Central Subway LRT

San Francisco, California

(November 2009)

The San Francisco Municipal Transportation Agency (SFMTA) and the San Francisco County Transportation Authority (SFCTA) are planning the Central Subway project, a 1.7-mile extension of the Third Street light rail transit (LRT) line from its terminus at Fourth and King Streets. From a portal south of Market Street, the project descends below grade and extends northward under Fourth Street and Stockton Street into Chinatown in the San Francisco central business district (CBD). One surface station and three underground stations would be constructed along the project alignment. Four light rail vehicles would be purchased to augment the existing fleet. When completed, the combined Third Street LRT / Central Subway project would provide a continuous seven-mile light rail system connecting the heavily transit-dependent communities of Bayshore in the south with Chinatown in the north.

The Financial District, Union Square, and Chinatown have a very high level of existing transit service. Bus routes that serve the project corridor operate on two-minute headways during peak hours and typically carry passenger loads that are at or above capacity. Currently, commuter rail passengers from the south must board these crowded buses operating on congested roadways or walk over a mile from the CalTrain Station to reach the CBD. LRT passengers from the south may choose to continue on LRT to access downtown, but the alignment along the Embarcadero is circuitous. The Central Subway project is intended to provide a direct rapid transit link between these areas. Implementation of the Central Subway project is further expected to help carry large crowds attending events at convention and professional sports venues in the South of Market area (SOMA).

Summary Description	
Proposed Project:	Light Rail Transit 1.7 Miles 4 Stations
Total Capital Cost ($YOE):	$1,578.30 Million
Section 5309 New Starts Share ($YOE):	$942.19 Million (59.6%)
Annual Forecast Year Operating Cost:	$8.84 Million
Ridership Forecast (2030):	41,450 Average Weekday Boardings 4,800 Daily New Riders
Opening Year Ridership Forecast (2016):	40,000 Average Weekday Boardings
FY 2011 Local Financial Commitment Rating:	**Medium**
FY 2011 Project Justification Rating:	**Medium-High**
FY 2011 Overall Project Rating:	**Medium-High**

Project Development History and Current Status

In October 1996, SFMTA began preparation of a Draft Environmental Impact Statement (EIS) for the Third Street/Central Subway light rail line. Because of their phased implementation, the two segments were considered separate projects, and FTA issued a Record of Decision on the Third Street alignment in 1998. FTA approved the Central Subway project into preliminary engineering in July 2002. Since then, SFMTA modified the project alignment and examined alternative tunneling scenarios. In late 2006, the SFMTA undertook a value engineering study to examine ways to lower the project's total capital cost, which resulted in $180 million in cost reductions from scope changes. The SFMTA issued a Draft EIS on the Central Subway in September 2007, and a Final EIS in September 2008. FTA issued the Record of Decision for the project in November 2008. FTA notified Congress of its intent to approve the project into final design in November 2009 and took formal approval action in December 2009.

Significant Changes Since FY 2010 Evaluation (November 2008)
SFMTA completed preliminary engineering and FTA undertook a risk assessment of the project's cost estimate and schedule. As a result, the project's capital cost estimate was revised to reflect the higher level of design and to include a higher level of contingency and a higher escalation rate. The financial plan was revised to reflect the updated capital cost estimate and changes in local revenue sources.

Project Justification Rating: Medium-High
The project justification rating is based on the weighted average of the ratings assigned to each of the following criteria: the cost-effectiveness criterion is weighted 20 percent; the transit supportive land use criterion is weighted 20 percent; the economic development criterion is weighted 20 percent; the mobility improvements criterion is weighted 20 percent; the environmental benefits criterion is weighted 10 percent; and the operating efficiencies criterion is weighted 10 percent.

Cost Effectiveness Rating: Medium
The cost effectiveness rating reflects the level of travel-time benefits (11,000 hours each weekday) relative to the project's capital and operating costs based on a comparison to a baseline alternative.

Cost Effectiveness	
	New Start vs. Baseline
Cost per Hour of Transportation System User Benefit	$23.68*
Incremental Cost per Incremental Trip	$30.37

*****Indicates that measure is a component of Cost Effectiveness rating.

Transit-Supportive Land Use Rating: High
The land use rating reflects the population and employment densities within ½-mile of proposed station areas.

- Population density within ½-mile of the station areas is approximately 53,700 people per square mile in the corridor and total employment in project station areas is approximately 217,600 jobs.
- The San Francisco CBD is the densest and most transit accessible downtown on the west coast. Union Square is the primary retail district in the city with dense pedestrian and transit-oriented development. Chinatown has extremely dense concentrations of residential units, retail, and some office and small-scale industrial uses.
- Available parking in the corridor is generally on-street, with some off-street parking for commuters and city-owned parking garages for commuters and shoppers. The daily cost to park in city-owned lots in the corridor is high, ranging from $20 to $30 per day.

Economic Development Rating: High
The economic development rating is based upon the average of the ratings assigned to the subfactors below.

Transit-Supportive Plans and Policies: Medium-High
- While the San Francisco Bay region has a number of physical and topographical constraints to growth, it does not have a unified or enforceable growth management policy.

- San Francisco's General Plan has long encouraged higher-density and transit-oriented development. Additional planning initiatives are underway to focus higher-intensity growth in transit corridors. Zoning changes are being considered that would require residential community-oriented retail development near transit nodes.
- San Francisco's zoning regulations are intended to maintain a medium to high-density profile and scale, with a mixture of land uses in many areas. There are no minimum parking requirements or off-street parking provisions in the CBD and other employment areas.
- The City of San Francisco Redevelopment Agency employs a number of special tools to help implement land use policies contained in the city's General Plan such as tax increment financing, special land acquisition rules, and special land assembly abilities.
- San Francisco's existing land use pattern includes the densest development along its major transportation corridors. The objective of the City Planning Department and directing codes and ordinances is to reinforce this pattern of development along corridors that have high transit capacity such as the Central Subway corridor. Thus, land use planning in the Central Subway corridor is focused more on the corridor and neighborhood level than around individual stations.

Performance and Impacts of Policies: High

- The existing high-density development and pedestrian accessibility in the City of San Francisco demonstrates the strength of city policies and market forces at achieving transit-oriented intensities and urban design. The number of jobs in the San Francisco CBD has doubled since the 1970's with no increase in the volume of traffic entering the area..
- The South of Market area, within the New Central Subway corridor, is expected to experience strong growth over the next two decades, with high density residential, high-tech office, and a variety of retail uses continuing to fill in sites formerly occupied by industrial uses.

Mobility Improvements Rating: Medium-High		
	New Start vs. Baseline	
Transportation System User Benefit Per Passenger Mile (Minutes)	8.8	
Number of Transit Dependents Using the Project	7,000	
Transit Dependent User Benefits per Passenger Mile (Minutes)	34.8	
Environmental Benefits Rating: High		
Criteria Pollutant Status	**EPA Designation**	
8-Hour Ozone (O_3)	Marginal	
Particulate Matter ($PM_{2.5}$)	Non-attainment Area	
Operating Efficiencies Rating: Medium		
	Baseline	**New Start**
System Operating Cost per Passenger Mile (current year dollars)	$1.50	$1.51

Local Financial Commitment Rating: Medium

The local financial commitment rating is based on the weighted average of the ratings assigned to each of the following criteria: the New Starts share of project costs is weighted 20 percent; the strength of the capital finance plan is weighted 50 percent; and the strength of the operating finance plan is weighted 30 percent.

Section 5309 New Starts Share of Total Project Costs: 60%
Rating: Medium-High

Division H of the Consolidated Appropriations Act, 2005, permits SFMTA to use non-New Starts funds expended for the Third Street LRT project as match to the Central Subway. While the New Starts percentage reflected above and in the table below is calculated based on the Central Subway project alone, the rating assigned reflects the legislative language which lowers the New Starts share to 42.7 percent of the total costs of the combined Third Street/Central Subway project ($2,220.6 million).

Locally Proposed Financial Plan		
Source of Funds	**Total Funds ($million)**	**Percent of Total**
Federal:		
Section 5309 New Starts	$942.19	59.6%
FHWA Flex Funds (CMAQ)	$6.23	0.3%
State:		
Proposition 1B	$240.00	15.2%
Transportation Congestion Relief Program	$14.00	0.9%
Regional Transportation Improvement Program	$88.00	5.6%
Local:		
Proposition B/K Sales Tax Funds	$123.98	7.9%
SFMTA and Parking Revenues	$163.89	10.5%
Total:	**$1,578.30**	100.0%

NOTE: The financial plan reflected in this table has been developed by the project sponsor and does not reflect a commitment by DOT or FTA. The sum of the figures may differ from the total as listed due to rounding.

Capital Finance Plan Rating: Medium

The capital finance plan rating is based upon the weighted average of the ratings assigned to each of the subfactors listed below. The agency capital condition is weighted 25 percent, the commitment of capital funds is weighted 25 percent, and the capital cost estimate, planning assumptions and capital funding capacity subfactor is weighted 50 percent.

Agency Capital Condition: Medium

- The average age of SFMTA's bus fleet is 6.8 years, which is in line with the industry average.
- SFMTA's good bond ratings, which were issued in 2006, are as follows: Moody's Investors Service Aa3, Standard & Poor's Corporation AA, and Fitch AA-.

Commitment of Capital Funds: Medium

- Over 68 percent of the non-Section 5309 New Starts funds have been committed and budgeted. Sources of funds include State Proposition 1B funding, Regional Transportation Improvement Program funding, traffic congestion relief funding, proposition B and K sales tax revenues, and parking revenue.

Capital Cost Estimate, Planning Assumptions, and Financial Capacity: Medium-Low

- Several revenue assumptions are considered optimistic compared to historical data including the level of operating funds available for capital replacement, state of good repair funding needs, and level of parking revenues.
- The capital cost estimate is considered reasonable. The capital financial plan does not present a formal mitigation plan for potential project cost increases or delays in funding availability.

Operating Finance Plan Rating: Medium

The operating finance plan rating is based upon the weighted average of the ratings assigned to each of the subfactors listed below. The agency operating condition is weighted 25 percent, the commitment of operating funds is weighted 25 percent, and the operating cost estimates, planning assumptions and operating funding capacity subfactor is weighted 50 percent.

Agency Operating Condition: Medium-Low

- SFMTA's current ratio of assets to liabilities as reported in its most recent audited financial statement is greater than 1.2.
- SFMTA has experienced some recent budget challenges, requiring service cuts in FY2010 to reduce low-performing service.

Commitment of Operating and Maintenance Funding: Medium-High

- Over 75 percent of operating funding is committed. The main revenue sources are fares, parking fees, General Fund contributions, and state sales tax and fuel assistance revenues.

Operating Cost Estimates, Planning Assumptions, and Financial Capacity: Medium-Low

- Assumed growth in operating expenses is optimistic compared to historical experience. Operating revenue assumptions are in line with or more conservative than historical experience.
- The project has only a minimal impact on overall system-wide operating costs.

Map