations									
30 Support Facilities *									
40 Sitework & Special Conditions									
50 Systems									
60 ROW, Land, Existing Improvements									
70 Vehicles *									
80 Professional Services *									
90 Unallocated Contingency *									
100 Special Conditions									
<b>Total Project Capital Cost</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>Interest Cost</b>									
<b>Total Interest Cost</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
** Prior Local/State Expenditure for Right of Way (Ph I and Ph II to Azusa)									
*** Phase I - Metro Gold Line (Los Angeles to Sierra Madre - part of total)									
<b>Total Prior Local/State Expenditure</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>TOTAL CAPITAL COST AND PRIOR EXPENDITURE</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>Capital Revenues</b>									
<b>Federal</b>									
5309 New Starts (Los Angeles)									
5309 Bus and Bus Related Intermodal									
FWHA TCSP									
<b>State</b>									
State Funds (Proposition 192 Seismic Bond)									
Other State Funds									
<b>Regional/Local</b>									
Carryover from Phase I									
Southern California Association of Governments									
Interest									
Corridor Cities Contribution									
State/Regional/Local Sources									
<b>Total Capital Revenues</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
** Prior Local/State Expenditure for Right of Way (Ph I and Ph II to Azusa)									
*** Phase I - Metro Gold Line (Los Angeles to Sierra Madre - part of total)									
<b>Total Prior Local/State Expenditure</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>TOTAL CAPITAL REVENUES AND PRIOR EXPENDITURE</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>O&amp;M COSTS AND REVENUES</b>									
<b>O&amp;M Costs</b>									
LRT	\$9,895.9	\$10,000.0	\$10,333.7	\$10,011.1	\$10,895.2	\$11,171.7	\$11,450.1	\$11,733.8	\$12,030.0
MTA Bus	\$573.7	\$588.5	\$604.6	\$620.8	\$637.4	\$653.6	\$669.9	\$687.0	\$704.1
Foothill Transit Bus	\$10,730.8	\$11,018.1	\$11,317.8	\$11,621.7	\$11,932.8	\$12,235.7	\$12,540.6	\$12,873.2	\$13,182.2
<b>Total O&amp;M Costs</b>	<b>\$21,119.5</b>	<b>\$21,666.6</b>	<b>\$22,256.1</b>	<b>\$22,853.7</b>	<b>\$23,465.4</b>	<b>\$24,061.0</b>	<b>\$24,660.6</b>	<b>\$25,314.7</b>	<b>\$25,922.4</b>
<b>O&amp;M Revenues</b>									
LRT Farebox Revenues	\$2,010.8	\$2,062.8	\$2,119.0	\$2,175.9	\$2,338.1	\$2,395.3	\$2,455.0	\$2,520.2	\$2,580.7
Bus Farebox Revenues	\$3,017.4	\$3,095.6	\$3,170.8	\$3,265.2	\$3,364.9	\$3,450.3	\$3,538.3	\$3,630.1	\$3,717.2
MTA Local Funds	\$16,091.3	\$16,508.1	\$16,957.3	\$17,412.6	\$17,784.4	\$18,215.3	\$18,609.2	\$19,104.4	\$19,624.5
<b>TOTAL O&amp;M REVENUES</b>	<b>\$21,119.5</b>	<b>\$21,666.6</b>	<b>\$22,256.1</b>	<b>\$22,853.7</b>	<b>\$23,465.4</b>	<b>\$24,061.0</b>	<b>\$24,660.6</b>	<b>\$25,314.7</b>	<b>\$25,922.4</b>
<b>SAN BERNARDINO COUNTY USES AND SOURCES</b>									
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024
<b>CAPITAL COSTS &amp; REVENUES</b>									
<b>Capital Costs</b>									
10 Guideway and Track Elements									
20 Stations									
30 Support Facilities									
40 Sitework & Special Conditions									
50 Systems									
60 ROW, Land, Existing Improvements									
70 Vehicles									
80 Professional Services									
90 Unallocated Contingency									
100 Special Conditions									
<b>Total Project Capital Cost</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>Interest Cost</b>									
<b>Total Interest Cost</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
** Prior State/Local Expenditure on Right of Way(SB Co)									
<b>TOTAL CAPITAL COST</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>Capital Revenues</b>									
5309 New Starts (SANBAG)									
SANBAG Local									
** Prior State/Local Expenditure on Right of Way (SB Co)									
<b>TOTAL CAPITAL REVENUES</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>Net Surplus/(Deficit)</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>
Notes:									
* Include costs associated with additional buses.									
** The Prior State/Local Expenditure on Right of Way reflects actual expenditure in 1992 and is in 1992 dollars. Per comments received from FTA, the Authority has not inflated this number to 2005 dollars, however the Authority reserves the right to escalate this figure to 2005 dollars if it is found later to be acceptable to FTA.									
*** Of the \$731.0 million total actual cost of Phase I, \$278.6 million has been used as match.									

TABLE 5-10

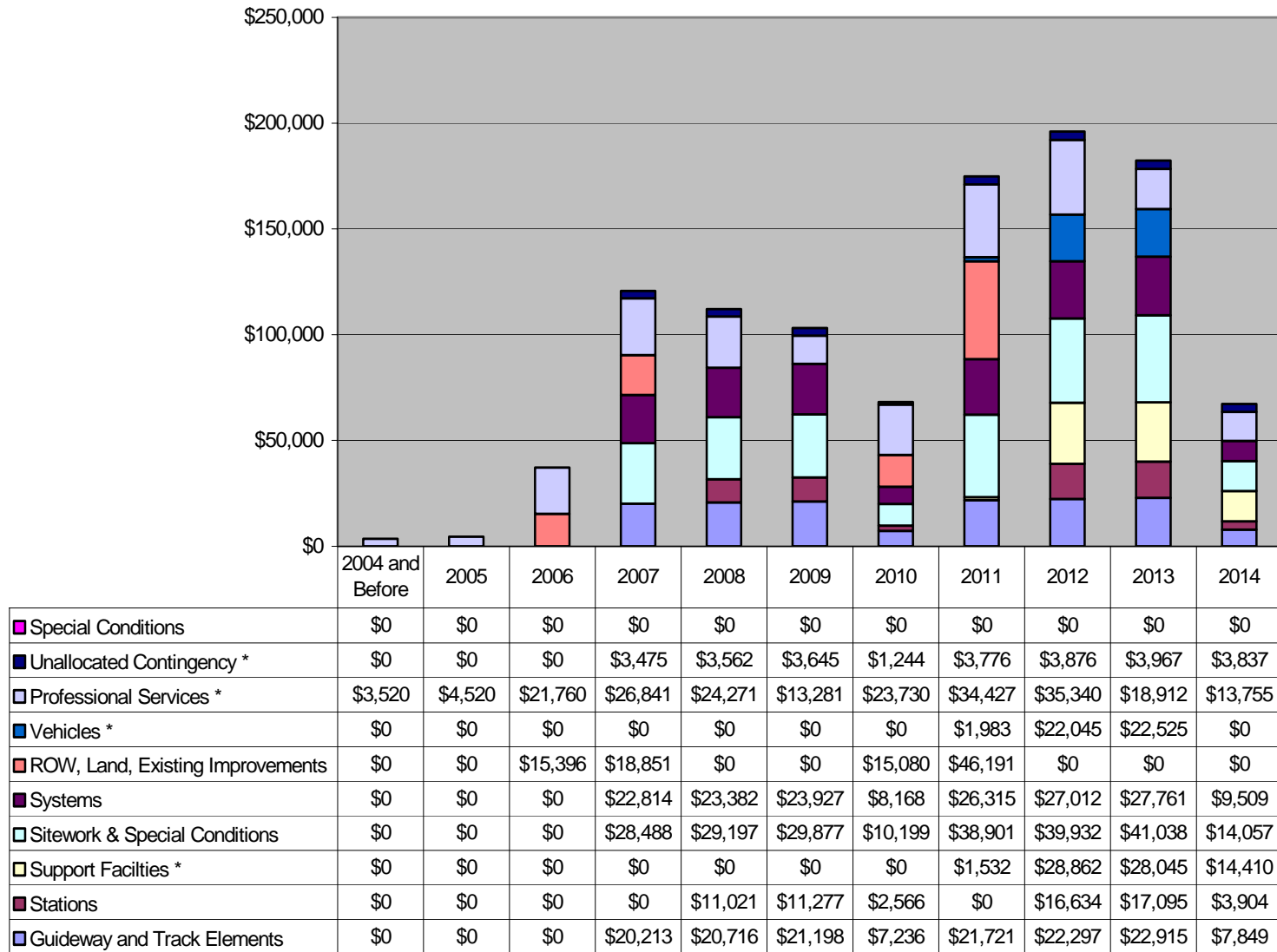
**BUILD LRT TO AZUSA ALTERNATIVE: METRO GOLD LINE PHASE II EXTENSION – SEGMENTS 1 + 2 TO MONTCLAIR—ESCALATED CAPITAL COSTS CASHFLOW REVENUE OPERATION DATE: NOVEMBER 2009 TO AZUSA (IN YOE DOLLARS, THOUSANDS)**

LOS ANGELES COUNTY USES AND SOURCES		
	FY 2025	Total
<b>CAPITAL COSTS &amp; REVENUES</b>		
<b>Capital Costs</b>		
10 Guideway and Track Elements		\$69,363.3
20 Stations		\$24,864.6
30 Support Facilities *		\$7,900.2
40 Sitework & Special Conditions		\$97,760.9
50 Systems		\$78,291.2
60 ROW, Land, Existing Improvements		\$34,247.0
70 Vehicles *		\$15,224.2
80 Professional Services *		\$94,625.6
90 Unallocated Contingency *		\$13,712.4
100 Special Conditions		\$0.0
<b>Total Project Capital Cost</b>	<b>\$0.0</b>	<b>\$435,889.4</b>
<b>Interest Cost</b>		
<b>Total Interest Cost</b>	<b>\$0.0</b>	<b>\$0.0</b>
** Prior Local/State Expenditure for Right of Way (Ph I and Ph II to Azusa)		\$73,040.0
*** Phase I - Metro Gold Line (Los Angeles to Sierra Madre - part of total)		\$284,949.4
<b>Total Prior Local/State Expenditure</b>	<b>\$0.0</b>	<b>\$357,989.4</b>
<b>TOTAL CAPITAL COST AND PRIOR EXPENDITURE</b>	<b>\$0.0</b>	<b>\$793,978.7</b>
<b>Capital Revenues</b>		
<b>Federal</b>		
5309 New Starts (Los Angeles)		\$306,989.4
5309 Bus and Bus Related Intermodal		\$12,540.0
FHWA TCSP		\$1,450.0
<b>State</b>		
State Funds (Proposition 192 Seismic Bond)		\$18,910.0
Other State Funds		\$0.0
<b>Regional/Local</b>		
Carryover from Phase I		\$4,000.0
Southern California Association of Governments		\$500.0
Interest		\$1,600.0
Corridor Cities Contribution		\$5,000.0
State/Regional/Local Sources		\$0.0
<b>Total Capital Revenues</b>	<b>\$0.0</b>	<b>\$435,889.4</b>
** Prior Local/State Expenditure for Right of Way (Ph I and Ph II to Azusa)		\$73,040.0
*** Phase I - Metro Gold Line (Los Angeles to Sierra Madre - part of total)		\$284,949.4
<b>Total Prior Local/State Expenditure</b>	<b>\$0.0</b>	<b>\$357,989.4</b>
<b>TOTAL CAPITAL REVENUES AND PRIOR EXPENDITURE</b>	<b>\$0.0</b>	<b>\$793,978.7</b>
<b>O&amp;M COSTS AND REVENUES</b>		
<b>O&amp;M Costs</b>		
LRT	\$12,325.6	\$159,898.6
MTA Bus	\$721.1	\$9,339.7
Foothill Transit Bus	\$13,499.5	\$174,847.0
<b>Total O&amp;M Costs</b>	<b>\$26,546.2</b>	<b>\$343,883.6</b>
<b>O&amp;M Revenues</b>		
LRT Farebox Revenues	\$2,642.8	\$32,909.4
Bus Farebox Revenues	\$3,806.7	\$49,156.2
MTA Local Funds	\$20,096.7	\$261,817.6
<b>TOTAL O&amp;M REVENUES</b>	<b>\$26,546.2</b>	<b>\$343,883.6</b>

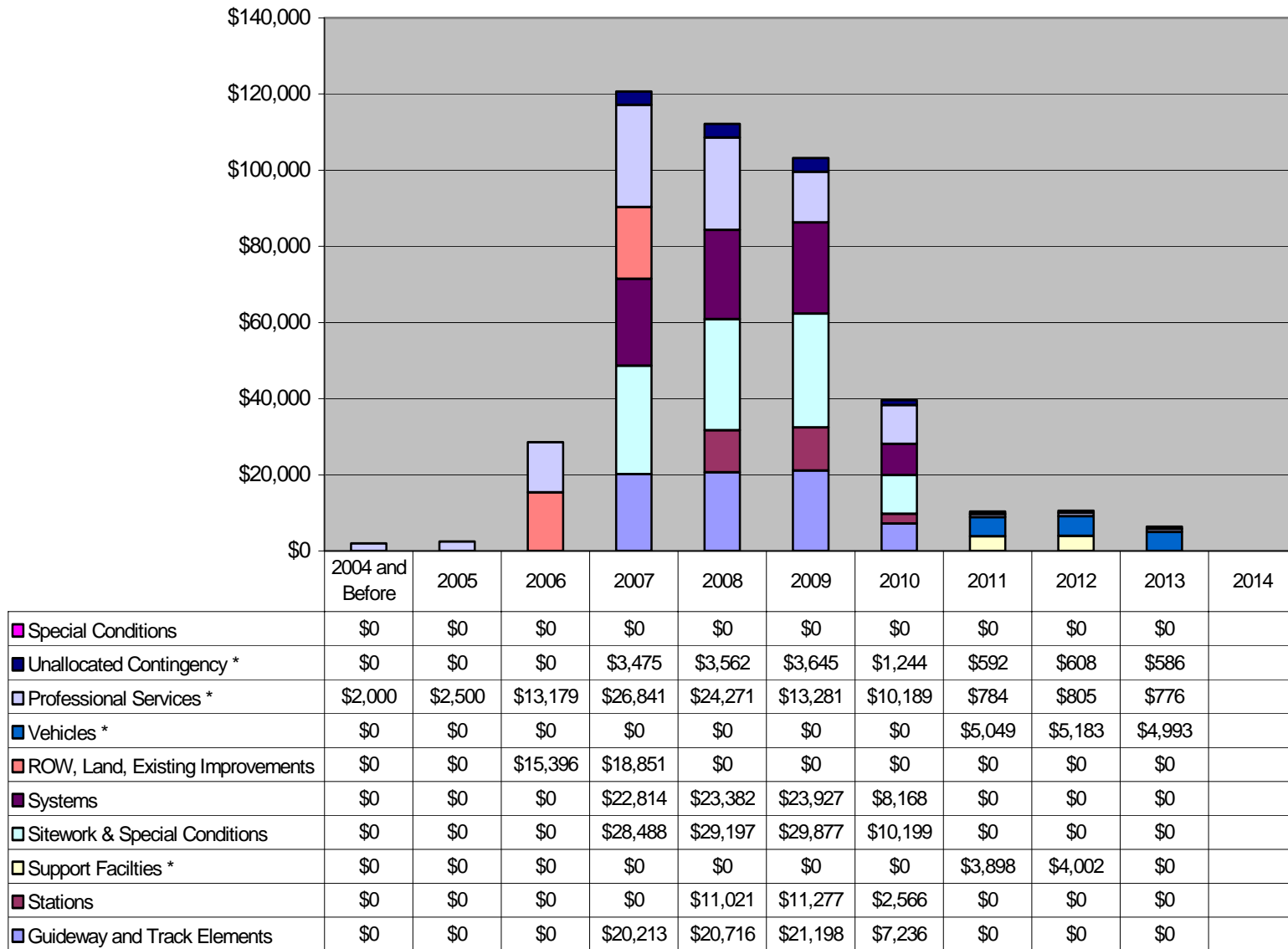
SAN BERNARDINO COUNTY USES AND SOURCES		
	FY 2025	Total
<b>CAPITAL COSTS &amp; REVENUES</b>		
<b>Capital Costs</b>		
10 Guideway and Track Elements		\$0.0
20 Stations		\$0.0
30 Support Facilities		\$0.0
40 Sitework & Special Conditions		\$0.0
50 Systems		\$0.0
60 ROW, Land, Existing Improvements		\$0.0
70 Vehicles		\$0.0
80 Professional Services		\$0.0
90 Unallocated Contingency		\$0.0
100 Special Conditions		\$0.0
<b>Total Project Capital Cost</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>Interest Cost</b>		
<b>Total Interest Cost</b>	<b>\$0.0</b>	<b>\$0.0</b>
** Prior State/Local Expenditure on Right of Way(SB Co)		\$0.0
<b>TOTAL CAPITAL COST</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>Capital Revenues</b>		
<b>5309 New Starts (SANBAG)</b>		
SANBAG Local		\$0.0
** Prior State/Local Expenditure on Right of Way (SB Co)		\$0.0
<b>TOTAL CAPITAL REVENUES</b>	<b>\$0.0</b>	<b>\$0.0</b>
<b>Net Surplus/(Deficit)</b>	<b>\$0.0</b>	<b>\$0.0</b>

Notes:  
 \* Include costs associated with additional buses.  
 \*\* The Prior State/Local Expenditure on Right of Way reflects actual expenditure in 1992 and is in 1992 dollars. Per comments received from FTA, the Authority has not inflated this number to 2005 dollars, however the Authority reserves the right to escalate this figure to 2005 dollars if it is found later to be acceptable to FTA.  
 \*\*\* Of the \$731.0 million total actual cost of Phase I, \$278.6 million has been used as match.

Note: Includes capital cost of 28 buses.

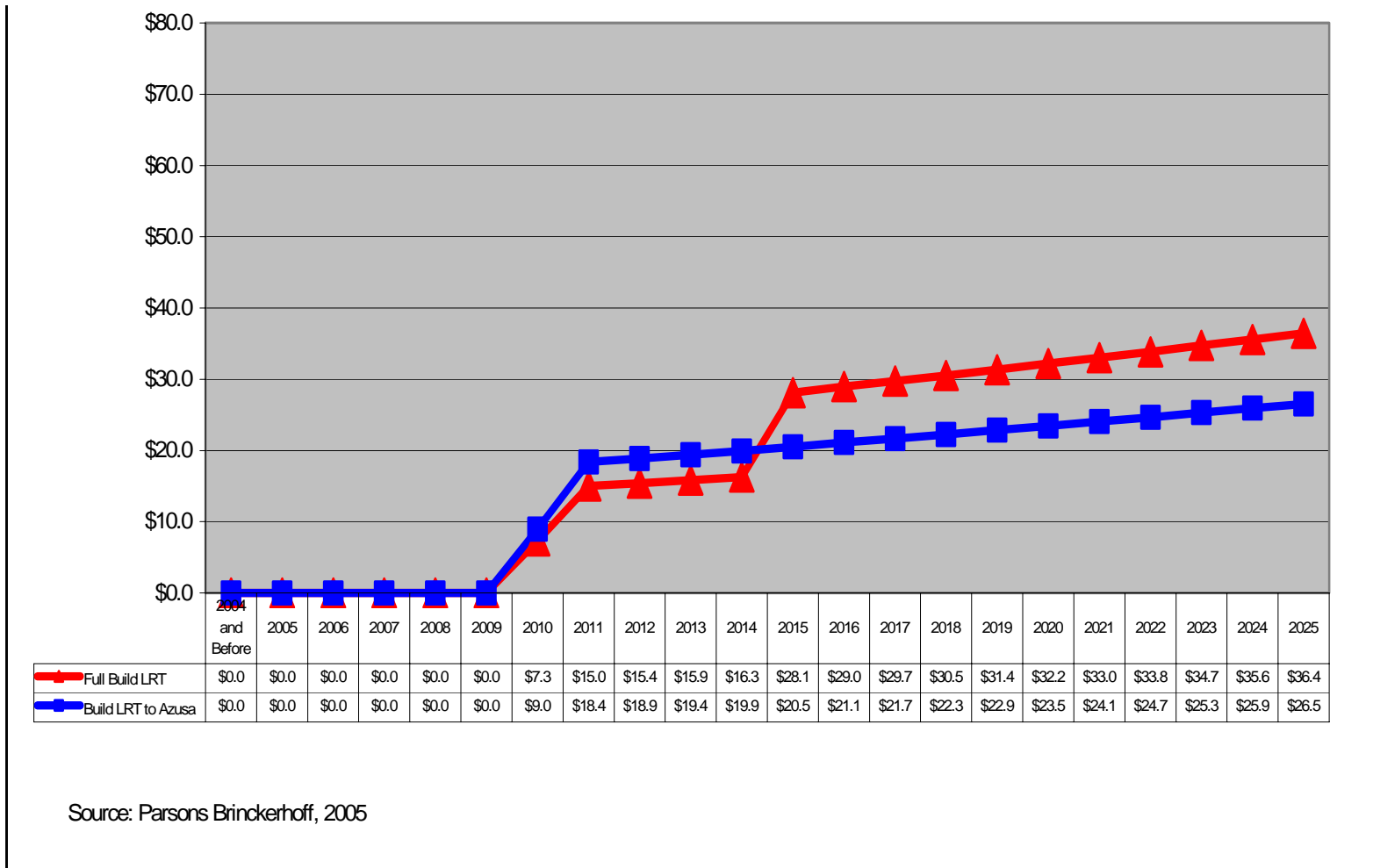


**FIGURE 5-2: FULL BUILD LRT ALTERNATIVE CAPITAL COST, BY YEAR (PRE-2004 - 2014)  
(IN YEAR OF EXPENDITURE DOLLARS, THOUSANDS)**



**FIGURE 5-3: BUILD LRT TO AZUSA ALTERNATIVE CAPITAL COST, BY YEAR (PRE-2004 - 2014)  
(IN YEAR OF EXPENDITURE DOLLARS, THOUSANDS)**





Source: Parsons Brinckerhoff, 2005

**FIGURE 5-4: SUMMARY OF BUS AND LRT O&M COSTS , BY YEAR PRE-2004 – 2005 (IN YOE \$, MILLIONS)**

## 5-1.5 Financial Capability to Build and Operate

The 22-year cash flows indicate the timing and magnitude of the proposed funding resources required to implement and operate the build alternatives. As shown in the cash flows, federal and non-federal capital revenues are proposed to construct the build alternatives and initiate revenue service in the 2010 timeframe for service to Azusa and in the 2014 timeframe for full operation to Montclair.

## 5-2 COMPARATIVE ANALYSIS OF ALTERNATIVES

This section provides a variety of measures to evaluate and compare the Full Build (Pasadena to Montclair) Alternative and the Build LRT to Azusa Alternative to the No Build Alternative. In addition, the build alternatives will be compared to the TSM Alternative described in the Draft EIS/EIR as recommended by FTA. These measures are consistent with the FTA guidelines for assessing and evaluating major investments. **Table 5-11** summarizes the categories and measures included in this section.

<b>TABLE 5-11 COMPARATIVE ANALYSIS OF ALTERNATIVES</b>	
Effectiveness in Improving Mobility	Corridor Goals and Objectives
	Ridership – New Transit Trips
	Travel Time Savings
Cost-Effectiveness	Incremental Cost per Incremental Hour of Transportation System User Benefit
Equity	Discussion of Demographic Factors

Other analyses and discussion for FTA measures related to air quality and land use can be found in Chapter 3. This chapter ends with a discussion of the trade-offs between the No Build and the build alternatives.

### 5-2.1 Effectiveness in Improving Mobility

Various elements serve as indicators of improved mobility including responsiveness to goals and objectives and transportation problems and deficiencies identified in Chapter 1. Ridership describes the amount of people using the proposed transit alternatives in 2025, as estimated through a transportation demand model. Travel time savings assess the annual value of time saved for transit users as a result of the proposed transit alternatives.

#### 5-2.1.1 Corridor Goals and Objectives

In addition to the evaluation factors discussed below, the Full Build (Pasadena to Montclair) Alternative and the Build LRT to Azusa Alternative relate to the goals and objectives presented in Section 1-1.5.1 and Table 1-1.6. Throughout the planning development process these goals and objectives have been at the forefront of the alternatives development, analysis, and selection process. The nine goals are listed below:

- To locate stations that facilitate cities' visions for land use and development around transit stations and adjoining activity centers
- To create a system that creates/adds identity and attractiveness to San Gabriel Valley cities
- To complement other existing transit in the corridor and optimize previous investments
- To reduce auto dependency
- To improve mobility and provide connectivity to regional and local transit systems
- To implement a project within a reasonable period of time
- To develop a cost-effective transit system
- To improve air quality and preserve and protect the natural and man-made environment
- To work collaboratively with local cities throughout the project development process.

In addition to responding to the corridor's goals and objectives the alternatives directly related to assisting in solving the transportation problems that have been identified in the corridor. These problems and issues are presented in Section 1-2 of Chapter 1. The LRT Build alternatives respond most strongly to the goals, objectives, and problems within the corridor.

### 5-2.1.2 Ridership

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

Transit ridership has been estimated for the Full Build (Pasadena to Montclair) Alternative, the Build LRT to Azusa Alternative, and the No Build Alternative using the latest MTA travel simulation model, based on the forecast year of 2025. The alternatives definitions are described in Chapter 2 and the model runs are discussed in Section 3-15, Traffic and Transportation.

The major measure of effectiveness of transit ridership for comparison between alternatives is the number of new "transit" trips compared to the No Build Alternative. Compared to the No Build Alternative, the Build LRT to Azusa Alternative attracted 10,100 new transit trips and the Full Build (Pasadena to Montclair) Alternative, 18,100 new transit trips. In addition, the usage of the expanded and extended Gold Line is increased by the build alternatives. The daily boardings in 2025 would increase from 59,000 in the No Build Alternative to approximately 79,000 for the Full Build (Pasadena to Montclair) Alternative and to approximately 69,300 for the Build LRT to Azusa Alternative.

### 5-2.1.3 Travel Time Savings

The travel time savings measure is defined as the total travel time savings for transit riders that would be expected to result from the build alternatives in the forecast year (2025), compared to the No Build Alternative. Compared to the No Build Alternative, the Build LRT to Azusa Alternative would save riders 2.4 million hours per year and the Full Build (Pasadena to Montclair) Alternative, 3.9 million hours per year.

**5-2.2 Efficiency (Cost-Effectiveness)**

Cost-effectiveness is a measure used to evaluate how the costs of a transit project alternative (for both construction and operation) compare to the expected benefits. Over the last few years FTA has revised the cost-effectiveness measure and changed the measure of benefits from “new transit trips” to “transportation system user benefits or travel time benefits in annual hours” for the proposed alternatives. FTA’s change reflects their decision that the cost per hour of transportation system user benefits is a preferable measure for cost-effectiveness (as compared to the former measure of cost per new transit trip), as it (1) captures the benefits which accrue to all transit system users (including existing transit riders); (2) better reflects the underlying reason for ridership increases – improvements in travel time; (3) incorporates and considers the nature of the service being provided by the proposed project (for example, the measure distinguishes the benefits of long vs. short trips); and (4) does not penalize those agencies which are already providing a high level of transit service in a corridor for which a major capital investment is proposed.

FTA’s cost-effectiveness criterion is measured by the incremental cost per hour of transportation system user benefit in the forecast year for the build alternatives compared to the No Build and TSM Alternatives. This measure is based on the annualized total capital investment and annual operating and maintenance (O&M) costs divided by the annual hours of transportation system user benefits.

To calculate the change in capital cost, project costs, discussed in Section 5-1.1.1, were aggregated according to their assumed useful life and annualized accordingly, using FTA annualization factors shown in **Table 5-12**.

<b>TABLE 5-12 LIFE CYCLE ASSUMPTIONS</b>		
<b>Project Element</b>	<b>Useful Life</b>	<b>Annualization Factor</b>
Right-of-way	100 years	0.0701
Exclusive at-grade guideway	80 years	0.0703
At-grade stations	70 years	0.0706
Light rail vehicles	25 years	0.0858
Buses	12 years	0.1259

Source: Technical Guidance Major Capital Project Costs, FTA, June 24, 2005

Annual O&M costs were calculated using the approach described in Section 5-1.1.2. The change in the hours of transportation system user benefits for the forecast year 2025 was determined using the LACMTA travel forecasting model.

**Table 5-13** presents the 2025 annualized cost and benefit values and the resulting cost-effectiveness for the build alternatives compared to the No Build and TSM Alternatives.

**TABLE 5-13  
COST-EFFECTIVENESS—INCREMENTAL COST PER HOUR OF TRANSPORTATION  
SYSTEM USER BENEFIT (YEAR 2025)**

Factor	Alternatives			
	No Build	TSM Alternative	Full Build (Pasadena to Montclair) Alternative <sup>(1)</sup>	Build LRT to Azusa Alternative
Annualized capital cost (million 2005 \$)	\$0.0	\$6.13	\$67.96	\$30.81
Total systemwide annual O&M cost (million 2005 \$)	\$1,172.97	\$1,183.31	\$1,194.68	\$1,188.79
Total annualized cost in forecast year (2025) (million 2005 \$)	\$1,172.97	\$1,189.44	\$1,262.64	\$1,219.60
Incremental annualized cost compared to No Build (million 2005 \$)	N/A	\$16.47	\$89.67	\$46.63
Incremental annualized cost compared to TSM (million 2005 \$)	N/A	N/A.	\$73.20	\$30.16
Annual hours of user benefit compared to No Build (million)	N/A	0.98	3.93	2.35
Annual hours of user benefit compared to TSM (million)	N/A	N/A	3.09	1.43
<b>Cost – effectiveness to No Build</b>	N/A	<b>\$16.81</b>	<b>\$22.82</b>	<b>\$19.84</b>
<b>Cost – effectiveness to TSM</b>	N/A	N/A	<b>\$23.69</b>	<b>\$21.09</b>

<sup>(1)</sup> Includes ¼ cost of M&O facility.  
Source: Parsons Brinckerhoff, 2005.

### 5-2.3 Equity Considerations

Equity considerations generally fall into three interrelated classes: (1) the extent to which the transportation investments improve transportation service to various population segments (i.e., the extent to which transit improvements benefit the transit dependent); (2) the distribution of project costs across the population through the funding mechanisms used for the local construction and operation; and (3) the incidence of significant environmental impacts. In addition, Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires that

federal agencies consider and address disproportionately high adverse environmental effects of proposed federal projects on the health and environment of minority and low-income populations to the greatest extent practicable by law. Section 3-14.2.8 (Environmental Justice) of this document discusses the equity and environmental consideration for the study corridor and the alternatives under consideration. Section 8 (Public Outreach) of this document discusses the extensive outreach program to all groups that have been part of the planning process.

The No Build Alternative would not offer the study area residents and businesses the enhanced mobility, regional connectivity, and accessibility provided by the Full Build (Pasadena to Montclair) Alternative and the Build LRT to Azusa Alternative as stated in the goals and objectives and the statement of purpose and need.

The Full Build (Pasadena to Montclair) Alternative and the Build LRT to Azusa Alternative provide many benefits related to equity, accessibility to opportunities, mobility improvements, economic revitalization, employment opportunities, federal, state, and local funds for construction, and additional funds for the operating and maintenance cost of the LRT and expanded bus services.

For instance, both build alternatives provide increased accessibility for corridor residents to the major regional employment center in Pasadena, and via Phase I of the Gold Line to employment in central Los Angeles. The build alternatives also provide connection among the activity centers in the corridor cities. These activity centers, described in Chapter 3, Section 3-14 (Socio-economics), also include such major employers and community assets as hospitals and universities.

Planning by corridor cities indicate their interest and commitment to economic development/ redevelopment in the vicinity of proposed LRT stations. The build alternatives provide an impetus to support planned growth in each of the cities on an equitable basis: the level of service for each city is the same.

**Table 5-14** summarizes the significant transportation characteristics related to the alternatives.

<b>TABLE 5-14 SUMMARY OF SIGNIFICANT TRANSPORTATION CHARACTERISTICS</b>				
<b>Factor</b>	<b>Alternatives</b>			
	<b>No Build</b>	<b>TSM Alternative</b>	<b>Full Build (Pasadena to Montclair) Alternative</b>	<b>Build LRT to Azusa Alternative</b>
Capital Cost (million 2005 \$)	\$0.0	\$69.2	\$976.3	\$402.3
Annual O&M Cost compared to No Build (million 2005 \$)	N/A.	\$10.34	\$21.71	\$15.82
Annual Hours of Transit User Benefit compared to No Build (million)	NA	0.98	3.93	2.35

<b>TABLE 5-14 SUMMARY OF SIGNIFICANT TRANSPORTATION CHARACTERISTICS</b>				
<b>Factor</b>	<b>Alternatives</b>			
	<b>No Build</b>	<b>TSM Alternative</b>	<b>Full Build (Pasadena to Montclair) Alternative</b>	<b>Build LRT to Azusa Alternative</b>
Daily New Transit Trips compared to No Build	N/A.	3,100	18,100	10,100
Annual New Transit Trips compared to No Build (millions)	N/A.	0.99	5.79	3.23
Source: Parsons Brinckerhoff, 2005.				

### 5-2.4 Trade-Offs Between Alternatives

The trade-offs between the No Build Alternative and the Full Build (Pasadena to Montclair) Alternative and the Build LRT to Azusa Alternatives are that the No Build Alternative would involve fewer environmental impacts, but would not provide an enhanced level of mobility and accessibility to the ethnically diverse and minority communities along the corridor. The Full Build (Pasadena to Montclair) Alternative and the Build LRT to Azusa Alternative would, on the other hand, provide improved access to a broader range of employment, shopping, educational, and cultural opportunities, consistent with the goals and objectives discussed above and in Chapter 1. The longer Full Build (Pasadena to Montclair) Alternative would provide the most benefits as it provides LRT service to all the communities along the corridor.

The financial trade-offs between the Full Build LRT and the Build LRT to Azusa Alternatives and the No Build Alternative are directly related to the ability of the region and the local communities in concert with the federal and state governments to adequately fund the construction and operation of the build alternatives as discussed in Sections 5-1.3 and 5-1.4.

From a mobility standpoint the Full Build (Pasadena to Montclair) Alternative provides the greatest improvements to mobility for the residents and businesses along the corridor and is the most effective in satisfying the goals and objectives for the corridor.

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