

5.0 Financial Analysis

5.1 Introduction

This section provides a comparison of the capital and operating and maintenance costs and revenues associated with the promising alternatives under consideration for the project. These alternatives consist of a No Build, TSM and two build alternatives. The build alternatives are comprised of an at-grade and cut-and-cover alternative (At-Grade Emphasis LRT Alternative) that includes two configuration options (Option A and Option B) and a twin-bore tunnel alternative (Underground Emphasis LRT Alternative). It is important to note that this financial analysis was conducted prior to the recent national economic crisis. As the impacts of this crisis are still working their way through the private and public sectors, including transit systems, cost and revenue assumptions described in the following sections should be considered preliminary and will likely need to be refined. As the Regional Connector continues through the project implementation process, cost, funding and financing projections will be revised to reflect the best available information.

Section 5.2 focuses on the capital costs of the alternatives. Costs are presented in both base year and Year of Expenditure (YOE) dollars using annual inflation rates and a preliminary implementation schedule developed for the project. In order to understand the financial impact of actual funds that would need to be expended in the actual year of expenditure and the relative effects of inflation on costs and revenues, an inflation rate is used to project from base year dollars to YOE dollars. More specifically, YOE dollar values are computed by multiplying base year dollar values by the compounded escalation factor for the year in which funds would be expended. For example, in YOE dollars, \$1.00 in 2008 is equivalent to \$1.04 in 2009, using an inflation rate of 4.0 percent.

Additionally, the capital costs are presented using FTA's Standard Cost Categories (SCC). FTA implemented the SCC to establish a consistent format for the reporting, estimating and managing of capital costs for projects proceeding through the New Starts major capital project development process

Following the discussion of capital costs, Section 5.3 describes the potential federal, state, and local capital revenue sources and funding strategies that could be used for the Regional Connector project. For purpose of this analysis, the Regional Connector build alternatives are assumed to be funded with a combination of federal and non-federal funds, including 50 percent in FTA New Starts (Section 5309) funding and 50 percent in local funding from a combination of state and local sources. The proposed funding sources are described first, followed by a discussion of other potential state and local sources. Funding strategies considered include the potential for changes to Metro's policy regarding bonding capacity. Also considered is the potential to work with FTA to include the Regional Connector project as part of a multi-corridor program of projects, to be

funded through the FTA New Starts program, similar to the process being used in Salt Lake City and Houston.

Section 5.4 compares projected operating and maintenance (O&M) costs of the alternatives and projected farebox revenues assuming average fares consistent with Metro services. This section also identifies potential system-wide operating savings that could be realized due to improved efficiency of service associated with the selected alternatives. An estimate is also provided of the potential level of operating support required.

Section 5.5 summarizes the key findings of the preliminary financial analysis. As the alternatives selection process moves forward, future iterations of the financial analysis will be conducted, with increasing levels of detail and refinement. The refined financial analysis will include a detailed cash flow analysis in YOE dollars through the project horizon year of 2030.

5.1.1 Background

The Regional Connector project is proposed to create a connection in downtown Los Angeles that will link the Metro Blue and Expo Lines termini at 7th St./Metro Center Station (7th and Flower Sts.) to the Metro Gold Line Pasadena and Eastside links at the Little Tokyo/Arts District Station at 1st and Alameda Sts. This connection will provide through service between the Metro Blue Line to Long Beach, the Metro Gold Line to Pasadena and East Los Angeles, and the Metro Expo Line to Culver City. With the implementation of the Regional Connector, these four lines will share tracks and stations in downtown Los Angeles. The result of this connection will be enhanced regional connectivity without the need to transfer thus making it easier for potential riders to get to and from downtown Los Angeles.

5.1.2 Status of the Regional Connector Transit Corridor in Existing Long Range Financial Plans

The Regional Connector Transit Corridor is included in both of the existing long range financial planning documents for the region: Metro's 2008 Long Range Transportation Plan (LRTP) and the Southern California Association of Governments Regional Transportation Plan (SCAG RTP). Within the LRTP, the Regional Connector Transit Corridor is the highest priority project within the Strategic Unfunded component of the plan and is one of 12 "Tier 1" projects that are "currently under planning study or environmentally cleared/route refinement study." Projects in the Strategic Unfunded component of the plan could be implemented if additional funding were made available from new sources. With regard to the SCAG RTP, the Regional Connector is included as a funded project (project identification number 1TR0404) at an estimated cost of \$4.24 billion and is assumed to be completed by 2035.

5.1.3 Description of the Alternatives

The following provides a brief overview of the alternatives under consideration in order to reflect assumptions used for the cost estimates. See section 2 for maps of alternatives for consideration.

No Build Alternative

The No Build alternative includes all existing transportation facilities as well as all committed transportation projects outlined in the Metro LRTP (2001) and the SCAG Regional Transportation Plan (2004). This includes the Metro Gold Line Eastside Extension (Phase 1) scheduled to open in 2009, the first and second phase of the Metro Exposition Line scheduled to open in 2010, and the second phase of the Metro Rapid Bus expansion plan scheduled to be completed in 2008. An update to Metro's LRTP was released for public review in March 2008 and is anticipated to be finalized and approved during the winter of 2008. This final AA study will reflect the 2001 LRTP commitments but acknowledge the potential inclusion of additional projects pending the approval of the updated plan. The No Build Alternative would preserve existing service levels, as well as the projects listed in the LRTP and Regional Transportation Plan. It may also call for improving service frequency in some areas, but will largely leave the present transit coverage unchanged.

TSM Alternative

The TSM Alternative would assume no build and would imitate the proposed light rail link between 7th St./Metro Center Station and Union Station using two shuttle bus routes. Shuttle buses operated by Metro would run frequently, perhaps just a few minutes apart during peak hours, and routes would be designed to move passengers between the two stations as quickly as possible. The shuttle buses would use mixed-flow arterial street lanes or existing bus only lanes and attempt to avoid major conflicts with existing bus routes. Peak-hour parking restrictions would facilitate the movement of the shuttle buses along the routes. Intermediate stops would provide additional transit coverage of Bunker Hill, Little Tokyo, and the Civic Center. A variety of bus sizes could be used to tailor capacity to demand, ranging from 30-foot shuttle buses to 60-foot articulated buses.

In addition to frequent headways, Regional Connector shuttle buses could employ a Transit Priority System (TPS) system similar to the ones currently used on Metro Rapid lines within the City of Los Angeles. Transponders mounted to the undersides of the buses would trigger detector loops embedded in the pavement in advance of each signalized intersection along the route. Upon detecting the bus, the city's central Automated Traffic Surveillance and Control (ATSAC) system would trigger the signal controller to grant additional green phase time to the oncoming bus (usually 10-15 percent of the total cycle time), up to once per cycle. Metro Rapid lines have shown TPS to keep buses moving quickly, reduce trip times, and increase passenger throughput.

Build Alternatives

Based on the results of a detailed screening process, two build alternatives are being recommended to be carried forward for further evaluation. A combined at-grade/underground alternative that includes one-way couplets on Main St. and Los Angeles St. (At-Grade Emphasis LRT Alternative) and an alternative that is almost entirely underground (Underground Emphasis LRT Alternative). The At-Grade Emphasis LRT

Alternative includes two alignment options that are still under consideration. A description of the alternatives is provided below.

At-Grade Emphasis LRT Alternative Option A

The At-Grade Emphasis LRT Alternative Option A is 1.8 miles long with approximately 71 percent of the alignment at grade and 29 percent of the alignment underground. The underground portions of the alignment are proposed to use the cut and cover construction technique. The estimated capital cost of the At-Grade Emphasis LRT Alternative – Option A is \$795.7 million in FY2008 constant dollars, or \$1.019 billion in Year of Expenditure throughout (YOE) dollars, inclusive of inflation.

The At-Grade Emphasis LRT Alternative Option A has a total of three station locations, of which two are underground and one is at grade. The underground stations are at Flower St. between 5th and 6th Sts., and adjacent to the Grand Avenue Project development, south of 2nd St. The third station is a split station (two platforms) located at grade with one on Main St. and one on Los Angeles St.

As shown in Figure 5-1, the alignment for the At-Grade Emphasis LRT Alternative – Option A, from west to east, begins/ends at the existing underground 7th St./Metro Center station and heads north under Flower St. resurfacing to an at grade alignment via a portal located north of 4th St. The alignment continues across 3rd St. in a northeasterly direction where it then enters the existing hillside and ‘punches’ into the existing 2nd St. tunnel.

The alignment then uses the existing 2nd St. tunnel to run east, at grade in a dual track configuration until it reaches Main St. The alignment splits into a couplet configuration at grade, with one track continuing north on Main St. and the other track continuing east on 2nd St. to north on Los Angeles St.

Both tracks then head east on Temple St. realigning into a dual track configuration at Los Angeles and Temple Sts. And then heads east until the connection with the Metro Gold Line at Temple and Alameda Sts. In this alignment, 2nd St. between Los Angeles St. and Hill St. is transformed into a transit mall.

At-Grade Emphasis LRT Alternative Option B

The At-Grade Emphasis LRT Alternative Option B is 1.79 miles long with approximately 79 percent of the alignment at grade and 21 percent of the alignment underground. The underground portions of the alignment are proposed to use the cut and cover construction technique. The estimated capital cost of this option is \$709.3 million in FY2008 constant dollars, or \$909.1 million in YOE dollars, inclusive of inflation.

The At-Grade Emphasis LRT Alternative Option B has a total of three stations locations, of which one is underground and two are at grade. One at-grade station is on Flower St. between 3rd and 4th St. A second station is located adjacent to the Grand Avenue Project development, and a third station is a split station (two platforms) located at grade with one on Main St. and one on Los Angeles St.

As shown in Figure 5-2, the alignment for the At-Grade Emphasis LRT Alternative – Option B, from west to east, begins/ends at the existing underground 7th St./Metro Center Station and heads north under Flower St. resurfacing to an at-grade alignment from a portal located north of 5th St. The alignment continues on Flower St. at grade and then across 3rd St. in a northeasterly direction where it then enters the existing hillside and ‘punches’ into the existing 2nd St. tunnel. The alignment then uses the existing 2nd St. tunnel to run east, at grade in a dual track configuration until it reaches Main St. The alignment splits into a couplet configuration at grade, with one track continuing north on Main St. and the other track continuing east on 2nd St. then north on Los Angeles St. Both tracks then head east on Temple St. realigning into a dual track configuration at Los Angeles and Temple Sts. And then head east until the connection with the Metro Gold Line at Temple and Alameda Sts. In this alignment, 2nd St. between Los Angeles St. and Hill St. is transformed into a transit mall.

Underground Emphasis LRT Alternative

The Underground Emphasis LRT Alternative is 1.58 miles long and is proposed to use a bore tunneling construction technique. The estimated capital cost of this alternative is \$910.4 million in FY2008 constant dollars, or \$1.167 billion in YOE dollars, inclusive of inflation.

The Underground Emphasis LRT Alternative has a total of three stations, all underground. One station is under Flower St. between 4th and 5th Sts. A second station is located underneath the Grand Avenue Project development, and a third station is under 2nd St. between Main and Los Angeles Sts.

As shown in Figure 5-3, the alignment for the Underground Emphasis LRT Alternative begins at the existing underground 7th St./Metro Center Station and heads north under Flower St. It then turns northeast under the Grand Avenue Project development and heads east beneath the 2nd St. tunnel. The alignment continues east under 2nd St. until Central Ave., then it turns northeast under private property and rises through a new portal to the surface. The alignment then crosses the intersection of 1st St. and Alameda St. at grade to join the Metro Gold Line Eastside Extension tracks.

Based on the above descriptions, Table 5-1 summarizes the key alignment characteristics of build alternatives. As shown in the table, the Underground Emphasis LRT Alternative is approximately 1,000 feet shorter than the At-Grade Emphasis LRT Alternative, with all of its alignment in bored tunnel underground. While the two At-Grade Emphasis LRT Alternative options are similar in length, Option A has a larger share its alignment in cut-and-cover underground and one more station underground compared to Option B.

Table 5-1 Key Alignment Characteristics of the Build Alternatives

At-Grade Emphasis LRT Alternative – Option A			At-Grade Emphasis LRT Alternative – Option B		Underground Emphasis LRT Alternative	
ALIGNMENT	Feet	%	Feet	%	Feet	%
At-Grade	4,830	51%	5,520	58%	-	0%
Couplet	1,900	20%	1,900	20%	-	0%
Underground	2,790	29%	2,030	21%	8,342	100%
Total Feet	9,520		9,450		8,342	
Miles	1.8		1.79		1.58	
STATIONS						
At-Grade	1		2		0	
Underground	2		1		3	

5.2 Capital Costs

5.2.1 Capital Costs of the Alternatives

This section describes the capital costs of the alternatives. As shown in Table 5-2, capital costs are presented in 2008 constant dollars and in Year of Expenditure dollars inclusive of inflation. The capital costs of the alternatives range from \$62.7 million (\$73.5 million in YOE dollars) for the TSM Alternative to \$910.4 million (\$1,166.9 million in YOE dollars) for the Underground Emphasis LRT Alternative. At this stage of project development, a conceptual implementation plan has been assumed for the build alternatives, whereby all cost categories are assumed to be incurred over a ten-year implementation period. In future iterations of the financial analysis, the costs and implementation schedule will be refined.

Table 5-2 Capital Costs in 2008 Dollars and YOE Dollars (\$ millions)

Alternative	2008 Dollars	YOE Dollars
TSM	\$62.74	\$73.51
At-Grade Emphasis LRT Alternative Option A	\$795.67	\$1,019.91
At-Grade Emphasis LRT Alternative Option B	\$709.30	\$909.17
Underground Emphasis LRT Alternative	\$910.36	\$1,166.91

Table 5-3 and Figure 5-4 present the capital costs of the alternatives using the FTA's Standard Cost Categories. FTA requires submission of capital costs in the SCC format at

key milestones in the major capital project development process, including the application to enter Preliminary Engineering which follows the AA. The ten main cost categories are:

- 10 Guideway and Track Elements
- 20 Stations, Stops, Terminals, Intermodal
- 30 Support Facilities: Yards, Shops, Administration Buildings
- 40 Sitework and Special Conditions (removal of structures or existing trackwork, utility relocations, roadway modifications, and environmental mitigation)
- 50 Systems (overhead catenaries and communication infrastructure)
- 60 Row, Land, Existing Improvements
- 70 Vehicles
- 80 Professional Services
- 90 Unallocated Contingency
- 100 Finance Charges

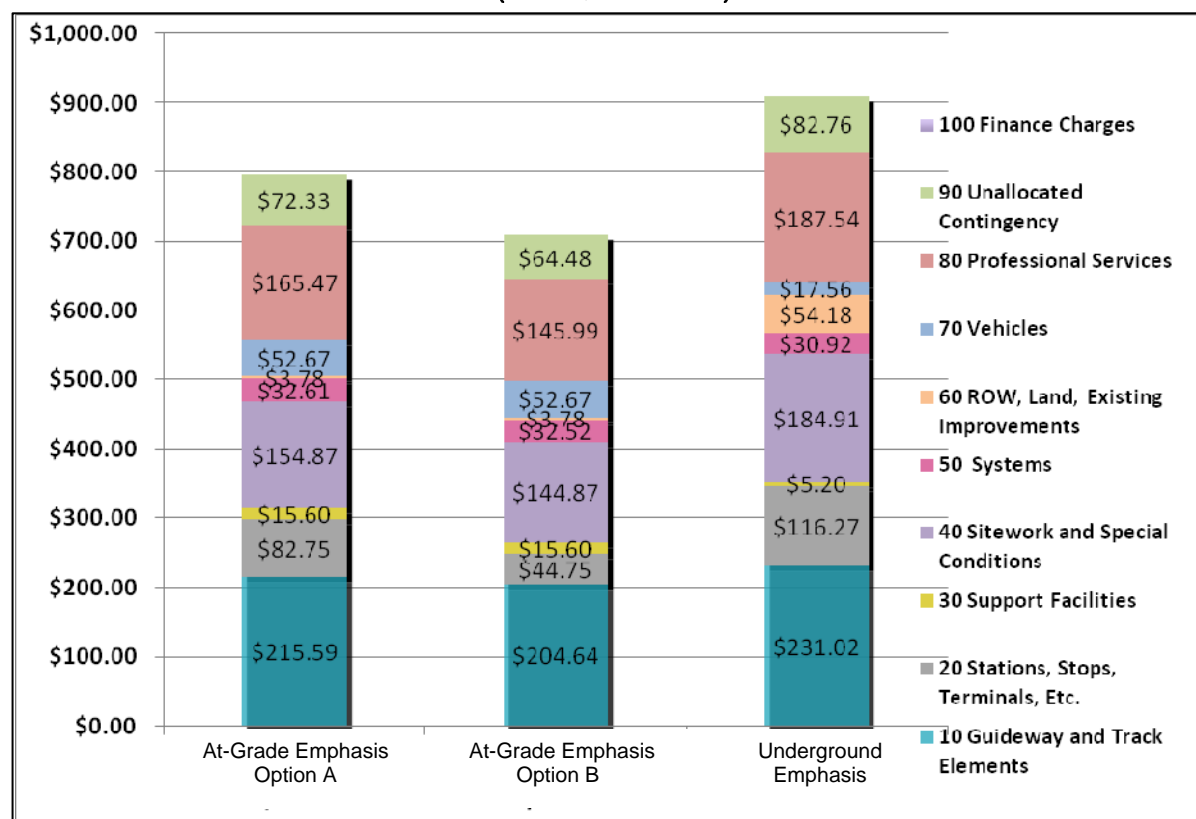
Cost categories 10 through 60 are the construction and right of way elements associated with each alternative. Category 70 is the cost of vehicles and includes buses (TSM Alternative) and/or light rail vehicles (build alternatives). Categories 80 through 100 represent “soft costs.” These costs include allowances for professional services (Category 80) such as engineering and design, construction management, agency program management, project management oversight, project implementation, and training/start-up/testing. The allowances are computed by applying a percentage to the total construction cost estimated for each cost category (Categories 10 through 50). Unallocated contingency (Category 90) is an overall project contingency which is typically higher during the early stage of project development and decreases as more detailed planning and engineering is completed. Finally, finance charges are estimated if the financial plan for the project includes the issuance of bonds. No financing charges have been assumed at this time.



**Table 5-3 Capital Costs of the Alternatives, by FTA Standard Cost Category
(2008\$, in millions)**

FTA Standard Cost Categories	TSM	Build Alternatives		
		At-Grade Emphasis LRT Alternative- Option A	At-Grade Emphasis LRT Alternative- Option B	Underground Emphasis LRT Alternative
10 Guideway and Track Elements		\$215.59	\$204.64	\$231.02
20 Stations, Stops, Terminals, Etc.		\$82.75	\$44.75	\$116.27
30 Support Facilities	\$21.00	\$15.60	\$15.60	\$5.20
40 Sitework and Special Conditions		\$154.87	\$144.87	\$184.91
50 Systems		\$32.61	\$32.52	\$30.92
60 ROW, Land, Existing Improvements		\$3.78	\$3.78	\$54.18
70 Vehicles	\$29.11	\$52.67	\$52.67	\$17.56
80 Professional Services	\$6.93	\$165.47	\$145.99	\$187.54
90 Unallocated Contingency	\$5.70	\$72.33	\$64.48	\$82.76
100 Finance Charges				
Total	\$62.74	\$795.67	\$709.30	\$910.36

Figure 5-1 Capital Costs of the Alternatives, by Standard Cost Category
(2008 \$, in millions)



As shown in Table 5-3 and Figure 5-1, a review of the costs for each alternative reveals:

TSM Alternative

Of the \$62.7 million cost of this alternative, approximately \$50.1 million (80 percent) is for support facilities (33 percent) and vehicles (46 percent). This reflects the need for a new maintenance facility and a total of 42 new buses for this alternative. Professional services account for approximately \$6.9 million (11 percent), with \$5.7 million (9 percent) for unallocated contingencies.

At-Grade Emphasis LRT Alternative Option A

Of the \$795.7 million cost of this alternative, approximately \$501.5 million (63 percent) is related to the construction elements of the FTA SCC, with guideway and track (27 percent), sitework and special conditions (19 percent) and stations (10 percent) accounting for the majority of the construction costs. Twelve light rail vehicles would be required for this alternative which is \$52.7 million (7 percent) of the total costs. Professional services account for \$165.5 million (21 percent), with \$72.3 million (9 percent) for unallocated contingencies.

At-Grade Emphasis LRT Alternative Option B

Similar to Option A, of the \$709.3 million cost of this alternative, approximately \$442.4 million (62 percent) is related to the construction elements of the FTA SCC, with guideway and track (29 percent), sitework and special conditions (20 percent) and stations (6 percent) accounting for the majority of the construction costs. Station costs are lower with Option B since only one station is underground compared to two in Option A. Similar to Option A, 12 light rail vehicles would be required for this alternative at a cost of \$52.7 million (7 percent) of the total costs. Professional services account for \$146.0 million (21 percent), with \$64.5 million (9 percent) for unallocated contingencies.

Underground Emphasis LRT Alternative

Of the \$910.4 million cost of this alternative, \$568.3 million (62 percent) is related to the construction elements of the FTA SCC, with guideway and track (25 percent), sitework and special conditions (20 percent) and stations (13 percent) accounting for the majority of the construction costs. Compared to the At-Grade Emphasis LRT Alternative only 4 light rail vehicles would be required for this alternative which is \$17.6 million (2 percent) of total costs. Professional services account for \$187.5 (21 percent), with \$82.8 million (9 percent) for unallocated contingencies.

5.2.2 Year of Expenditure Cost Analysis

For the YOE cost analysis, capital costs were escalated from 2008 dollars using annual growth rates and a preliminary implementation plan developed by other team members. The annual and compound growth rates are shown in Table 5-4. In addition to these escalation rates, the percentage of project completion by year (cost curve) shown in Table 5-5 was used to estimate the annual costs for the TSM and the build alternatives.

Table 5-4 Year of Expenditure Dollar Escalation Rates

Capital Costs	Growth Rate	Compound Annual Growth Rate
2009	1.04	1.04
2010	1.04	1.08
2011	1.04	1.12
2012	1.04	1.17
2013	1.04	1.22
2014	1.04	1.27
2015	1.03	1.30
2016	1.03	1.34
2017	1.03	1.38
2018	1.03	1.42

Table 5-5 Cost Curve Assumptions

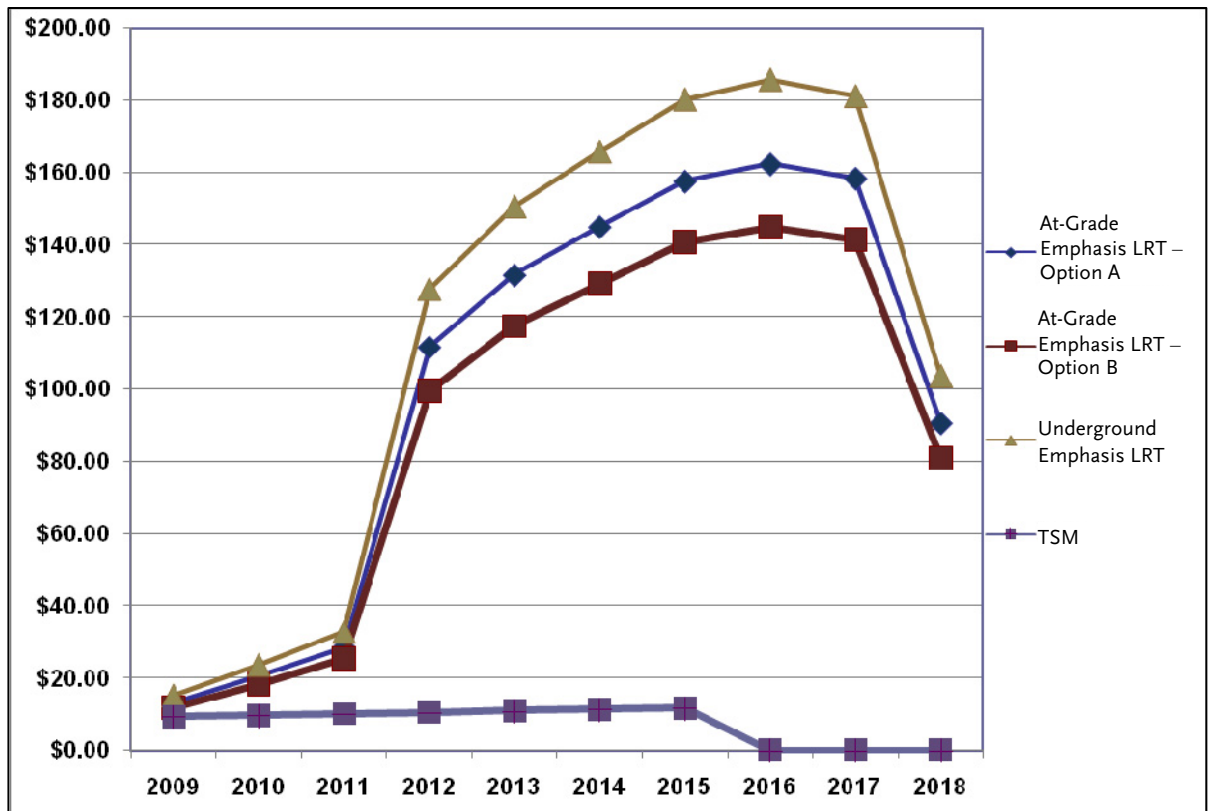
Year	Assumed Cost Curves	
	TSM Alternative	Build Alternatives
2009	14.3%	1.6%
2010	14.3%	2.4%
2011	14.3%	3.2%
2012	14.3%	12.0%
2013	14.3%	13.6%
2014	14.3%	14.4%
2015	14.3%	15.2%
2016		15.2%
2017		14.4%
2018		8.0%

Table 5-2, shown previously compares the total costs for each build alternative in 2008 dollars and in YOE dollars. Table 5-6 and Figure 5-2 provide a comparison of the alternatives with respect to costs incurred per year in YOE dollars. As shown in the tables and figure, the major expenditures for the build alternatives are assumed to occur in years 4 through 9 of the 10-year project implementation period, while the costs of the TSM Alternative are assumed to be incurred over the first 7 years.

**Table 5-6 Comparison of Annual Capital Costs
(YOE\$, in millions)**

Year	TSM Alternative	Couplet Alternative-Option A	Couplet Alternative-Option B	Underground Alternative
2009	\$9,321	\$13,240	\$11,803	\$15,148
2010	\$9,694	\$20,654	\$18,412	\$23,631
2011	\$10,082	\$28,641	\$25,532	\$32,769
2012	\$10,485	\$111,699	\$99,574	\$127,799
2013	\$10,905	\$131,656	\$117,365	\$150,632
2014	\$11,341	\$144,977	\$129,239	\$165,872
2015	\$11,681	\$157,622	\$140,512	\$180,340
2016	\$0	\$162,350	\$144,727	\$185,750
2017	\$0	\$158,420	\$141,223	\$181,253
2018	\$0	\$90,651	\$80,811	\$103,717
Total	\$73,510	\$1,019,910	\$909,197	\$1,166,911

Figure 5-2 Annual Capital Costs by Alternative
(YOE dollars, in millions)



5.3 Potential Capital Revenue Sources

This analysis identifies potential funding sources and financing strategies to fund the capital costs of the TSM and build alternatives. As shown in Table 5-7, the preliminary assumption is that the TSM and build alternatives would be funded 50 percent from federal sources and 50 percent from local sources. However, as the project development process continues and a locally preferred alternative is selected, these funding split assumptions may change, as may the funding sources proposed.

Table 5-7 Preliminary Funding Assumptions

Funding Source	TSM Alternative	Build Alternatives
Federal	50%	50%
State	0%	0%
Local	50%	50%

The subsequent sections provide a description of the conceptually proposed federal and local funding sources identified at this stage of project development. This is followed by

descriptions of other potential state and local funding sources that could be examined in greater detail in future iterations of the financial analysis.

5.3.1 Conceptually Proposed Funding Sources

The federal and local/state funding sources conceptually proposed for the TSM and build alternatives are:

Federal:

- FTA Section 5309 New Starts (for the build alternatives)
- FTA Section 5309 Bus Discretionary (for the TSM Alternative)
- Congestion Mitigation and Air Quality (CMAQ)

Local/State:

- Proposed New Countywide Transportation Sales Tax
- Proposition A and Proposition C Countywide Transportation Sales Taxes (if restrictions on expenditure for subway construction were removed)
- Regional Improvement Program (RIP).

5.3.1.1 Conceptually Proposed Federal Sources

FTA Section 5309 New Starts Program

The most viable federal funding source for the build alternatives is the FTA New Starts program. The New Starts program is the federal government's primary financial resource for supporting locally-planned, implemented, and operated transit fixed guideway capital investments, such as the build alternatives identified for the project. Since the TSM Alternative does not include a fixed guideway element, it would not be eligible for New Starts funds.

Projects applying for New Starts funding must undergo evaluation by the FTA throughout the entire project development process. Projects are evaluated according to a variety of criteria such as mobility improvements, environmental benefits, cost-effectiveness, operating efficiencies, transit supportive land use, and local financial capacity. At this stage of project development, FTA's New Starts program is proposed to provide 50 percent of the total funding for the project.

According to Metro's 2008 LRTP, the agency anticipates receiving between \$80-\$100 million dollars a year in New Starts funds for a variety of planned fixed guideway projects. The projects identified in the LRTP to receive New Starts Funds are the:

- Eastside Light Rail Project;

- Exposition Phase II to Santa Monica; and
- Crenshaw Transit Corridor.

Metro has a successful history of obtaining New Starts funds including the Red Line and the Eastside Light Rail Project, which received a Full Funding Grant Agreement in the amount of \$490.7 million in June 2004.

Metro's LRTP assumes that after the \$490.7 million is received for the Eastside Light Rail Project, the agency will receive approximately \$80 million per year through FY 2025. As stated above, these funds are currently planned to be used on the Exposition Phase II to Santa Monica and the Crenshaw Transit Corridor projects, with the Regional Connector Transit Corridor not currently identified.

Beyond 2025, Metro staff has determined that no local funds will be available to provide match for federal New Starts funds. According to the LRTP, if in the future, local matching funds become available, Metro will evaluate and select future capital projects to be included into the New Starts applications.

Assuming that Metro will have additional New Starts funds available for the Regional Connector's build alternatives in the near future, a 50 percent share would require the following total funding amounts.

- At-Grade Emphasis LRT Alternative – Option A: \$509.9 million
- At-Grade Emphasis LRT Alternative – Option B: \$454.59 million
- Underground Emphasis LRT Alternative: \$583.45 million

Since the Eastside, Exposition, and Crenshaw projects currently have a higher priority than the Regional Connector, the timing for receipt of the New Starts funds could likely be at the end of the project's construction period. If this is the case, Metro would have to use local funds to cover FTA shares and be paid back when New Starts funds are available. Analysis of this issue will be addressed in future iterations of the financial analysis.

FTA Section 5309 Bus Discretionary Program

The Section 5309 Bus Discretionary Program allocates grants on an annual basis primarily through Congressional earmarks. Eligible purposes are acquisition of buses for fleet and service expansion, bus maintenance and administrative facilities, transfer facilities, bus malls, transportation centers, intermodal terminals, park-and-ride stations, acquisition of replacement vehicles, bus rebuilds, bus preventive maintenance, passenger amenities such as passenger shelters and bus stop signs, accessory and miscellaneous equipment such as mobile radio units, supervisory vehicles, fareboxes, computers, shop and garage equipment, and costs incurred in arranging innovative financing for eligible projects. Grants are typically provided in the form of an 80 percent federal and 20 percent local match. The primary components of the TSM Alternative, buses and a new maintenance facility, would be eligible for federal funding under this program.

Congestion Mitigation and Air Quality Program

The CMAQ program is a federal formula grant program for use on projects that contribute to attainment of national ambient air quality standards. Within the 2008 LRTP, Metro has programmed CMAQ funds for new transit lines including Eastside, Exposition Light Rail Line Phases I and II, Crenshaw Transit Corridor and for the first three years of operation of various Metro Rapid bus projects.

While the deadline for compliance with federal air quality standards is 2020, Metro has programmed declining levels of CMAQ funds through 2030 within the 2008 LRTP. The Regional Connector would qualify for CMAQ funding as a project that would contribute to attainment of national ambient air quality standards and reduce congestion.

5.3.1.2 Conceptually Proposed Local/State Funding Sources

Los Angeles Countywide Sales Taxes for Transportation

Currently there are two existing countywide transportation sales taxes in Los Angeles County – Proposition A and Proposition C. However, the 1998 Reform and Accountability Act restricts the use of Proposition A and C funds to construct underground subways. In order to use these funds for the build alternatives, this restriction would need to be removed.

Proposition A

Proposition A is a county-wide half-cent sales tax that was passed in 1980. This voter-approved sales tax is used to improve and expand public transportation throughout Los Angeles County. Proposition A funds are allocated among four funding programs: Local Return Program (25 percent), Rail Development Program (35 percent), Discretionary Program (40 percent), and the 5 percent of 40 percent Incentive Program. The build alternatives would likely only be eligible for one of these programs, the Rail Development program. The TSM Alternative would be eligible under the Local Return and Discretionary programs. Neither the build alternatives nor the TSM Alternative would be eligible under the 5 percent of 40 percent Incentive Program as this is for paratransit and special transit programs.

Rail Development Program: For previous major construction projects, such as the Blue, Green and Red Lines, Metro has leveraged these funds by bonding in accordance with the agency's adopted debt policy. Bond debt service has the first claim of funds from this program. Other eligible uses include the acquisition, renovation, rehabilitation, and replacement of rail vehicles, rail facilities, and wayside systems; operation of rail systems, and acquisition and maintenance of rights of way.

Local Return Program: Funds from this program are distributed to L.A. County and the cities in L.A. County on a per capita basis for public transit uses. These funds may be traded to other jurisdictions in exchange for general or other funds if the traded funds are used for public transit purposes. Eligible uses include expenditures related to fixed route and paratransit services, Transportation Demand Management (TDM), Transit System Management (TSM), and fare subsidy programs that exclusively benefit transit.



Discretionary: These funds are allocated based on Metro Board policy for county bus operators by formula based on projected receipts plus CPI, and adjusted once during the mid-year reallocation. Eligible uses include any transit purpose, however current practice limits expenditures to bus capital and operations.

Proposition C

Proposition C is a county-wide half-cent sales tax that was passed in 1990. This voter-approved sales tax is used for public transit purposes throughout Los Angeles County. Proposition C funds are allocated among five funding programs: Rail and Bus Security (5 percent), Commuter Rail/Transit Centers (10 percent), Local Returns (20 percent), Transit-related Improvements to Freeways and State Highways and Public Mass Transit Improvements to Railroad Rights-of-Way (25 percent) and Discretionary program (40 percent). The build alternatives would likely only be eligible for one of these programs, the Discretionary program. The TSM Alternative would be eligible for funds from the Discretionary and Local Returns programs.

Discretionary Program: Funds from this program are currently allocated at the discretion of Metro Board to Metro and non-Metro operators and agencies after all other funding opportunities are exhausted. Eligible uses include the improvement and expansion of rail and bus transit countywide, provision of fare subsidies, increased graffiti prevention and removal, and increased energy-efficient, low polluting public transit service. These funds may also be used for Metro's Call for Projects and other regionally significant transit programs at discretion of Metro Board.

Local Returns Program: These funds are distributed to cities on a per capita basis exclusively for public transit purposes. Unlike the Proposition A Local Returns program, these funds may not be traded to other jurisdictions in exchange for general or other funds. Eligible uses include expenditures related to fixed route and paratransit services, Transportation Demand Management (TDM), Transit Systems Management (TSM), fare subsidy programs that exclusively benefit transit, Congestion Management Programs, commuter bikeways and bike lanes, street improvements supporting public transit service, and Pavement Management System projects.

Regional Improvement Program (RIP)

The State's funding for transportation is programmed in the State Transportation Improvement Program (STIP). Within the STIP, 75 percent of the funding is allocated and programmed by the regional transportation planning agencies such as Metro under the Regional Improvement Program (RIP). The remaining 25 percent is programmed by the State under the Interregional Improvement Program. The actual sources of RIP funding are the federal Surface Transportation Program (STP) and the State's Public Transportation Account (PTA). PTA revenues accrue from a sales tax on gasoline and diesel fuel, with revenues used for transit.

Based on a fund estimate prepared by Caltrans, the California Transportation Commission develops the annual RIP programming targets for each agency. Metro selects and



programs the projects to be funded through its Call for Projects process and the Metro Long and Short Range Transportation Plans. Metro has programmed and re-programmed its STIP projects to conform to the targets, which have been subject to change based on level of funds available and the extent of borrowing of PTA revenues by the State for use in balancing the State Budget. Future RIP revenues could potentially be used to assist in funding the Regional Connector.

5.3.2 Other Potential Funding Sources

As the project moves forward, the following sources may become viable revenue sources for the alternatives. These potential sources described below include one state source and five local sources.

5.3.2.1 Potential State Source

At this stage of project development, five other potential local funding sources have been identified. While these sources may provide funding in the future, they should be considered as minor supportive sources as they would generate a much smaller revenue stream than the county-wide sales taxes and RIP funding described previously.

Benefit Assessment District Revenues

Under a benefit assessment district, a fee is placed on properties in a specified area to pay part or all of the cost of specific capital improvements made within and specifically benefiting that area. The underlying principle for the creation of benefit assessment districts is that owners of property located within close proximity to a particular public asset, such as a rail transit station, derive benefits from the presence of that asset and, therefore, should share in the costs of its construction, maintenance, operation, and/or upgrading. In a benefit assessment district, a connection between benefit received and cost charged is essential, in that assessments charged should be proportional to and no greater than the benefit received by the assessed property.

In July 1985, Metro established two benefit assessment districts as part of the funding plan for Segment 1 of the Red Line. The districts, referred to as District A1 and A2, were formed in advance of the initiation of service in 1993. Annual assessments were levied on the gross square footage of the assessable improvement or parcel area of non-residential properties. For District A1, the 2007-2008 assessment rate is \$0.33 while the assessment rate for District A2 is \$0.32.

Funding from the two benefit assessment districts provided approximately \$130.0 million or 9 percent of the Red Line's total costs. The \$130.0 million was in the form of bond proceeds to support the construction of stations in each district. The benefit assessment districts have provided the revenue stream to repay the bonds. The final assessment fee will be collected in April 2009 with the final bond payment scheduled for September 2009.

At the time the two existing benefit assessment districts were formed, Metro was not required to conduct an election in order to levy an assessment on property owners. With passage of State Proposition 218 in 1996, new assessment districts require approval by a



two-thirds vote of property owners. The 2008 L RTP assumes no future funding from benefit assessment districts.

While the existing benefit assessments are expiring, it is of interest to note the considerable overlap between these districts and the project area boundaries. For this reason, a description of the two districts is provided below.

District A1 – Central Business District: District A1 covers approximately 1,205 acres and includes Bunker Hill, the Civic Center portions of Chinatown, Little Tokyo and the Financial District areas of downtown Los Angeles. This district includes four Red Line stations, Union Station, Tom Bradley Civic Center Station, Pershing Square Station and 7th St./Metro Center Station. The benefit assessment district boundaries were set at a one-half mile distance from the station locations. Within the District A1's half-mile boundaries there are approximately 2,700 properties of which 1,250 properties are assessable and contain 63.2 million square feet. Bonds in the amount of \$123.5 million were issued for this assessment district to support the construction of the four stations.

District A2 – Westlake/MacArthur Park District: District A2 is located on Wilshire Blvd., midway between Miracle Mile to the west and the Los Angeles Central Business District to the east. The district reflects a one-third mile boundary around one Red Line station, Westlake/MacArthur Park Station, and covers approximately 207 acres. Within the district there are approximately 460 properties of which 230 are assessable and contain 3.3 million square feet. Bonds in the amount of \$6.5 million were issued for this assessment district to support the construction of the station.

Joint Development Proceeds

Metro has a long, successful history of joint development projects along its major transit corridors. According to Metro's Joint Development Policies and Procedures document, joint development is a real property asset development and management program designed to secure the most appropriate private and/or public sector development on Metro-owned property at and adjacent to transit stations and corridors. Joint Development also includes coordination with local jurisdictions in station area land use planning in the interest of establishing development patterns that enhance transit use.

The goals of Metro's Joint Development Program include:

- Encouraging comprehensive planning and development around station sites and along transit corridors; and
- Reducing auto use and congestion through encouragement of transit-linked development.

For the specific sites, the Metro's Joint Development Program seeks developments that

- Promote and enhance transit ridership;

- Enhance and protect the transportation corridor and its environs;
- Enhance the land use and economic development goals of surrounding communities and conform to local and regional development plans; and
- Generate value to the MTA based on a fair market return on public investment.

Table 5-8 summarizes the current status of Metro's Joint Development Program. The table includes completed projects, projects under construction, projects that have been approved by Metro's Board, and potential future joint development sites. Additional joint development sites could potentially be identified for the Regional Connector.

Table 5-8 Metro Joint Development Project Status	
Joint Development Projects	Development Summary
Completed Projects	
Union Station Gateway, 1995	<ul style="list-style-type: none"> • 600k Square foot Metro headquarters building • 11 Bay Patsaouras Plaza • Union Station East Portal • 2,800 space below-grade parking garage • Space for additional 2 million square feet of commercial/retail
7 th St. Metro Center, 1993	<ul style="list-style-type: none"> • Station in basement of a 550k square foot office tower
Metro Blue Line Willow Station, 1999	<ul style="list-style-type: none"> • 528k square foot site • 132k net rentable square feet of neighborhood shopping • Major grocery store, retail and food services facilities • 700- car transit parking structure
Metro Red Line Hollywood/Highland Station, 2001	<ul style="list-style-type: none"> • 389k square feet of retail/entertainment • 3,500 seat Kodak Theater • 640-room Renaissance Hollywood Hotel • 3,000-space parking structure
Metro Red Line Hollywood/Western Station, 2004	<ul style="list-style-type: none"> • 60 affordable housing units and retail • 9k square foot retail • 4k square foot child care center
Wilshire and Vermont, 2008	<ul style="list-style-type: none"> • 380 residential units • 26k square feet of commercial space • Child care center • 800 student middle school • 700 space parking structure

Table 5-8 Metro Joint Development Project Status (cont)

Joint Development Projects	Development Summary
Projects in Construction	
Hollywood-Vine	<ul style="list-style-type: none"> • 300 room W Hotel • 150 W branded condos integrated with hotel • 350 apartments • 72k square feet street level retail • bus layover facility
Wilshire-Western	<ul style="list-style-type: none"> • 195 Condominiums • 49k square feet retail/restaurant • 700 space parking • bus layover facility with 12 spaces
Projects with Board Approval	
Westlake-MacArthur Park	<ul style="list-style-type: none"> • 310 affordable housing units • 86k square feet of retail • 483 space parking structure
Potential Sites	
North Hollywood	17.4 Acre 4 parcel potential site
Universal City	12 Acre 2 parcel potential site
Metro Orange Line Sepulveda Station	12.48 Acre 1 parcel potential site
Chatsworth Metrolink Station	12 Acre 2 parcel potential site
Metro Gold Line Eastern Extension	Various Parcel potential site
Taylor Yard	23 Acre 1 parcel potential site
Blue Line Artesia Station Bus Divisions (Div. 7; El Monte)	6.4 Acre potential site
Metro Orange Line Balboa Station	2.2 Acre potential site
Vermont/Beverly	.5 Acre potential site
Vermont/Sunset	.7 Acre potential site

Mello-Roos District Revenues

The Mello-Roos Community Facilities Act of 1982, Gov. Code §§ 53311 ff. provides an alternative method of financing certain public capital facilities and services, especially in developing areas and areas undergoing rehabilitation. A local legislative body may create a Mello-Roos Community Facilities District (or “CFD”) within defined boundaries to finance a broad range of facilities and services, including the purchase, construction, expansion, improvement, or rehabilitation of any real or other tangible property with an expected useful life of 5 years or longer which the agency conducting the proceedings is authorized by law to construct, own, or operate, or to which it may contribute revenue. The CFD may impose a “special tax” within the boundaries of the CFD, which requires a two-thirds vote of registered voters (if the district is developed). If the vote passes, a “Notice of Special Tax Lien” is recorded which imposes a continuing lien on affected properties. CFD’s may issue bonds secured by the special tax.

Currently transit capital and operating expenses are not eligible to receive funding from Mello-Roos Districts. In the spring 2008, the Mello-Roos Act and Public Transit (AB 2705) was submitted which would authorize the use of Mello-Roos Community Facilities Districts to finance public transit facilities and operating expenses in new developments. In future iterations of the financial analysis, this pending legislation will be reviewed and further evaluated for potential applicability to the project.

Revenue from Potential Congestion Pricing Strategies

Congestion pricing is the concept of charging for the use of a transportation facility, such as a roadway, based on the level of traffic congestion. The greater the level of congestion, usually occurring during morning and evening rush hours, the higher the cost (tolls) to use the facility.

It is assumed that revenues generated by the tolls would be used first to pay for the operations of the priced lanes and any outstanding debt associated with implementing congestion pricing in a corridor. After paying these expenses, any additional revenues generated from the tolls could be used to improve or enhance transportation services in the corridor where the toll is generated. These enhancements may include additional bus and rail services, roadway improvements, and other complementary services

Los Angeles County was recently selected to implement a one-year congestion pricing demonstration project under a United States Department of Transportation funding program. The project, called FastLanes, will test innovative pricing strategies to alleviate congestion, maximize freeway capacity usage, and fund additional transit alternatives on High Occupancy Vehicle (HOV) lanes on I-110 between 182nd St./Artesia Transit Center and Adams Blvd. and on I-10 between Alameda St./Union Station and I-605.

Revenue from Potential Countywide Transportation Impact/ Mitigation Fee

Transportation impact fees are charges assessed by local governments against new development projects that attempt to recover the cost incurred by government in providing the public facilities required to serve the new development. Impact fees are typically only used to fund facilities that are directly associated with the new development. While transportation impact fees may be used to pay the proportionate share of the cost of public facilities that benefit the new development, the fees usually cannot be used to correct existing deficiencies in public facilities. Revenue from the impact fees could be pledged for payment of annual debt service to implement the improvement project.

Metro is currently conducting a Countywide Congestion Mitigation Fee Study which has the following primary objectives:

- Establish a regional mitigation program by meeting regional mitigation requirements under Metro's Congestion Mitigation Program (CMP) and the California Environmental Quality Act (CEQA), replacing the existing CMP debit/credit program and ensuring the continued flow of more than \$95 million annually in gas tax revenue to local governments;

- Ensure local control by allowing projects to be selected by each jurisdiction consistent with guidelines, allowing fees to be collected separately by each jurisdiction, and allowing fees to be deposited in separate interest-generating accounts;
- Generate new revenue for unmet transportation needs; and
- Provide a level playing field countywide.

Results from the study indicate that implementation of mitigation fees could generate between \$2 and \$15 billion in funding for transportation projects over the 2005 to 2030 period, depending upon the fee imposed. Although Metro is developing and overseeing this program, the cities would have the control to implement the program on a local level. Additionally, the study recommends establishing an advisory committee to oversee the program's implementation and assist in guiding the program's recommendations.

5.3.3 Potential Financing Strategies

This section describes two potential funding strategies that could be evaluated in detail during future iterations of the financial analysis.

Metro Bonding Capacity

Metro leverages a portion of its revenues from Proposition A and Proposition C county-wide sales taxes for use in paying the debt service on bonds issued to support bus, rail, and highway capital projects. Within the 2008 LRTP, the agency's long range financial plan calls for Metro to modify its current debt policy by increasing the percentage of cash to be used for debt as opposed to using it on a pay as you go basis. Specifically, the LRTP assumes increasing the percent of revenue available for debt service within the following funding programs:

- Proposition C 25 Percent Funds (Transit-related Improvements to Freeways and State Highways and Public Mass Transit Improvements to Railroad Rights-of-Way program): from 60 percent to 75 percent; and
- Proposition C 10 Percent Funds (Commuter Rail/Transit Centers program): from 40 percent to 50 percent.

Project Packaging for FTA New Starts Process

Transit agencies across the country are identifying alternative project delivery strategies to implement major capital projects faster. In both Houston and Salt Lake City, the transit agencies have been successful in reaching an agreement with FTA to submit a package of fixed guideway projects that would have a portion of the projects funded entirely with local sources and the remainder of the projects funded jointly between the federal government and the local agency. For example, the Utah Transit Authority (UTA) has entered into a Memorandum of Understanding (MOU) with the FTA for the FrontLines 2015 Program. According to the MOU, the overall funding split for the \$2.5 billion five-corridor program will be 20 percent federal and 80 percent local. However, for the two highest performing

projects FTA has agreed to an 80 percent federal and 20 percent local funding split. For the remaining three projects in the FrontLines Program, UTA will use 100 percent local funds with the majority of this funding provided through the issuance of bonds.

It's important to note that in order for this approach to be successful there would need to be enabling language included in the SAFETEA-LU reauthorization bill and a successful negotiation of an MOU with the FTA.

5.4 Operations and Maintenance (O&M) Costs and Revenues

5.4.1 O & M Costs

System-wide O&M cost estimates were developed for each of the alternatives and reflect operating plans for the year 2030. For this report, costs are shown in 2008 dollars. In future versions of the financial analysis, O&M costs will be shown in YOE dollars and will be included in a detailed cash flow analysis.

Table 5-9 summarizes the total annual cost by mode for each alternative. Table 5-10 compares the change in annual O&M costs relative to the No Build Alternative, while Table 5-11 compares the change in costs relative to the TSM Alternative. Key findings from these comparisons include:

In comparison to the No Build Alternative:

- The Underground Emphasis LRT Alternative has the lowest annual increase in O&M cost (\$5.1 million), followed by the At-Grade Emphasis LRT Alternative (\$9.6 – \$9.8 million). The TSM Alternative has the largest increase in annual O&M costs (\$13.6 million) due to the significant increase in bus service and relatively small savings in heavy rail and light rail costs (less than \$100,000).

In comparison to the TSM Alternative:

- The Underground Emphasis LRT Alternative has lowest annual increase in O&M cost and provides the largest annual savings (approximately \$8.5 million savings).
- The annual O&M costs of the At-Grade Emphasis LRT Alternative are lower than the TSM Alternative. Option A has a savings of \$3.8 million, while Option B has a savings of \$4.1 million.

In comparison within/to the At-Grade Emphasis LRT Alternatives:

- At-Grade Emphasis LRT Alternative - Option B annual O&M costs were slightly lower than Option A (approximately \$0.25 million less).
- The annual O&M cost of the Underground Emphasis LRT Alternative is approximately \$4.5 million lower than the At-Grade Emphasis LRT Alternative.



Table 5-9 2030 Annual Operating Cost of the Alternatives
(in 2008 \$, Millions)

Mode	No Build Alternative	TSM Alternative	Couplet Alternative-Option A	Couplet Alternative-Option B	Underground Alternative
Heavy Rail	\$117.09	\$117.06	\$116.30	\$116.26	\$116.11
Light Rail	\$258.01	\$257.95	\$268.61	\$268.42	\$264.20
Bus Including BRT	\$987.92	\$1,001.61	\$987.91	\$987.88	\$987.87
System-wide Total	\$1,363.02	\$1,376.62	\$1,372.82	\$1,372.57	\$1,368.17

Table 5-10 Comparison of 2030 Annual Operating Costs to the No Build Alternative
(in 2008 \$, Millions)

Mode	No Build Alternative	TSM Alternative	Couplet Alternative-Option A	Couplet Alternative-Option B	Underground Alternative
Heavy Rail	-	-\$0.03	-\$0.79	-\$0.83	-\$0.98
Light Rail	-	-\$0.06	\$10.60	\$10.41	\$6.19
Bus/BRT	-	\$13.69	-\$0.01	-\$0.04	-\$0.05
System-wide Total	-	\$13.60	\$9.80	\$9.55	\$5.15

Table 5-11 Comparison of 2030 Annual Operating Costs to the TSM Alternative
(in 2008 \$, Millions)

Mode	No Build Alternative	TSM Alternative	Couplet Alternative-Option A	Couplet Alternative-Option B	Underground Alternative
Heavy Rail	N/A	-	-\$0.76	-\$0.80	-\$0.95
Light Rail	N/A	-	\$10.66	\$10.47	\$6.25
Bus/BRT	N/A	-	-\$13.70	-\$13.73	-\$13.75
System-wide Total	N/A	-	-\$3.80	-\$4.05	-\$8.45

5.4.2 O & M Revenue Sources

The sections below describe preliminary estimates of farebox revenue, farebox recovery rates, and levels of annual system-wide operating support associated with the alternatives.

5.4.2.1 Farebox Revenues and Farebox Recovery

Table 5-12 summarizes the annual system-wide farebox revenues and farebox recovery rates of the alternatives for the 2030 horizon year. Annual estimates of 2030 farebox revenues were developed based on the travel forecasting model projections of 2030 total daily linked trips by alternative and Metro's 2007 average fare revenue per linked trip. Total daily linked trips were annualized using an annualization factor of 317.39, consistent with the factor used in calculation of user benefits. The resulting annual numbers of system-wide linked trips are shown in the table below. Annual farebox revenues were then estimated assuming Metro's 2007 average linked trip fare of \$0.66. This average fare reflects Metro's most recent fare increase and the current level of use of discounted fare media and programs.

As shown in the table, annual system-wide farebox revenues for the 2030 horizon year are projected to range from \$317.5 million for the No Build Alternative to \$319.7 million for the Underground Emphasis LRT Alternative. Relative to the annual system-wide O&M costs projected for the 2030 horizon year, farebox recovery is estimated to range from 23.1 for the TSM Alternative to 23.4 for the Underground Emphasis LRT Alternative. While the actual farebox recovery rates are preliminary, the data indicates that the Underground Emphasis LRT Alternative would generate higher levels of fare revenue and farebox recovery than the other alternatives, followed by the At-Grade Emphasis LRT Alternative.

**Table 5-12 2030 Annual Farebox Revenues and Farebox Recovery by Alternative
(2008 \$)**

	No Build Alternative	TSM Alternative	At-Grade Emphasis LRT Alternative		Underground Emphasis LRT Alternative
			Option A	Option B	
Annual Linked Trips (millions)	481.11	481.41	483.52	483.77	484.34
Annual Farebox Revenue (2008 \$, millions)	\$317.53	\$317.73	\$319.13	\$319.29	\$319.67
Farebox Recovery	23.3%	23.1%	23.2%	23.3%	23.4%

5.4.2.2 Operating Support from Metro

The combined effect of lower annual system-wide O&M costs and higher farebox revenues is projected to reduce the level of annual operating support that Metro would be required to fund. Table 5-13 summarizes the reduction in annual operating support associated with the build alternatives relative to the TSM Alternative. As shown in the table, the Underground Emphasis LRT Alternative is projected to reduce the level of annual system-wide operating support required from Metro by \$10.4 million. The At-Grade Emphasis

Alternative is projected to reduce Metro's system-wide operating subsidy by \$5.2 million to \$5.6 million.

**Table 5-13 2030 Reduction in Annual Operating Support Relative to the TSM Alternative
(2008 \$, Millions)**

	TSM Alternative	At-Grade Emphasis LRT Alternative		Underground Emphasis LRT
		Option A	Option B	
Increase in Farebox Revenues	-	\$1.40	\$1.56	\$1.94
O&M Cost Savings	-	\$3.80	\$4.05	\$8.45
Reduction in Operating Support	-	\$5.20	\$5.61	\$10.39

5.5 Summary of Findings

The key findings of the financial analysis are summarized below.

- The Regional Connector is included in both of the existing long range financial planning documents for the region: Metro's 2008 Long Range Transportation Plan (LRTP) and the Southern California Association of Governments Regional Transportation Plan (SCAG RTP). Within the LRTP, the Regional Connector is the highest priority project within the Strategic Unfunded component of the plan. Projects in the Strategic Unfunded component of the plan could be implemented if additional funding were made available from new sources. With regard to the SCAG's Regional Transportation Plan, the Regional Connector is included in the financially constrained plan as a funded project (project identification number 1TR0404).
- The alternatives under consideration for the Regional Connector are the Transportation System Management (TSM) Alternative and two build alternatives, in addition to a No Build Alternative. The TSM Alternative would use buses to shuttle passengers between the 7th St./Metro Center Station and Union Station. The build alternatives would provide a continuation of existing light rail service between the two stations. The build alternatives reflect two options for a combined at-grade/cut-and-cover underground alternative that includes one-way couplets on Main St. and Los Angeles St. (At-Grade Emphasis LRT Alternative) and an alternative that is 100 percent underground bore tunnel (Underground Emphasis LRT Alternative).
- The capital costs of the Regional Connector alternatives range from \$62.7 million (\$73.5 million in YOE dollars) for the TSM Alternative, to \$709.3 - \$795.7 million (\$909.2 - \$1,019.9 million in YOE dollars) for At-Grade Emphasis LRT Alternative Options A and B respectively, and to \$910.4 million (\$1,166.9 million in YOE dollars) for the Underground Emphasis LRT Alternative. At this stage of project development, a conceptual ten year implementation plan has been assumed for the build alternatives and seven years for the TSM Alternative. In future iterations of the financial analysis, the costs and implementation schedule will be refined.

- The capital costs of the TSM and build alternatives are assumed to be funded 50 percent from federal sources and 50 percent from local/state sources. The federal and local/state funding sources conceptually proposed are:

Federal:

- FTA Section 5309 New Starts (for the build alternatives)
- FTA Section 5309 Bus Discretionary (for the TSM Alternative)
- Congestion Mitigation and Air Quality (CMAQ)

Local/State:

- Proposed New Countywide Transportation Sales Tax
- Proposition A and Proposition C Countywide Transportation Sales Taxes (if restrictions on expenditure for subway construction were removed for the build alternatives)
- Regional Improvement Program (RIP).
- FTA New Starts funding is proposed to total approximately \$600 million (\$60 million per year over the 10 year implementation period).
- The build alternatives are projected to have lower system-wide operating and maintenance (O&M) costs than the TSM Alternatives. Relative to the TSM Alternative, the Underground Emphasis LRT Alternative would reduce 2030 annual O&M costs by \$8.45 million. The At-Grade Emphasis Alternative Options A and B would reduce 2030 annual O&M costs by \$3.80 million and \$4.05 million respectively.
- The build alternatives are projected to generate higher system-wide ridership and farebox revenues than the TSM Alternatives. Relative to the TSM Alternative, the Underground Emphasis LRT Alternative would increase annual farebox revenues by \$1.94 million. The At-Grade Emphasis LRT Alternative Options A and B would increase annual farebox revenues by \$1.40 million and \$1.56 million respectively.
- With the combined effect of lower system-wide O&M costs and higher farebox revenues, the build alternatives are projected to reduce the annual operating support that would be required from Metro. Relative to the TSM Alternative, the Underground Emphasis LRT Alternative would reduce Metro's annual system-wide operating subsidy by \$10.39 million. The At-Grade Emphasis LRT Alternative Options A and B would reduce Metro's annual system-wide operating subsidy by \$5.20 million and \$5.61 million respectively.
- As the alternatives selection process moves forward, future iterations of the financial analysis will be conducted, with increasing levels of detail and refinement. The refined



financial analysis will include a detailed cash flow analysis in YOE dollars through the project horizon year of 2030.