
III. Operations & Maintenance Costs

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SFMTA Third Street Light Rail Phase 2 – *Central Subway*

New Starts Criteria Report

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1.0 Operations & Maintenance Costs

Since the previous New Starts Report, Project staff has worked closely with SFMTA Service Planning and Transit Operations Departments to refine the operating plans for the T-Third line upon opening of the Central Subway segment. The *Third Street Light Rail Phase 1+2 Service Integration Plan* is the result of that process, and informs this year’s revisions to the Operations and Maintenance Cost estimates. Section 1 summarizes the service plans and costs. The *Service Integration Plan* is included as an insert. Further details of the O&M Cost model are included in Chapter VII, *Local Financial Commitment*, Section 3, *Operating Plan*.

1.1 Project Service Plan Summary

Revenue service is planned at the end of 2018, with the first *full fiscal year* of operations in FY 2020. When the Central Subway is linked to Phase 1 of the Third Street Light Rail Project at completion, the complete T-Third service will operate as a stand alone line, separate from the guideway, signal system, and operating plan of the existing SFMTA 35 mile light rail network. Service levels or a break downs on the system will not generally influence the Project.

Figure 3-1 Summary of Opening Year and Design Year Service Configurations

	2018	2030
Peak Service Configuration	Short Line/Long Line	Short Line/Long Line
Peak Headways	7.5 minute / 7.5 minute	5 minute / 5 minutes
Peak Train Sets	2 cars / 2 cars	2 cars / 2 cars
Peak Cars Required	33	49
Service Notes:	Now all 2-car trains; increased peak headways	Tripper eliminated
Capacity Notes:	Meets peak hour demand	Meets peak hour demand

The operating plan is designed to meet the 2030 travel demand projections from the San Francisco County Transportation Authority’s Travel Demand Model, which are presented in Chapter 2. The SFCTA forecast’s land use assumptions and model methodologies (Champ 3) were used in the 2008 Supplemental EIR/EIS and the FY 2010 New Starts Report. The proposed service delivers capacity to serve the Project’s peak and off-peak ridership demands.

Operating and maintenance (O&M) costs for the Project and the SFMTA as a whole have been calculated based on unit cost estimated from the SFMTA O&M cost model and calibrated with actual SFMTA expenses and service delivered in FY 2008, ending June 30, 2008. Line-item costs are determined according to the volume of service supplied and other system characteristics such as track miles, consistent with the approach suggested by the FTA in *Procedures and Technical Methods for Transit Project Planning*.

By adding the Central Subway, SFMTA is expected to spend an additional \$1.76 million (in year-of-expenditure dollars) in the first full year of operation. This change is the result of the Central Subway reducing frequent trolley coach service on the 30-Stockton line, and achieving operating efficiencies as the T-Third line route changes to a more direct path straight up Fourth Street from the Caltrain Station to Chinatown.

1.2 Changes to Central Subway Operating Plan

Since the FY 2010 New Starts Report, the operating plan was revised to use two primary routes instead of three: the “Long Line” from Chinatown to Sunnydale and the “Short Line” from Chinatown to Mission Bay.

A third route, the “Very Short Line,” was first reassessed during the 2008-09 FTA Risk Assessment, because of the regular switchbacks on the main line for the three hour peak periods. The line was eliminated in the opening year service plan, and included only as a limited run “tripper” during the peak hour in the design year to meet peak capacity needs. The updated Travel Forecast model described in Chapter 2 has shown a reduced peak ridership that eliminates the need for any Very Short Line or Tripper service.

The 2018 service will provide 3.75-minute combined headways in the subway, and the 2030 service will provide 2.5-minute combined subway headways. The revised plans provide slightly less frequency than the previous plans, but meet peak hour capacity needs and reduce the risk of delays at the Chinatown terminal.

1.3 Changes to Central Subway and SFMTA Operating Costs

This section summarizes the results of the O&M cost analysis that is produced as part of Project’s financial plan. The O&M cost analysis is presented in detail in Chapter VII, *Local Financial Commitment*, Section 3, *Operating Plan*.

Central Subway and SFMTA operating costs have been adjusted based on the service changes outlined above. The Central Subway’s \$6.89 million in FY2030 annual operating costs (2010 dollars) is reduced from the \$8.2 million estimate of last year’s financial analysis, primarily due to the elimination of the “Tripper” Service.

In the opening year, however, increasing the light rail service to include all two-car trains has resulted in an increase in annual operating costs. The Central

**SFMTA Third Street Light Rail Phase 1 + 2 Service Integration Plan
For Operations, Travel Forecast, and Financial Planning**

Subway project is projected to have a \$1.76 million (2010 dollars) impact on agency operating costs in the opening year, compared to a cost savings in last year's financial analysis.

Figure 3-2 and Figure 3-3 show the change in Agency-wide O&M cost with and without the Central Subway.

Figure 3-2 Total Agency-Wide O&M Costs (Base Year (2010) Dollars)

(\$ millions)	FY2020	FY2030
Baseline (w/phase 1 only)	744.39	752.53
Phase 1 + Phase 2	746.15	759.42
Change (savings)	1.76	6.89

Figure 3-3 Total Agency-Wide O&M Costs (Year-of-Expenditure Dollars)

(\$ millions)	FY2020	FY2030
Baseline (w/phase 1 only)	1,139.31	1,620.33
Phase 1 + Phase 2	1,142.05	1,635.54
Change (savings)	2.74	15.21

The Central Subway, on a fully allocated cost basis, is estimated to cost \$6.9 million in 2010 dollars in FY 2030 (YOE \$15.2 million). Given that the Central Subway O&M cost represents only 1 percent of the SFMTA's annual operating budget, the Agency will have the financial capacity to cover the annual Central Subway O&M costs through the FY 2030 horizon without reducing or undermining the capacity to continue the existing SFMTA service plan.

Figure 3-4 Central Subway Project O&M Cost in FY 2030

(\$ millions)	FY2030 O&M Cost (2010 Dollars)	FY2030 O&M Cost (YOE Dollars)
Baseline (w/phase 1 only)	\$752.53	\$1,620.33
Phase 1 + Phase 2	\$759.42	\$1,635.54
Change (Central Corridor O&M Cost)	\$6.89	\$15.21