6. FINANCIAL CONSIDERATIONS

6.1 Introduction

This chapter presents cost and funding information for the TSM and LRT Alternatives evaluated in the DEIR.

The Expo Phase 2 project is included in the Los Angeles County 2008 Regional Transportation Plan (Financially Constrained version). Expo Phase 1 is currently under construction, scheduled to open in 2010. That project is funded primarily with local funds.

6.2 Capital Costs

This section presents the summary of capital costs estimated for the TSM and LRT Alternatives. Detailed descriptions of the alternatives are included in Chapter 2 (Project Alternatives). The estimates are based on local cost information available from the Expo Phase 1 and other sources as applicable. These costs are inclusive of engineering, right-of-way (ROW), guideway/track, stations, parking lots/structures, roadway improvements, vehicles, contingencies, and reserves.

Capital costs have been developed for each of the alternatives in a manner consistent with the FTA Cost Estimating Methodology, although FTA has neither reviewed nor endorsed the estimates as federal funding is not being sought. For each of the estimates, unit prices for the various construction elements were derived from the ongoing Expo Phase 1 project and other sources. Where necessary, costs were escalated to 2008 dollars, and appropriate contingencies and adjustments were applied.

Real estate acquisition and relocation costs were separately estimated for each of the alternatives and include all foreseeable property acquisition based on the 5 to 15 percent completed conceptual engineering design (Drawings in Appendices E and F, described in Section 4.2 [Construction Scenario]). The potential property acquisitions are shown in Appendix G (Real Estate Maps). The cost estimates for these properties were developed by the Metro Real Estate Department. Vehicle costs were based on current Metro price estimates for the Expo Phase 1 LRT vehicles.

Contingencies were applied to all of the above cost elements. Contingency amounts varied and were applied as follows:

- Between 15 percent and 20 percent for the guideway and track elements
- 15 percent for stations
- Between 15 percent and 20 percent for support facilities
- 20 percent for site work
- 15 percent for systems
- 30 percent for real estate

- 5 percent for vehicles
- 5 percent for professional services

6.2.1 Capital Costs—TSM Alternative

For the TSM Alternative, the capital costs are estimated to be $44.3 million in mid-2008 dollars, as shown in Table 6.2-1 (TSM Capital Costs [2008 $s] [000s]). The principal components of these capital cost estimates are vehicles, professional services (project management, engineering, construction management, inspection, insurance, etc), construction of minor bus stops and street improvements, and contingencies. There would be no ROW acquisition required for the TSM Alternative.

Table 6.2-1 TSM Capital Costs (in 2008$) (000s)

Principal Components	TSM
Construction	$1,610
Right-of-Way	$0
Vehicles	$32,814
Professional Services and Contingency	$9,905
Total	***$44,329***

SOURCE: Capital Construction Costs, DMJM Harris/Lenax, October 2008

6.2.2 Capital Costs—LRT Alternatives

Table 6.2-2 (LRT Alternatives Capital Costs [in 2008$] [000s]) shows the capital costs in mid-2008 dollars for each LRT Alternative.

Table 6.2-2 LRT Alternatives Capital Costs (in 2008$) (000s)

Principal Components	LRT 1: Expo ROW–Olympic	LRT 2: Expo ROW–Colorado	LRT 3: Venice/ Sepulveda–Olympic	LRT 4: Venice/ Sepulveda–Colorado
Construction	$508,334	$454,378	$694,647	$640,648
Right-of-Way	$151,167	$164,916	$277,054	$290,803
Vehicles	$79,013	$90,864	$94,815	$102,716
Professional Services and Contingency	$231,497	$222,363	$368,140	$356,519
Total	***$970,010***	***$932,521***	***$1,434,657***	***$1,390,686***

SOURCE: Capital Construction Costs, DMJM Harris/Lenax, October 2008

These capital costs are based on conceptual engineering design. More detailed cost estimates will be developed during Preliminary Engineering (PE) following selection of the Locally Preferred Alternative (LPA).

Table 6.2-3 (Total Project Costs for each LRT Alternative [Year of Expenditure] [000s]) shows the year of construction (escalated) dollar costs for each LRT Alternative.

Table 6.2-3 Total Project Costs for Each LRT Alternative (Year of Expenditure) (000s)

Principal Components	LRT 1: Expo ROW–Olympic	LRT 2: Expo ROW–Colorado	LRT 3: Venice/ Sepulveda–Olympic	LRT 4: Venice/ Sepulveda–Colorado
Construction	$718,077	$642,992	$979,028	$903,882
Right-of-Way	$197,341	$215,289	$361,679	$379,628
Vehicles	$117,072	$134,633	$140,486	$152,194
Professional Services and Contingency	$320,886	$308,206	$510,761	$494,624
Total	***$1,353,375***	***$1,301,121***	***$1,991,956***	***$1,930,328***

SOURCE: Capital Construction Costs, DMJM Harris/Lenax, October 2008

Costs are escalated to year of construction using a 7.5-percent escalation through 2010, 5 percent from 2011 through 2013, and 3 percent through completion of construction.

The higher costs for LRT Alternatives 3 and 4 are substantially attributed to more aerial and elevated structures, and more real estate acquisition costs. On the west end, the Colorado Avenue alternative (LRT Alternatives 2 and 4) is $37 to $49 million less expensive than the Olympic Boulevard alternative (LRT Alternatives 1 and 3). These costs are related to the more expensive aerial structure associated with Segment 3 when compared to the less expensive “on-street” construction associated with Segment 3a. These cost estimates will be refined during PE.

6.2.3 Cash Flow—LRT Alternatives

A cash flow analysis has been completed for each LRT Alternative based on conceptual construction schedules and are shown in Table 6.2-4 (Project Cash Flow [Year of Expenditure $] [000s]). The project cash flow is subject to change as the project proceeds through the PE and Final Design stages. This is intended to show conceptually what the cash flow could be.

Table 6.2-4 Project Cash Flow (Year of Expenditure $) (000s)

LRT Alternative	Year											Total
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	
LRT 1: Expo ROW–Olympic	$1,501	$3,045	$18,178	$184,730	$193,966	$203,665	$231,911	$243,114	$248,221	$15,765	$9,279	$1,353,375
LRT 2: Expo ROW–Colorado	$1,501	$3,045	$17,251	$177,442	$186,314	$195,630	$223,145	$233,915	$238,833	$15,135	$8,908	$1,301,121
LRT 3: Venice/ Sepulveda–Olympic	$1,501	$3,045	$28,245	$297,040	$311,892	$327,487	$316,284	$331,862	$338,682	$22,609	$13,307	$1,991,956
LRT 4: Venice/ Sepulveda–Colorado	$1,501	$3,045	$27,178	$289,279	$303,743	$318,930	$305,075	$320,121	$326,690	$21,884	$12,880	$1,930,328

SOURCE: Capital Construction Costs, DMJM Harris/Lenax, October 2008

6.3 Operating and Maintenance Costs

This section presents the operating and maintenance costs for the TSM and LRT Alternatives. Operating and maintenance costs for the TSM and LRT Alternatives are based on the service and fleet assumptions, as well as the bus and rail vehicle revenue miles and hours described in Chapter 2 (Project Alternatives). Table 6.3-1 (2030 TSM and LRT Alternatives Annual Operating and Maintenance Costs [in 2008$] [000s]) shows the annual operating and maintenance costs in 2008 dollars for 2030 service levels.

Table 6.3-1 2030 TSM and LRT Alternatives Annual Operating and Maintenance Costs (in 2008$) (000s)

Mode	TSM (Baseline) Alternative	LRT 1: Expo ROW–Olympic	LRT 2: Expo ROW–Colorado	LRT 3: Venice/ Sepulveda–Olympic	LRT 4: Venice/ Sepulveda–Colorado
Operating Cost Increment over No-Build	$10,853	$22,531	$23,788	$25,654	$26,891
Operating Cost Increment over TSM	NA	$11,678	$12,935	$14,801	$16,038

SOURCE: Connetics Transportation Group (August 2008)

Operating-cost estimates have been developed for TSM and LRT Alternatives in accordance with FTA guidelines[78], which specify that:

- Costs should be computed by estimating labor and materials needed to provide a given level of service, and then unit costs should be applied to the estimated future labor and materials cost items.
- Costs should be calculated based on operating characteristics for each mode (e.g., Red Line train hours, Green Line train hours), rather than for all modes combined (e.g., systemwide passengers).
- Each reported labor and non-labor expense should be calculated separately, which ensures that equations are mutually exclusive and cover all operating costs.
- Most cost items should be variable, meaning that cost estimates change with projected changes in service.

The operating costs were estimated using the 2007 Metro Operations & Maintenance (O&M) Cost Model, which satisfies the FTA guidelines listed above. These costs were then escalated to 2008 based on data from the U.S. Department of Labor, Bureau of Labor Statistics. The FTA has neither reviewed nor approved these estimates, as federal funding is not being sought.

[78] While there have been subsequent updates, detailed guidance is provided in *Procedures and Technical Methods for Transit Project Planning* (Supplement), U.S. Department of Transportation Federal Transit Administration, February 1993.

6.3.1 TSM Alternative

The TSM Alternative essentially includes a new Metro Rapid Bus line operating on existing city streets serving the Expo Phase 2 communities and some other minor bus service adjustments as described in Chapter 2 (Project Alternatives). It will cost approximately $10.8 million annually to operate those services over and above the No-Build Alternative.

6.3.2 LRT Alternatives

The LRT Alternatives include costs for both operation of the LRT and operation of the revised feeder bus networks to serve the stations. LRT Alternatives 1 and 2 would be less expensive to operate largely because of the shorter length of the proposed alignment (6.6 miles), as compared to LRT Alternatives 3 and 4 at 7.5 miles. Operating costs for LRT Alternatives 2 and 4, following Colorado Boulevard in Santa Monica, would be higher in response to the slower travel speeds, resulting in the need for an additional train set to operate the “on-street” design. In addition, the variations in the feeder bus services (described in Chapter 2 [Project Alternatives]) also contribute to some of the cost differential among the LRT Alternatives.

6.4 Financial Evaluation of the LRT Alternatives

This section provides a financial evaluation of the ability of the Expo Authority to build the project and the ability of Metro to fund transit service operations.

6.4.1 Funding for Capital Costs

The region has developed a capital projects funding strategy that relies on seven funding sources: Local Sales Tax Revenues from Propositions A and C, Measure R, State Proposition 1B Infrastructure Bonds, State Transportation Improvement Program (STIP) funds, State Congestion Mitigation and Air Quality (CMAQ) funds, and Federal Section 5309 New Starts.

For the Expo Phase 2 project, it has been determined by Metro that funding for the project will be through a combination of local and state sources. The specific local and state sources, along with each source amount, will be provided once the LPA is selected and PE costs are complete.

Proposition A—35 Percent Bond Funds

Proposition A is a half-cent sales tax passed by the Los Angeles County voters in 1980, to be used to improve public transit throughout Los Angeles. The funds collected are to be divided three ways: 25 percent to the local return program, for use by local agencies for transit projects; 35 percent for rail development and operations; and 40 percent to be used for Metro bus operations. Funding to go toward the Expo Phase 2 project comes from the 35 percent rail development and operations pool.

Proposition C—25 Percent Bond Funds

Proposition C is a half-cent sales tax passed by the Los Angeles County voters in 1990 to be used for public transit purposes in Los Angeles County. Revenues are distributed in five categories: 5 percent to rail and bus security; 10 percent to commuter rail, transit centers, and

park and ride; 25 percent to transit-related streets and state highways; 20 percent to local cities and the county; and 40 percent discretionary to be split among rail capital and operations, bus capital and operations, and bus service expansion.

Measure R—Traffic Relief and Rail Expansion Ordinance

Measure R is a half cent sales tax passed by the Los Angeles County voters in 2008 with a 30-year life. It is to be used for rail, traffic, highway, and public transportation improvements according to a specific expenditure plan. The Expo Phase 2 project is one of the specific projects to be funded. Fifteen percent of the revenue will be allocated to the County's eighty-eight cities and County unincorporated areas for local needs such as major street resurfacing, rehabilitation, and reconstruction; pothole repair; left-turn signals; bikeways; pedestrian improvements; streetscapes; signal synchronization; and transit-service improvements. In addition, 20 percent of the sales tax revenue will subsidize countywide bus operations.

Proposition 1B—Highway Safety, Traffic Reduction, Air Quality and Port Security Bonds Act of 2006

Proposition 1B, passed in 2006 by the voters of California, authorizes $19.925 billion statewide over the next 10 years to fund new transportation infrastructure capital programs and projects. The financial forecast for Los Angeles assumes $5.463 billion from the bond programs. Of that amount, Metro has designated $2.156 billion for previously planned capital projects including the Expo Phase 2 project.

Regional Improvement Program (RIP) Funds

California state transportation funding is programmed through the State Transportation Improvement Plan (STIP). The STIP is divided into 75-percent regional/local share and 25-percent interregional statewide share. The RIP funding for the Expo Phase 2 project is from the 75-percent pool.

6.4.2 Funding for Operations and Maintenance

Funding for the operation and maintenance of the Expo Phase 2 project is included in the Long Range Transit Plan completed by Metro in 2001 and currently being updated. According to the Draft 2008 Long Range Plan primary sources of funds for Metro's bus and rail operations include Propositions A and C as described above. These and other local revenues including fares, real estate rental, advertising, and bonding provide approximately 65 percent of Metro's funding. The remaining funding comes from various state and federal sources.