8.0 FINANCIAL FEASIBILITY

This section of the SEIS/SEIR summarizes the cost and revenue projections for the various Central Subway Project alternatives and for the San Francisco Municipal Transportation Agency (MTA) as a whole. The primary basis for this section is the MTA's Central Subway FY 2008 New Starts Financial Plan, which was prepared in 2006, although this section also includes updated costs estimates and revenue projections for Project alternatives, which have been provided by the MTA and its consultants. The analysis is not required for CEQA environmental review, but is presented for informational purposes as a financial plan is an important element of the federal and local project approval process. Total forecast operating and capital costs are compared to operating and non-operating revenues from federal, state and local sources to determine the financial feasibility of the Project alternatives. The feasibility of the capital investment, as well as the ability of the MTA to support ongoing system-wide capital and operating needs, is factored into the determination.

Typical of projects at this stage of financial feasibility analysis, capital and operating costs, as well as ridership, operating and non-operating revenues are preliminary and will be further refined throughout the Project's development process. Project cost estimates become more certain as Preliminary Engineering is completed and Project details and funding strategies become more certain. This will lead to continuing refinements of the financial plan for the Project. The MTA expects to update the Project financial plan in September 2007.

8.1 COSTS AND AVAILABLE REVENUES

8.1.1 CAPITAL COSTS

This section describes the techniques, assumptions and methodology used for estimating the capital cost for the Project alternatives.

Cost Estimation Methods

General Approach

Capital costs have been estimated according to the Federal Transit Administration (FTA) Guidelines for Preparation of a Capital Cost Estimate for New Starts Projects. Detailed estimates of quantities for different cost categories are based on preliminary engineering drawings for tunnels and stations and typical section sketches, with contingencies consistent with the level of the design. Cost estimates for various components of the Project or line items in the cost estimate have been developed based on a breakdown of labor, permanent materials, construction materials, plant and equipment required to

construct or install a component of the project, indirect costs and margin plus any additional subcontractor costs. All construction and systems costs include design contingencies to cover design development and uncertain market conditions at the time of bids. Contingencies as applied to the direct construction cost do not cover changes to the currently identified scope of work. A Project reserve or "unallocated contingency" is also applied to the entire Project cost. Excluded from the capital cost estimates are subsequent reconstruction or replacement of facilities and components, as well as replacement of vehicles. Annualized costs, which are discussed later, account for reconstruction and replacement and assume no finance charges.

Approach for Major Cost Categories

Cost estimates have been prepared for all Project Alternatives. The cost estimate for the Alternative 2 was originally prepared in 2004 and escalated to 2007 dollars in accordance with construction industry published indices for escalation and reflects further refinement of the Project and construction methods since the 2004 estimate. The Alternative 3A estimate is based on the estimate prepared in 2005 and escalated to 2007 with adjustments for refinements and construction methods. The cost estimate for the Alternative 3B has been developed as a new "bottom-up" estimate in 2007.

The estimating approach for construction of guideway and station components of the LPA and Modified LPA has been developed using heavy civil engineering estimating software where bid items were prepared for each component of the guideway and stations construction. A "bottom-up" estimate was prepared by developing labor crew costs for construction; adding the costs of permanent and construction materials, plant and equipment used in the construction process; and contractor indirect costs plus contingencies consistent with the level of design. Where appropriate, unit rates for major components of a structure or construction process (e.g. precast tunnel linings, muck haulage and disposal, escalators, elevators, ventilation fans etc) are based on manufacturer and supplier quotations. The detailed methodology for each cost category is as follows:

Guideway & Track - Horizontal alignment plans on a scale of 1 inch to 400 feet and profiles on a scale of 1 inch to 80 feet have been prepared for all Project Alternatives. Detailed quantity take-offs have been developed from cross section drawings for both surface guideway and underground elements of the guideway. The estimate assumed new TBMs would be procured for excavation of the underground tunnels. An extensive geotechnical site investigation program carried out during preliminary engineering defined the ground types allowing adjustments to be made for excavation rates and costs. The surface guideway and track costs were compared with known costs from the recently completed T-Third Line (Initial Operating Segment).

Stations, Stops, Terminals, & Intermodal Buildings - The unit costs for the underground stations and surface platforms have been developed in accordance with the general approach described above and compared against as-built construction costs for a number of recently completed transit systems. Station architecture and finishes costs are developed from conceptual level architectural finishing drawings. An allowance of two percent of the station construction costs is included for the provision of public art at each of the stations, as required by the San Francisco public arts policy.

Support Facilities: Yards, Shops, & Administrative Buildings - The Central Subway would use existing support facilities. No allowance has been provided in the cost estimate for expansion of the facilities.

Sitework & Special Conditions - The special conditions consist of roadway modifications, utility relocations at the stations, portals and surface guideway footprints, traffic control, environmental remediation, demolition and reinstatement. Lane modifications or the relocation of curbs and medians would be required. Given that the majority of the guideway is deep underground, excavated using TBMs, there would be a relatively modest amount of utility relocation required for Alternatives 3A and 3B to support excavation and construction of the stations and portal. The construction methods required for excavation and construction of Alternative 2 would require significantly more utility relocations.

Systems - The systems costs include signals (train control), communications and traction power. The LPA would be similar in guideway length and fleet size to several transit projects currently in operation or under design. The basis of the system cost estimate is experience with the existing T-Third Line. Actual supplier bid prices in 2007 dollars have been used to develop unit costs. The resulting unit costs are multiplied by the Project quantities to obtain the cost estimate.

Right-of-Way Acquisition, Land, Easements, and Existing Improvements - Market research determined the price of real estate parcels required at Chinatown Station, Moscone Station and for public parking spaces required at the Ellis/O'Farrell and Union Square parking garages (Alternative 2 would also include use of space in the Moscone Garage and Hearst Garage). The costs reflected the value of the land in 2005 dollars, which is increased by 20 percent to reflect year 2007 costs. The costs of easements required where the tunnels pass under private property are also included. No adjustments have been made in the capital cost estimate for potential real estate cost savings related to joint development.

Vehicles - The patronage forecasting model and transit operations plan show that four additional rail cars (three plus one spare) would be required for the LPA (Alternative 3A). The capital costs have been developed on a per car basis, based on recent light rail transit car purchases.

Professional Services – The estimate is based on a percentage of construction cost, including preliminary engineering, final design, project management for design and construction, construction administration, legal costs, permits, reviews by other agencies, survey testing, inspection and start up costs. An allowance of 25 percent of construction costs has been allocated for all professional services.

Unallocated Contingency - Unallocated contingency covers unexpected changes or additions in the work scope and unanticipated costs above and beyond the assumed normal rates that occur during construction, particularly construction change orders and claims. Eight percent on all items is included in the cost estimate.

Cost Estimation Results

Table 8-1 presents the capital cost estimates for the Enhanced EIS/EIR Alignment (Alternative 2), Fourth/Stockton Alignment Option A (Alternative 3A - LPA) and Fourth/Stockton Alignment Option B (Alternative 3B - Modified LPA) in both 2007 (constant) dollars and year of expenditure (YOE) dollars. The 2007 dollars cost estimates represent the cost of the alternatives if they were built this year and the YOE cost estimates escalate the costs to reflect the MTA's estimated implementation schedule and the associated cost inflation. When evaluating financial feasibility and comparing Project costs to available funding, which is usually expressed in year-of-occurrence dollars, the year of expenditure cost estimates are the most relevant.

Implementation Schedule

Preliminary estimates predict that utility relocations for the Central Subway will commence in 2010 with heavy construction scheduled to begin in 2011. The start of revenue service is scheduled for 2016 for Alternative 3B and 2017 for Alternative 2 and Alternative 3A.

The project delivery approach assumes design/bid/build for all contracts including stations, tunnels and underground guideway, systems, surface guideway and platforms.

TABLE 8-1

CENTRAL SUBWAY CAPITAL COSTS (IN $MILLIONS)

Project Elements	Alternative 2		Alternative 3A[1]		Alternative 3B[1]	
	$2007	**YOE$**	**$2007**	**YOE$**	**$2007**	**YOE$**
Guideway & Track Elements	$364	$446	$248	$304	$244	$296
Stations, Stops, Terminals, Intermodal[2]	$376	$473	$376	$473	$325	$403
Sitework & Special Conditions	$94	$115	$70	$85	$47	$56
Systems	$118	$161	$110	$151	$94	$122
Row, Land, Existing Improvements	$15	$24	$20	$24	$20	$23
Vehicles	$21	$28	$21	$28	$21	$26
Professional Services	$229	$271	$202	$237	$188	$214
Unallocated Contingency	$97	$122	$84	$105	$75	$94
Finance Charges		$45		$0.8		$0
Total Project Cost	**$1,345**	**$1,685**	**$1,131**	**$1,407**	**$1,014**	**$1,235**

Source: PB/Wong 2007

[1] Costs for Alternatives 3A and 3B do not include the North Beach Variant. The North Beach Variant would add approximately $54 million (YOE$).

[2] Alternative 2 and 3B would have four stations and Alternative 3A would have three stations.

Note: Escalation is assumed to average approximately four percent per year over the duration of the project.

Comparative Discussion

Alternative 3A would extend light rail service along Fourth Street as a semi-exclusive double-track surface line for a short distance from the T-Third terminus at Fourth and King Streets. The rail would transition to a subway (tunnel) between Townsend and Brannan Streets for the remainder of the Project's 1.7-mile length. Three underground subway stations are included in this alternative and four additional light rail vehicles (LRVs) would be required beyond the No Project/TSM Alternative.

Alternative 3B is similar to Alternative 3A, but its cost estimates differ in part because of a shorter tunnel (with a longer surface line), four stations (the fourth is a surface platform), and a shorter (one year less) construction period than the other build alternatives. Tunnel sections and subway stations are typically more expensive to construct than surface lines and surface platforms. Alternative 3B also evaluates two sub-options with mixed-flow or semi-exclusive rail operation on the surface of Fourth Street and the North Beach construction variant.

Other differences in Alternative 2 that affect the alternatives cost estimates include: operation as a surface line on both Third and Fourth Streets, south of Harrison Street; two portals (one on Third Street and one on Fourth Street) rather than one portal; a tunnel under Third Street instead of Fourth Street, and five stations (four underground and one surface). A detailed description of the alternatives and their differences can be found in Chapter 2.0.

8.1.2 OPERATING AND MAINTENANCE COSTS

Cost Estimation Methods

General Approach

Once the Central Subway is complete, the T-Third line would operate as a new line from the southern terminal at the Caltrain Bayshore Station through the Central Subway to the northern terminus in Chinatown (T-Third Long Line). A second independent line (T-Third Short Line) is anticipated to operate between Chinatown and a turnaround loop near 18th Street. Service levels are planned for single cars operating at five-minute peak period and 10-minute midday frequencies on each line. This would require three additional LRVs, plus one spare, for a total of four additional LRVs. It would also require the MTA to bring the spare ratio on the LRV fleet to the 20 percent recommended by FTA. Service changes to Muni bus routes would also be implemented in conjunction with Central Subway service start-up. When the operation of the T-Third line into the Central Subway begins, the Castro Shuttle would be restored.

Basis for Rail Costs

Light rail operating expenses were estimated in four major cost categories: vehicle operations, vehicle maintenance, non-vehicle maintenance, and general and administrative. Total MTA costs including the Central Subway Project were estimated by using FY2005 MTA data to calculate cost ratios (e.g., $37.13 per train revenue hour for vehicle operator salaries and wages) for subcategories of the four major categories and multiplying the ratios by an appropriate cost driver (e.g., revenue car miles, number of service and inspection yards, etc.). The MTA has assumed that rail operating and maintenance (O&M) costs increase at a rate of 3.5 percent per year on average.

Basis for Other Costs

MTA system operating expenses for motor bus, trolley bus, and cable car were estimated using the same major cost categories and methodology as rail costs. Similar to the rail costs, the MTA has assumed that bus and cable car O&M costs increase 3.5 percent per year on average.

Factors That May Alter Operating Cost Estimates

Altering the following variables in the operating plan for the Central Subway Project would change the operating cost forecasts: number of peak cars; car revenue miles; train revenue hours; subway stations; one-way route miles; and number of service and inspection yards.

Cost Estimation Results

The projected incremental operating costs for both the T-Third line (IOS) and Central Subway Alternatives are summarized in Table 8-2 in year of expenditure dollars. All Project alternatives are expected to result in a net operating cost savings relative to the No Project/TSM Alternative. The 2016 figures represent the cost at the startup of the Central Subway operations, while the 2030 figures are for a selected forecast year.

Comparative Discussion

Due to a faster and more direct alignment, Alternative 3A creates an annual reduction of 2,400 LRV car hours on the Central Subway Corridor and a system-wide annual reduction of 27,800 car hours when compared to the No Project Alternative. Alternative 3A would also reduce the number of system-wide annual bus hours by 76,400. Alternative 3B would save the same number of annual bus hours, however, it would increase annual LRV car hours by 6,000 on the Central Subway Corridor while reducing by 19,400 system-wide LRV hours compared to the No Project/TSM Alternative. Alternative 2 yields an annual increase of 7,100 LRV car hours, a system-wide annual reduction of 18,300 car hours, and would reduce the number of system-wide annual bus hours by 76,400 when compared to the No Project/TSM Alternative.

TABLE 8-2

CENTRAL SUBWAY INCREMENTAL OPERATING COSTS (IN YOE$ MILLIONS)

	No Project/TSM Alternative	Alternative 2	Alternative 3A	Alternative 3B
2016	$707.9	$693.4	$693.0	$693.2
2030	$1,145.9	$1,122.3	$1,121.7	$1,122.1
Difference from No Project/TSM Alternative				
2016	N/A	($14.5)	($14.9)	($14.7)
2030	N/A	($23.6)	($24.2)	($23.8)

Source: MTA, May 2007

8.1.3 PROJECT FUNDING

Capital Sources

Project Specific

A total of $432.2 million in state and local capital funding has been committed to the Central Subway Project. In addition, the MTA is currently seeking $762.2 million in federal "New Starts" funding, for a total of $1,194.4 million in capital funding identified for the Project. These sources are discussed in this section and the steps that the MTA is taking to overcome the capital funding shortfall are discussed in Section 8.1.4. MTA's funding plan for Central Subway Project alternatives are displayed in Table 8-3.

TABLE 8-3

CENTRAL SUBWAY CAPITAL FUNDING PLAN (IN SMILLIONS)

Source	Amount
Federal – 5309 New Starts	$762
State	$306
Local	$126
Total	$1,194
Source: MTA Central Subway FY2008 New Starts Financial Plan	

FTA Section 5309 "New Starts." The Section 5309 New Starts program administered by the Federal Transit Administration (FTA) provides discretionary capital grants for construction of new fixed guideway systems or extensions to existing fixed guideway systems. To receive a New Starts grant, projects must complete a planning and project development process that consists of Alternatives Analysis, Preliminary Engineering, and Final Design phases. The funding program is discretionary and highly competitive, with funding decisions made on the basis of New Starts Criteria specified in law and regulation. Near the completion of Final Design, highly-rated projects are eligible to receive a Full Funding Grant Agreement (FFGA), which defines the scope of the Project, specifies requirements with which the Project sponsor must comply to receive New Starts funds, identifies the multi-year federal financial commitment to the Project, and signals federal intent to seek the specified amounts of funding through future appropriations.

The MTA is seeking $762.2 million in Section 5309 New Starts funding. The MTA started receiving New Starts funds for the Central Subway Project in FY 2003. To date, the MTA has received $45.3 million in New Starts funds as follows: $1.5 million in 2003; $8.9 million in 2004; $9.9 million in 2005; and $25 million in 2006. These funds were allocated for preliminary engineering and environmental review. The Central Subway Project still needs to complete Preliminary Engineering and enter Final Design before it is eligible to receive an FFGA, and the federal government's allocation of New Starts funding to-date does not guarantee that the Central Subway Project will receive an FFGA. A project must also have a "Medium" or higher Overall Rating, have a "Medium" or higher Cost Effectiveness Rating, and be able to be implemented within the available Section 5309 program resources to receive an FFGA. In FTA's FY 2008 New Starts Report to Congress, the Central Subway Project (Alternative 3A) received a "Medium" Overall Rating, a "Medium" Local Financial Commitment Rating, a "Medium" Project Justification Rating, a "Medium-Low" Cost Effectiveness Rating, and a "High" Land Use Rating. The MTA is currently performing value engineering reviews to lower the capital cost and to improve the Central Subway's Cost Effectiveness Rating.

State Traffic Congestion Relief Program (TCRP). The San Francisco County Transportation Authority (SFCTA) has committed $14.0 million in State of California Traffic Congestion Relief Program (TCRP) funds to the Central Subway Project through a Program Supplement for the TCRP funds. A $140 million TCRP allocation was made to the Third Street Light Rail Project, of which $126 million was used for the T-Third line (IOS).

State Regional Improvement Program. The SFCTA has committed $92.2 million in State Regional Improvement Program funds to the Central Subway Project. This commitment was made in the Regional Transportation Plan and Resolution #04-62.

State Infrastructure Bonds (Prop. 1B). Working in cooperation with MTC, the MTA has secured $200 million in state infrastructure bond funds for the Project; $100 million of revenue-based funds, which have been approved by the MTA, and $100 million in population-based funds, which have been approved by MTC.

Local (San Francisco County Transportation Authority) Sales Tax. The SFCTA committed $126.0 million in Local Proposition K Sales Tax funds to the Central Subway Project in the Proposition K Expenditure Plan. Proposition K, which began collecting revenues in April 2004, is a one-half cent sales tax program approved by San Francisco County voters in November 2003.

Systemwide

The MTA's 20-year Capital Improvement Program (CIP), covering FY2006-FY2025, is divided into two parts, a State of Good Repair CIP and an Enhancement/Expansion CIP. Muni has either planned, programmed, or been awarded funding for all capital projects in the State of Good Repair CIP, which includes the capital projects needed to maintain the current level of service as well as the Central Subway Project Alternative 3A. The MTA's estimated State of Good Repair CIP expenditures and capital funding forecast are shown in Tables 8-4 and 8-5, respectively.

As shown in Table 8-5, the MTA projects $4.0 billion in capital funding will be available for the State of Good Repair CIP.[1] This funding projection includes approximately $416 million in other local funding sources, which are to be determined. Tables 8-4 and 8-5 reflect the 2006 cost estimate for Alternative 3A

TABLE 8-4

TWENTY-YEAR CAPITAL PLAN - STATE OF GOOD REPAIR EXPENDITURES (IN YOE $MILLIONS)

[1] MTA Central Subway FY2008 New Starts Financial Plan, Figure 9.

Fiscal Year	Fleet	Infrastructure	Facilities	Equipment	Other Projects	Total Expenditures
FY06	$23	$98	$7	$0	$20	$148
FY07	$16	$80	$31	--	$3	$129
FY08	$14	$148	$10	$0	$1	$172
FY09	$10	$169	$1	--	$0	$181
FY10	$40	$265	--	--	$0	$306
FY11	$42	$222	$0	--	$0	$264
FY12	$85	$184	--	--	$0	$269
FY13	$38	$159	--	--	$0	$198
FY14	$64	$159	--	--	$0	$223
FY15	$154	$159	--	--	$0	$313
FY16	$155	$159	--	--	$0	$314
FY17	$72	$126	--	--	$0	$198
FY18	$128	$56	--	--	$0	$184
FY19	$108	$29	--	--	$0	$137
FY20	$110	$38	--	--	$0	$148
FY21	$83	$38	--	--	$0	$121
FY22	$99	$38	--	--	$0	$137
FY23	$114	$38	--	--	$0	$152
FY24	$156	$38	--	--	$0	$194
FY25	$174	$38	--	--	$0	$212
20-Year Total	**$1,684**	**$2,239**	**$49**	**$0**	**$24**	**$3,996**
Percent of Total	**42.1%**	**56.0%**	**1.2%**	**0.0%**	**0.6%**	**100.0%**

Source: MTA Central Subway FY2008 New Starts Financial Plan, Figure 11.

of $1.410.8 million, compared to the current Alternative 3A cost estimate of $1.418.1 million. Representing 0.2 percent of the State of Good Repair CIP, the change in cost is negligible within the scope of the larger program, and is well within the margin of forecasting error. No additional capital funding beyond the State of Good Repair CIP was projected as of 2006; however, the MTA is updating its funding forecast and the MTA's funding agencies estimate that an additional $2.2 billion, for a total of $6.2 billion, might be available for capital improvement projects during the life of the 20-year CIP based on a review of recent regional funding history.[2] These estimates are shown in Table 8-6. If the MTA receives more than $4.0 billion during the life of the current CIP, the MTA could pursue projects in the Enhancement/Expansion CIP or make other capital investments, although these projects could be deferred if sufficient funding does not become available. A list of the CIP projects and short descriptions can be found in the MTA FY2006-2025 Short Range Transit Plan.[3]

TABLE 8-5

TWENTY-YEAR CAPITAL PLAN - STATE OF GOOD REPAIR FUNDING PROJECTIONS (IN $MILLIONS YEAR OF OCCURRENCE)

Fiscal Year	Federal	State	Local	Total Funds

[2] MTA Central Subway FY2008 New Starts Financial Plan, p.10-13, Figure 9 and Figure 10.
[3] http://www.sfmta.com/cms/rsrtp/documents/ShortRangeTransitPlanFy20062025-Web.pdf

FY06	$106	$0	$42	$148
FY07	$79	--	$50	$129
FY08	$111	--	$61	$172
FY09	$90	$1	$89	$181
FY10	$173	--	$133	$306
FY11	$170	--	$95	$264
FY12	$160	--	$108	$269
FY13	$140	--	$58	$198
FY14	$165	--	$58	$223
FY15	$218	--	$95	$313
FY16	$206	--	$108	$314
FY17	$172	--	$25	$198
FY18	$167	--	$17	$184
FY19	$87	--	$50	$137
FY20	$84	--	$63	$148
FY21	$110	--	$11	$121
FY22	$126	--	$11	$137
FY23	$107	--	$45	$152
FY24	$132	--	$61	$194
FY25	$160	--	$51	$212
20-Year Total	**$2,763**	**$1**	**$1,232**	**$3,996**
Percent of Total	**69.1%**	**0.0%**	**30.8%**	**100.0%**
Source: MTA Central Subway FY2008 New Starts Financial Plan, Figure 11.				

TABLE 8-6

CAPTIAL FUNDING ESTIMATES BASED ON CURRENT FUNDING LEVELS (IN $MILLIONS YEAR OF OCCURRENCE)

Fiscal Year	Federal	State	Local	Total Funds
FY06	$106.5	$0.0	$48.2	$154.7
FY07	$137.7	--	$54.0	$191.6
FY08	$182.0	--	$72.8	$254.8
FY09	$177.4	--	$119.6	$296.9
FY10	$238.0	--	$113.0	$351.0
FY11	$244.3	--	$170.9	$415.2
FY12	$250.6	--	$102.5	$353.1
FY13	$257.0	--	$121.5	$378.5
FY14	$263.8	--	$95.0	$358.8
FY15	$270.8	--	$97.9	$368.7
FY16	$278.1	--	$91.5	$369.6
FY17	$285.7	--	$58.5	$344.2
FY18	$240.5	--	$42.6	$283.1
FY19	$221.8	--	$43.0	$264.7
FY20	$230.2	--	$66.7	$296.9
FY21	$239.0	--	$44.0	$283.0
FY22	$248.1	--	$44.6	$292.7
FY23	$257.5	--	$45.2	$302.7
FY24	$267.3	--	$45.8	$313.2
FY25	$277.6	--	$46.5	$324.0
20-Year Total	**$4,673.8**	**$0.0**	**$1,523.7**	**$6,197.5**
Source: MTA Central Subway FY2008 New Starts Financial Plan, Figure 9.				

Operating Sources

Project Specific Transit Farebox and Non-farebox Operating Revenue Sources

In 2030 the MTA estimates that the additional fare revenues generated by the Central Subway Project would be $9.0 million per year for Alternative 3A, based on the estimated change in ridership and an increase in the average fare that is consistent with the MTA's estimate for inflation (3.2 percent per year). Alternative 3B is predicted to generate slightly less incremental annual revenues of $8.8 million and Alternative 2 is expected to generate $11.6 million more than the No Project/TSM Alternative. The operating revenue estimates are shown in Table 8-7. MTA has assumed that the Central Subway Project will generate the same non-farebox operating revenue as the No Project/TSM Alternative.

TABLE 8-7

2030 CENTRAL SUBWAY OPERATING REVENUES (NOMINAL$)

	Alternative 2	Alternative 3A	Alternative 3B
Boardings with Central Subway	283,284,830	281,333,060	281,151,420
Boardings for No Project/TSM Alternative	274,528,660	274,528,660	274,528,660
Change in Boardings	8,756,170	6,804,405	6,622,764
Average Fare	$1.33	$1.33	$1.33
Fare Revenue Generated by Central Subway	$11,645,710	$9,049,860	$8,808,280

Note: Estimates developed using MTA methodology from MTA Central Subway FY2008 New Starts Financial Plan, Figure 15 and updated MTA boarding estimates.

Systemwide

The MTA has estimated the amount of revenue available for operating and maintaining the New Starts Project while maintaining the existing and proposed level of service.[4] This estimate is shown in Table 8-8. It also assumes two new revenue measures requiring third party approval. The first of these is an increase to the parking tax of 10 percent, from the current rate of 25 percent to a proposed rate of 35 percent. The MTA's analysis assumes it would be approved by voters in FY2008 and generate additional revenues in FY2009. The second new revenue source MTA staff is currently pursing is the development of a Transit Operations fee.

The MTA's operating financial plan is based on its estimates of long-term growth trends rather than the budget estimate or requirements for any given year.[5] The MTA has indicated that deficits or surpluses shown in Table 8-8 are for planning purposes only, and are intended to flag years in which revenue

[4] Maintaining existing service levels is required to receive a Federal New Starts Full Funding Grant Agreement.
[5] MTA Central Subway FY2008 New Starts Financial Plan, p.10-27.

TABLE 8-8
MTA 20-YEAR FINANCIAL PLAN INCLUDING CENTRAL SUBWAY ALTERNATIVE 3A
(YOE $MILLIONS)

	Total	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
SOURCES																					
Operating																					
Fare Revenues	$4,152	$131	$159	$159	$159	$179	$179	$179	$197	$197	$197	$216	$216	$216	$236	$236	$236	$259	$259	$259	$284
Parking Revenues	4,847	173	177	182	190	196	202	211	218	225	234	242	249	260	268	277	288	298	307	320	330
Parking Tax Increase	198	0	0	0	9	9	10	10	10	10	11	11	12	12	12	13	13	13	14	14	15
New Cong. Mgmt/Trans. Imp. Fee	221	0	0	0	10	10	11	11	11	12	12	12	13	13	14	14	15	15	16	16	17
Charges for Service	137	5	5	5	5	6	6	6	6	6	6	7	7	7	8	8	8	8	8	8	9
Intergovernmental Revenue	3,032	91	114	151	122	125	129	133	137	141	146	151	155	160	166	171	176	182	188	194	200
Miscellaneous Revenue	755	14	29	30	31	32	33	34	35	36	37	38	40	41	42	44	45	46	48	49	51
Gen. Fund Cont. - Prop E Form.	4,150	140	154	160	167	172	178	184	189	195	202	208	215	222	229	236	244	252	260	268	276
Use of Carryforward Fund Bal.	9	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interdepartmental Recoveries	419	15	16	16	17	17	18	18	19	20	20	21	22	22	23	24	25	25	26	27	28
Departmental Transfer Adj.	(256)	(9)	(10)	(10)	(10)	(11)	(11)	(11)	(12)	(12)	(12)	(13)	(13)	(14)	(14)	(15)	(15)	(15)	(16)	(16)	(17)
Dedicated Paratransit Funding	351	16	16	16	16	16	16	17	17	17	17	18	18	18	18	19	19	19	19	20	20
Special Revenue - TIDF	247	10	10	10	10	10	10	11	11	11	12	12	13	13	13	14	14	15	15	16	16
Total Operating Sources	**18,262**	**586**	**679**	**720**	**726**	**764**	**781**	**802**	**839**	**859**	**882**	**923**	**945**	**970**	**1,015**	**1,040**	**1,068**	**1,117**	**1,144**	**1,175**	**1,229**
Capital - State of Good Repair																					
Federal	2,763	106	79	111	90	173	170	160	140	165	218	206	172	167	87	84	110	126	107	132	160
State	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Local	1,232	42	50	61	89	133	95	108	58	58	95	108	25	17	50	63	11	11	45	61	51
Total Capital Sources	**3,996**	**148**	**129**	**172**	**181**	**306**	**264**	**269**	**198**	**223**	**313**	**314**	**198**	**184**	**137**	**148**	**121**	**137**	**152**	**194**	**212**
Total Sources	**22,259**	**734**	**808**	**893**	**906**	**1,069**	**1,046**	**1,071**	**1,037**	**1,082**	**1,195**	**1,237**	**1,143**	**1,154**	**1,152**	**1,187**	**1,188**	**1,254**	**1,296**	**1,368**	**1,441**
USES																					
Operating																					
Platform Salaries	4,124	128	144	150	156	162	169	176	183	190	198	206	214	222	231	240	250	260	270	281	293
Other Salaries	4,357	157	168	172	174	180	186	192	198	204	211	217	224	232	239	247	254	263	271	280	289
Fringe Benefits	6,795	114	131	144	158	174	191	210	231	254	280	308	339	373	410	451	496	545	600	660	726
Overhead	191	7	7	7	8	8	8	8	9	9	9	10	10	10	10	11	11	12	12	12	13
Non-Personal Services	3,201	109	121	125	129	133	137	141	146	151	155	160	165	171	176	182	188	194	200	206	213
Materials and supplies, incl. fuel	1,041	35	39	41	42	43	45	46	47	49	51	52	54	56	57	59	61	63	65	67	69
Capital/Facilities Expenditures	162	3	25	28	5	5	5	5	5	6	6	6	6	6	7	7	7	7	8	8	8
Services of Other Departments	1,039	36	39	40	42	43	44	46	47	49	50	52	54	55	57	59	61	63	65	67	69
Debt Service	171	8	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
Allocated Charges	(381)	(14)	(14)	(15)	(15)	(16)	(16)	(17)	(17)	(18)	(18)	(19)	(20)	(20)	(21)	(22)	(22)	(23)	(24)	(24)	(25)
Appropriated Rev. - Res. & Des.	202	1	10	10	10	10	10	11	11	11	11	11	11	11	11	11	11	11	11	11	11
Repay Breda Money	7	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
Service Plan Changes	(57)	0	0	0	0	5	5	5	5	5	5	(8)	(8)	(8)	(8)	(9)	(9)	(9)	(9)	(10)	(10)
Transfer to Unapprop. Fund Bal.	23	0	0	9	8	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Operating Uses	**20,875**	**586**	**679**	**720**	**726**	**764**	**794**	**833**	**875**	**919**	**966**	**1,003**	**1,058**	**1,116**	**1,178**	**1,245**	**1,316**	**1,394**	**1,477**	**1,566**	**1,663**
Capital - State of Good Repair																					
Fleet	1,684	23	16	14	10	40	42	85	38	64	154	155	72	128	108	110	83	99	114	156	174
Infrastructure	2,239	98	80	148	169	265	222	184	159	159	159	159	126	56	29	38	38	38	38	38	38
Facilities	49	7	31	10	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Projects	24	20	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Capital Uses	**3,996**	**148**	**129**	**172**	**181**	**306**	**264**	**269**	**198**	**223**	**313**	**314**	**198**	**184**	**137**	**148**	**121**	**137**	**152**	**194**	**212**
Total Uses	**$24,872**	**$734**	**$808**	**$893**	**$906**	**$1,069**	**$1,058**	**$1,102**	**$1,072**	**$1,142**	**$1,279**	**$1,318**	**$1,255**	**$1,299**	**$1,315**	**$1,392**	**$1,437**	**$1,530**	**$1,629**	**$1,760**	**$1,875**
Projected Surplus (Deficit)	**($2,613)**	**$0**	**$0**	**($0)**	**$0**	**$0**	**($12)**	**($31)**	**($36)**	**($60)**	**($84)**	**($81)**	**($113)**	**($145)**	**($162)**	**($205)**	**($249)**	**($277)**	**($333)**	**($392)**	**($434)**

Note: Data reflects the combined total for the Municipal Transportation Agency, which includes Muni and DPT.

Source: MTA, 2007

enhancements or cost cutting measures are needed, or to alert the MTA to years in which contributions to a Contingency Fund or service enhancements may be possible. By law, the MTA must have a balanced operating budget every year.

The surplus/deficit line is not an indication that the MTA has the ability to build up a capital reserve or channel surplus operating revenues into capital projects. However, the agency does have a policy of Capital Reserve Fund and a MTA Board of Directors resolution establishing a policy of designating operating surplus or one-time revenues, as deemed prudent by the MTA Executive Director, into this reserve. As of August 2006, $15 million in remaining proceeds from the Breda lease/leaseback financing were available in the Reserve Fund. Additionally, the MTA had an undesignated cash reserve account of $11 million at the close of FY06, which is available for appropriation. The Agency is able to carry surpluses forward into subsequent years. The FY07 budget also includes $10 million in an operating reserve. In total, approximately $36 million is potentially available for a Contingency Fund.

8.1.4 CAPITAL AND OPERATING SHORTFALL

Based on the MTA's estimates of the capital cost for Alternative 3A, $424 million in local capital funding is still unidentified. The Central Subway is expected to result in a net operating surplus on a project-level basis.

If the MTA identifies $424 million in local capital funding, it estimates that it will have sufficient funds for its 20-year State of Good Repair Capital Improvement Program, which includes the capital cost of the Central Subway Project (Alternative 3A). Alternative 3B is estimated to have a lower capital cost and would therefore result in a smaller shortfall whereas Alternative 2 would result in a larger shortfall due to its higher capital cost.

Systemwide, the MTA estimates that Muni will have an operating shortfall beginning in 2011 that continues through the end of the evaluation period. Although a cumulative 20-year budget deficit of $2.6 billion is shown in Table 8-8, the MTA is required to have a balanced operating budget every year pursuant to the City Charter. To the extent that the MTA experiences operating shortfalls during a fiscal year, operating expenses have typically been constrained through the use of hiring freezes, salary savings (whereby budgeted positions remain unfilled) and other personnel cuts. If there is still a shortfall, the MTA limits Muni's operating and maintenance costs to the total amount of available revenues.

8.1.5 ADDITIONAL REVENUE SOURCES

The MTA has identified the following sources as having potential to fill shortfalls identified in the previous section.

Federal Funding

The MTA has indicated that it may seek additional Section 5309 New Starts funds for the Central Subway Project. FTA considers the amount of Section 5309 New Starts funding available when it signs a Full Funding Grant Agreement, and outside of New York City, the largest FFGA awarded has been $750 million. The Central Subway Project's ability to secure the $762.2 million it is currently seeking or any additional funding will depend in part upon the availability of Section 5309 New Starts resources at the time the FFGA would be signed.

New Non-Federal Funding

MTC adopted Resolution 3434 on the Regional Transit Expansion Program (RTEP) of Projects, which includes the Central Subway. The RTEP is a coordinated regional approach to prioritizing investments in new rail and express/rapid bus projects. It sets forth the expansion priorities for the Bay Area. Placing the Central Subway Project in the recommended program of projects indicates a level of commitment in the region to funding the Project.

MTA staff is currently in discussion with City policy makers regarding the possibility of including the Central Subway in a large, citywide capital bond proposal planned for the ballot in FY 2009. San Francisco voters have historically supported the city's Transit First policy. Two general sales tax measures failed a public vote in 2004; however, the reauthorized Proposition K sales tax dedicated to transit was approved by 75 percent of voters in 2003.

The MTA has also indicated that it may seek additional commitment of STIP funds through the SFCTA's programming function. This happened with the Transportation Congestion Relief Program and Regional Measure 2 (RM-2), which was passed in March 2004 and raised bridge tolls in the region to $3. A portion of the new revenues is dedicated to the MTA capital and operating needs. The MTA also has real property assets that it is considering for joint development. The MTA owns two parcels of land, currently serving as bus yards, that could be developed, as well as numerous parking garages and lots located throughout the City. The MTA believes there is also potential for transit-oriented development along the Central Subway corridor itself, especially near the stations.

Although the MTA estimates that the Central Subway Project would generate a net operating savings, the Project would be eligible to receive operating funds from Proposition K sales tax revenues if its operating costs increased. Projects constructed with Proposition K funds are eligible to receive funding for the incremental additional operating costs incurred because of the Project.

8.1.6 RISK AND UNCERTAINTY

Several cost and revenue risks could influence the final financial results and will play an important role in the further refinement of the underlying assumptions. Risks can be broken down into several main categories:

Cost Risks

Both capital and operating costs are subject to inflation uncertainty related to the global markets for raw materials such as concrete and steel, energy, and labor. For example, the recent volatility of fuel prices could affect the magnitude of operating expenditures for providing existing and programmed transit services. This could greatly impact rubber-tired or diesel-fueled operations as well as electrical surcharges for operations.

There is a design and schedule risk that is inherent to any major construction work. At this stage, subsoil conditions are not known with a high level of certainty. There might also be some changes in Project scope, bid quantities or unexpected utility relocation.

The Project cost estimate includes cost contingencies. If the Project budget exceeds this built-in contingency, the MTA would have to rely on a special Contingency Fund. The MTA staff is seeking to develop a Contingency Fund in order to cover unpredicted revenue shortfalls in the Project or the operating budget.

Revenue Risks

As discussed in Section 8.1.3, the Central Subway Project must improve its federal New Starts Cost Effectiveness Rating from “Medium-Low” to “Medium” to receive a Full Funding Grant Agreement, which is needed to receive a significant portion of the Project’s capital funding. The MTA is working to reduce the Project’s capital cost as well as preparing an Action Plan to resolve issues that the Federal Transit Administration has indicated need to be addressed. Even with a Medium rating for Costs Effectiveness, there is no assurance of New Starts funding. The New Starts program is scheduled to expire in 2009 unless it is reauthorized by Congress, and many other projects nationwide are competing for available funds. The level of New Starts funding the MTA is seeking for the Project is unprecedented

outside of New York City. Even if the MTA receives a New Starts funding commitment form FTA, there is also a risk that New Starts funds will be appropriated in accordance with the funding schedule in the FFGA.

If operating costs for the Central Subway Project result in a net increase, the Central Subway Project would be eligible to receive operating funds from Proposition K sales tax revenues. Projects constructed with Proposition K funds are eligible to receive funding for the incremental additional operating costs incurred because of the Project.

Proposition E created a Municipal Transportation fund that is dedicated to transit operations. All MTA revenues flow into this fund, which is separate from the City's General Fund. Proposition E provides the MTA with more control over its budget and fare policy than it previously had, and it also established a more predictable funding base; however, it also created a number of financial challenges. If the General Fund contribution increases or decreases by the same percentage as overall city revenues, there is no guarantee that the General Fund will make up future shortfalls in fare, parking, sales tax, or other revenues. The MTA must fund the future cost of existing liabilities such as workers' compensation and judgments and claims, and there are no provisions to have the General Fund cover inflation, fringe benefit increases, or cost of living allowances that represent a significant portion of the MTA's annual cost increases. Finally, there are only limited provisions for funding new activities that are required under Proposition E such as human resources functions, procurement, and service standards data collection and analysis.

Finance Risks

The MTA has indicated if federal capital funds are not received according to the amounts or schedule as planned, or if the federal funding stream is lengthened beyond the projected cash flow, the MTA would pursue additional bond financing through the City and County of San Francisco and/or financing through the SFCTA. If state or local capital funds were reduced or delayed, the MTA has indicated that it would rely on a Contingency Fund and/or other local sources to be determined.

Additional finance risk lies mostly in variations in interest rate that could affect the total capital cost estimate. Both long term and short-term borrowing are dependent on this variable.

Effect of Sensitivity Analysis

A downside sensitivity analysis on the MTA 20-year Financial Plan, with operating and capital revenue reduced by 5 percent and operating and capital expenditures increased by 5 percent was developed. These projections increase the 20-year budget shortfall from $2.6 billion to $5.0 billion. An upside sensitivity analysis on the 20-year Financial Plan with revenues increased by 5 percent and expenditures decreased by 5 percent shows the MTA with a 20-year deficit of $0.3 billion.

Any year with a projected deficit would require balancing with a combination of new revenue sources, use of the reserve funds, and/or expenditure reductions, the latter in accordance with FFGA requirements.