CHAPTER 9.0 FINANCIAL ANALYSIS

This chapter describes the estimated costs of construction, annual operations, and maintenance of the improvements associated with the various project alternatives, including the Hybrid Alternative, which the San Francisco County Transportation Authority (SFCTA) Board adopted as the Locally Preferred Alternative (LPA) with five minor modifications on January 5, 2017. SFCTA issued a Notice of Determination (NOD) on January 6, 2017. A sixth minor modification was subsequently added and analyzed in a California Environmental Quality Act (CEQA) addendum, which the SFCTA Board approved on June 27, 2017. The San Francisco Municipal Transportation Agency (SFMTA) Board of Directors separately approved the project and concurred with the LPA, including six minor modifications, on July 18, 2017. SFMTA issued a NOD on July 25, 2017.[1]

The chapter also summarizes committed, planned, and potential additional sources of project funding. Since publication of the Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR), there have been no changes to the overall cost estimate for the LPA or to the project elements proposed for funding from the Federal Transit Administration's (FTA) Capital Investment Grant Program (Small Starts) program.

9.1 Capital Costs

SFCTA and SFMTA have collectively developed cost estimates for the engineering, design, and construction of the proposed improvements. As a first step in estimating costs, SFCTA prepared preliminary-level engineering design drawings for each alternative over the entire Geary corridor. Design and construction costs are comprised of:

- Hard costs based on itemized quantities of project components using the preliminary engineering drawings, including anticipated contractor mark-ups
- Allowances for scope items identified as necessary but not yet defined at an engineering level
- Soft costs for needed professional services
- Contingencies to account for uncertainties inherent at this preliminary level of engineering design

These costs include all of the scope elements described in this chapter and analyzed in this document. Some of these scope elements are not strictly needed in order to provide and operate a bus rapid transit (BRT) facility, but they otherwise benefit the community in other ways or are needed to facilitate the continued management and stewardship of the City's street, streetscape, and utility systems as changes are made to the Geary corridor to accommodate BRT. These related improvements are therefore important to

[1] See Section 2.2.7.2 for a complete description of the Hybrid Alternative/LPA, including each of the aforementioned minor modifications.

coordinate closely with the BRT components for construction. Examples of each type of scope element are as follows:

- **BRT elements**: Includes new road surface and base for bus lanes where no surface currently exists (such as for center-running alternatives); new road surface for bus lanes where pavement condition is poor; new landscaped medians to accommodate bus lanes for center-running alternatives and segments; new bus bulbs; station platforms where none currently exist (such as for center-running bus lanes); station and stop passenger amenities; bus vehicles for increased service; right-turn pockets to improve bus flows; traffic signal modifications to improve bus flows and accommodate center-running bus lanes; and removal of pedestrian bridges at Steiner Street (all build alternatives) and Webster Street (Alternatives 2, 3, and 3-Consolidated only) to provide bus lanes and accommodate improved street-level crossings and smoother traffic flows. In addition, elements such as underground sewer and water line relocations and replacements in some locations are needed to accommodate bus lanes, stations, and bus bulbs.
- **Related improvements:** Includes new street lights; roadway base and surface repair for mixed-flow travel lanes; traffic signal modifications for pedestrian crossing enhancements; traffic signal underground communications; pedestrian crossing bulbs; new landscaping on existing medians; sidewalk and streetscape improvements; a street re-design between Masonic and Presidio Avenues to accommodate bike lanes; and a street re-design between Gough and Scott streets to accommodate a road diet to remove mixed-flow travel lanes.

Table 9-1 presents capital costs for the four build alternatives in Year of Expenditure (YOE) dollars. The table shows costs of BRT elements and related improvements, all of which are described in detail in Chapter 2 (Descriptions of Project Alternatives). The total capital cost for all build alternatives ranges from $170 million to $435 million. The Hybrid Alternative/LPA is estimated to cost $300 million. Although six minor modifications were incorporated in this alternative between the Draft EIS/EIR and Final EIS (see Final EIS Chapter 2, Section 2.2.7.2), the overall cost estimate has not changed. Of the project modifications, the retention of the pedestrian overcrossing at Webster Street and the elimination of BRT stops at Spruce Street would together reduce the cost of the Hybrid Alternative/LPA by approximately $4 million. However, the retention of the Laguna Street BRT stop together with additional pedestrian crossing bulbs and other safety improvements added to the Hybrid Alternative/LPA would add a roughly equivalent cost. Therefore, on balance the changes to the Hybrid Alternative/LPA do not affect the total cost estimate of $300 million.

Table 9-1 Capital Cost Estimates for Build Alternatives

BUILD ALTERNATIVE	DESCRIPTION	CAPITAL COST OF BRT ELEMENTS AND RELATED IMPROVEMENTS (YOE IN MILLION $)
Alternative 2	Side-Lane BRT	$170
Alternative 3	Center-Lane BRT with Dual Medians and Passing Lanes	$430
Alternative 3-Consolidated	Center-Lane BRT with Dual Medians and Consolidated Bus Service	$435
Hybrid Alternative/ (LPA)	34th Avenue to Palm Avenue – Center-Lane BRT with Consolidated Service East of Palm Avenue – Side-Lane BRT	$300

Source: SFCTA & SFMTA, 2015

9.1.1 | FTA Small-Starts-Funded Project Elements

For federal funding purposes, the project cost estimate has been developed with separate costs for each scope element and corridor segment. As noted in Section 9.1.4 and 9.1.5 below, the project would draw upon multiple sources to fund its capital cost, a plan requiring it to be separated into packages of scope elements as appropriate to maximize eligibility and competitiveness for each funding source.

For Alternative 2 and the Hybrid Alternative/LPA, the cost of the BRT scope elements is less than $300 million, making those alternatives eligible to compete for funds within the FTA Small Starts competitive transit project funding program. The estimated cost of the Hybrid Alternative/LPA is $300 million (of which $100 million will be sought from the FTA Small Starts program).

Other federal sources and local sources have been budgeted or planned as noted in Section 9.1.4 below. Local source funding includes anticipation of cost-sharing with other City efforts, such as for re-surfacing and utility replacements, which SFMTA will pursue.

As described in Chapter 2, the Hybrid Alternative/LPA was divided into two primary construction phases. Phase I would entail work east of Stanyan Street where BRT would operate in side-running bus-only lanes. Phase II would include work west of Stanyan Street, where BRT operations would be in predominantly center-running bus-only lanes.[2] Section 4.15 contains a detailed description of project phasing. Table 9-2 below describes the further separation of the Hybrid Alternative/LPA into three funding packages.

[2]Proposed bicycle improvements on Geary between Masonic and Presidio Avenues (construction of Class I bicycle lanes in both directions on this block) would be the one exception to the geographic limits separating the Phase I and Phase II limits. These would be implemented together with the Phase II improvements west of Stanyan Street.

- Package A would consist of Phase I near-term improvements, similar to those initially outlined in Draft EIS/EIR Section 2.3. Packages B and C would comprise Phase II.
- Package B would serve as the project definition for application to the FTA Small Starts program.
- Package C would represent other concurrent improvements to be implemented in the corridor that would use other funding, including local sources and potentially other federal sources aside from the FTA Small Starts program.

The packages are delineated for the sole purpose of providing further detail on specific construction activities, however, it is anticipated that the sum of both packages would entail the total capital costs for the Small Starts application.

Table 9-2 Proposed Geary Corridor Funding Packages – Hybrid Alternative/LPA

PROJECT FUNDING PACKAGE	IMPROVEMENTS INCLUDED	COST ESTIMATE (YEAR OF EXPENDITURE $) AND POTENTIAL FUNDING SOURCES
Phase I		
A. Near-term improvements (initiate construction in 2018)	• Red bus-only lane, Gough to Stanyan, where feasible[1] • Bus stop changes • Bus and pedestrian bulb-outs • Traffic signal upgrades • Right-turn pockets • Fillmore-area road diet (lane reduction), pedestrian bridge removal, median improvements, and signals • Upgraded station amenities and real-time passenger information • Mixed-flow lane re-surfacing, Market to Stanyan, as needed • Utility relocation related to BRT • Utility upgrades coordinated with BRT (separate environmental clearance)[2]	$65M Local, State, and non-Small Start federal funds, including: Transportation Performance Initiative General Obligation and Revenue Bonds Prop AA Vehicle Registration Fee One Bay Area Grant Prop K Sales Tax General Fund SF PUC Contribution
Phase II		
B. Geary Bus Rapid Transit project (initiate construction as early as 2018)	• Center-running, red bus-only lane, Stanyan to 27th Ave with high-amenity stations • Bus and pedestrian bulbs, stops, and signals (additional locations) • Vehicles for increased service • Utility relocation related to BRT[2]	$200M FTA Small Starts ($100M) with matching local and non-Small-Starts federal funds

PROJECT FUNDING PACKAGE	IMPROVEMENTS INCLUDED	COST ESTIMATE (YEAR OF EXPENDITURE $) AND POTENTIAL FUNDING SOURCES
C. Other Concurrent Improvements (initiate construction as early as 2018)	• Red bus-only lane and stop modifications, 27th to 48th Ave • Masonic-area bike lane and median modifications • Mixed-flow lane re-surfacing, remainder of corridor, as needed • Pedestrian bulbs (additional safety-related locations) west of Stanyan	$35M Local and non-Small-Starts federal funds

Notes:

1. Some blocks around Fillmore and Masonic may have insufficient width to designate a transit-only lane unless additional street infrastructure changes were to be made.
2. Additional utility work not related to the Geary Corridor project may be coordinated with the project to minimize public disruption and maximize efficiency.

9.1.2 | Projects to be Coordinated with the Proposed Project

As noted in Section 2.2.2, the No Build Alternative identifies several proposed improvements to the Geary corridor. These related projects would be constructed in coordination with the Hybrid Alternative/LPA. These related projects may share some of the costs identified in the proposed project's cost estimate but will have funding plans of their own, and include the following:

Transit Signal Priority (TSP). As assumed as part of the No Build Alternative (see Section 2.2.2.1), SFMTA installed wireless next-generation TSP at signalized intersections along the Geary corridor. TSP technology allows buses to spend less time stopped at red lights. Buses are equipped with TSP transponders, which send signals to traffic lights to either extend the green light to allow approaching buses to pass through or trigger a change from red to green when it would not unduly affect crossing traffic.

In comparison, all build alternatives include the installation of fiber-based TSP on all signalized intersections between 25th Avenue and Gough Street. This type of TSP technology differs from the existing wireless TSP in that it requires placement of cables in underground trenches along the corridor. Wireless and fiber-based TSP have similar operational benefits; fiber-based TSP is considered more durable and to have a longer useful life.

New, low-floor buses. SFMTA is in the process of replacing its entire fleet of 124 60-foot, articulated, diesel motorcoach buses with low-floor, diesel hybrid buses with three doors on the right-hand side of the vehicles, including all vehicles currently operating in the Geary corridor. These buses do not have steps as older traditional buses do. Low-floor buses thus improve accessibility for all riders and also reduce time boarding and alighting. SFMTA has planned to increase the number of vehicles serving Geary in the future. The replacement of the existing bus fleet is funded by sources including federal FTA Section 5307/09 formula funds and local

Proposition K funds. The Geary BRT project's build alternatives all propose increases in service beyond the levels that SFMTA has planned for without the Geary BRT project. The build alternatives, therefore, would supply an additional increment of vehicles above and beyond that required for the No Build Alternative as each build alternative would result in improved transit infrastructure on the Geary corridor that would make the use of more buses effective in improving transit service. See Section 2.7.1 for more information on this issue.

Enhanced station communications. The proposed project includes a baseline level of passenger communications to be installed at the project's bus stops, such as real-time arrival displays, as described in Chapter 2. Additional communications infrastructure above and beyond that baseline level may be installed in conjunction with the proposed project if SFMTA determines appropriate. This enhanced communications infrastructure would be funded separately from the proposed project.

Sewer replacement/rehabilitation. The sewer infrastructure underneath the Geary corridor, particularly in the western portion, is aging and due for replacement or rehabilitation in future years. Although the San Francisco Public Utilities Commission (SFPUC), which owns and operates the sewer system, has not formally planned to replace the aging sewers, the agency may move forward with sewer replacements or rehabilitation in conjunction with the proposed project.

This work would be distinct from sewer rehabilitation/replacement work directly triggered by specific physical improvements of the proposed project. Such work would represent a potential cost-sharing opportunity. In addition, if a sewer project outside the area affected by proposed project moves forward, it is anticipated to be funded by local sources.

Water supply line replacement. The water supply infrastructure underneath the Geary corridor is due for replacement in future years. SFPUC, which owns and operates the water supply system, is planning to replace water lines. See Section 4.6 for a more detailed description of this project.

California Pacific Medical Center. As of 2017, construction of this new facility at Geary Street and Van Ness Avenue is underway. Plans call for the relocation of an existing (westbound) bus bulb at Polk Street and Geary Street to the west side of Geary Street, to be immediately alongside the new medical facility.

Central Subway. The Central Subway Project, led by SFMTA, is the second phase of San Francisco's Third Street Light Rail Project. The project consists of a 1-mile extension of the Muni Metro T-Third line from the Caltrain Station to Chinatown. The portion of the alignment between Bryant Street and Chinatown would be in a new subway. Project construction began in 2010 and is expected to be completed in 2018; the Central Subway is scheduled to open to customers in 2019. This project will provide pedestrian bulbs on Geary Street at Stockton Street.

Transit Center District Plan. The San Francisco Planning Department developed this plan in 2012 with the Transbay Joint Powers Authority and the former SF Redevelopment Agency to develop San Francisco's downtown neighborhood with residential, office, and retail uses. The plan includes mechanisms to direct any increased development value to help pay for the construction of the Transbay Transit Center and other public improvements (e.g., affordable housing, public facilities, and circulation improvements). The plan builds on San Francisco's 1985 *Downtown Plan* that envisioned the area around the Transbay Transit Center as the heart of the new, more intensively developed downtown. This project will provide bus-only lanes and bus stop improvements on First Street, Mission Street, Fremont Street, and Beale Street to serve the eastern terminal for Geary BRT service, connecting to prospective Geary BRT project improvements that would begin at Market Street and continue west.

Pavement maintenance, rehabilitation, and/or resurfacing projects (selected locations). Previously planned/programmed repair, replacement, maintenance, or other modifications to the road surface, curbs, or utilities along the Geary corridor. SFPW will give priority to locations where pavement condition is below the agency threshold.

City-wide curb ramp retrofit program. These pavement depressions facilitate access by people who use wheelchairs while also facilitating movement for people toting strollers, carts, luggage, and the like. By 2020, SFPW will install curb ramps at some intersections along the Geary corridor that do not meet current City standards and/or requirements of the federal Americans with Disabilities Act. SFPW will give priority to locations with high populations of mobility-challenged pedestrians.

Better Market Street. This project proposes to build improvements on Market Street to improve mobility in the study area through reliable and efficient transit service and improved conditions for pedestrians and bicyclists. The project is currently undergoing environmental review, which is anticipated to be completed in 2019, with the design phase and the announcement of contract bids to follow. Construction is anticipated to begin in 2020.

9.1.3 | Funding – Phase I

Budgeted/planned funding sources for Phase I are described below and summarized in Table 9-3, along with other potential funding sources. Funding sources for Phase II are described in Section 9.1.5.

9.1.3.1 BUDGETED/PLANNED FUNDING: FEDERAL/STATE

- **Transit Performance Initiative (TPI) Investment Program ($9.6 million).** In May 2012, the Metropolitan Transportation Commission (MTC) adopted the TPI Investment Program, which functions as a competitive capital program focused on incremental investments to improve performance on major transit corridors. Projects funded via this program are expected to be implemented or under construction within 18 months of funding approval. In

January 2017, MTC approved $5.6 in Round 3 funding (federal Surface Transportation Program (STP)/Congestion Mitigation and Air Quality Improvement (CMAQ) Program funding), as well as $4 million transfer from Round 2 funding, to Geary BRT Phase I.

- **One Bay Area Grant (OBAG) Program - Federal STP/CMAQ Funds ($6.9 million).** Projects funded through this program are selected by SFCTA for federal funding (STP/CMAQ) passed through MTC, and are meant to support focused and advance the region's greenhouse gas emissions reductions goals. $6.9 million of OBAG Cycle 2 funds have been programmed to Geary BRT Phase I.

9.1.3.2 BUDGETED/PLANNED FUNDING: LOCAL

- **Proposition K Sales Tax ($3.4 million).** In November 2003, San Francisco voters approved Proposition K (Prop K), extending the existing half-cent local sales tax for transportation and approving a new 30-year Expenditure Plan identifying projects and programs to be funded by the sales tax, including BRT on Geary. The Prop K Strategic Plan (2014) prioritized funding for BRT on Geary within the BRT/Transit Preferential Streets/MUNI Metro Network and Transit Enhancements categories. To date, the SFCTA Board has allocated almost $2 million in Prop K funds for the detailed design phase of Geary BRT Phase I. Going forward, an additional $1.4 million of Prop K funding for Phase I is anticipated.
- **Local General Obligation Bonds and SFMTA Revenue Bonds ($14 million).** San Francisco voters approved a General Obligation bond measure for transportation in November 2014, with a program emphasis on improving transit and safe streets. In addition, SFMTA Revenue Bonds can fill in funding gaps where other funding sources have traditionally not been available and provides funding for state of good repair projects and capital improvement programs such as Muni Transit Safety and Spot Improvements, Transit Fixed Guideway Improvements, Pedestrian Safety and Traffic Signal Improvements and Muni Light Rail Vehicle Procurement. San Francisco voters had earlier authorized SFMTA to issue revenue bonds with the 2007 passage of Proposition A. The first such revenue bonds for new projects and financing existing debt were issued in 2012. SFMTA has allocated $1.6 million and programmed approximately $12.5 million of these local sources for Geary BRT Phase I in its Capital Improvement Program.
- **Proposition AA Vehicle Registration Fee ($2.4 million).** In November 2010, San Francisco voters approved a $10 increase in vehicle registration fees, with revenues dedicated to transportation improvements identified in the 30-year Expenditure Plan. Under this source, elements of the project would be eligible for funds under all three Expenditure Plan categories: (1) street repair and reconstruction; (2) pedestrian safety; and (3) transit reliability and mobility improvements. Proposition AA (Prop AA) generates approximately $5 million annually and is administered by SFCTA.

Funds are programmed for projects through the Prop AA Strategic Plan and 5-Year Prioritization Programs. $2.4 million in Prop AA funds will be available in the Street Repair and Reconstruction category in Fiscal Year 2017/18.

- **General Fund ($2.3 million).** San Francisco has budgeted $2.3 million in General Funds for the paving and related improvements of the Geary BRT Phase I.
- **SFPUC ($26 million).** SFPUC is planning on contributing $26 million for the sewer and water infrastructure as described in Section 9.1.3. This work is not related to BRT improvements, but is to be coordinated with BRT to minimize construction disruption.

Table 9-3 Budgeted/Planned Funding Sources for Geary BRT Phase I

PROPOSED FUNDING SOURCE	PROPOSED (UP TO) AMOUNT ($M)	PROPOSED YEAR AVAILABLE
FEDERAL/STATE FUNDS		
Transit Performance Initiative-Investment	$9.6	FY 2017-2020
One Bay Area Grant	$6.9	FY 2017-2020
LOCAL FUNDS		
Prop K Transportation Sales Tax	$3.4	FY 2011-2020
Local General Obligation Bond & SFMTA Revenue Bond	$14	FY 2015-2020
Prop AA Vehicle Registration Fee	$2.4	FY 2017-2020
General Fund	$2.3	FY 2017-2020
SF PUC Contribution	$26.0	FY 2015-2020
TOTAL	**$65 M** [1]	

[1] Amount is rounded.

9.1.4 | Funding – Phase II

As the project advances through the next steps of development and approvals, SFCTA and SFMTA staff will continue to identify possible sources of funding. In addition to the budgeted/planned funding as described in Sections 9.1.4.1 and 9.1.4.2, the agencies will explore tapping multiple fund sources, as shown in Sections 9.1.4.3 through 9.1.4.5 and Table 9-4 below.

9.1.4.1 BUDGETED/PLANNED FUNDING: FEDERAL

FTA Small Starts ($100 million). This program provides competitive grants for new transit projects with capital costs that do not exceed $300 million. Since the Draft EIS/EIR, the lead agency has increased the maximum grant amount from $75 to $100 million, and the maximum project capital cost from $250 to $300 million. SFCTA and SFMTA intend to apply for the maximum grant amount, $100 million, with plans to enter the program in Fiscal Year 2018/19. The funding

would be applied to the BRT component of Phase II (shown as Packages B and C in Table 9-2).

9.1.4.2 BUDGETED/PLANNED FUNDING: LOCAL

- **Proposition K Sales Tax ($47.5 million).** In addition to $3.4 million assigned to Geary BRT Phase I, the SFCTA Board has allocated $15.8 million in Prop K funds for various phases of Phase II. Going forward, an additional $31.7 million is programmed for Phase II, summing up to a total of $47.5 million in Prop K funding for Phase II.
- **Proposition AA Vehicle Registration Fee ($2.1 million).** In addition to $2.4 million assigned to Geary BRT Phase 1, the SFCTA Board has programmed an additional $2.1 million in Prop AA funds for Phase II.

9.1.4.3 POTENTIAL FUNDING: FEDERAL

TPI Investment Program ($5 million). As noted in Section 9.1.4.1, MTC's TPI Investment Program functions as a competitive capital program focused on incremental investments to improve performance on major transit corridors. The project would be competitive for funding under this program, as demonstrated by the $9.6 million award for Phase I. Based on the funding availability and previously awarded projects, Geary BRT Phase II could receive $5 million.

- **OBAG Program - Federal STP/CMAQ Funds ($3.1 million).** In addition to $6.9 million programmed to Phase I, elements of the proposed project, including the Small Starts BRT package (see Table 9-4) would seek to secure up to $3.1 million in OBAG funds.
- **Lifeline Transportation Program (LTP) ($5 million).** Similar to OBAG, LTP is comprised of state and federal funds programmed by MTC cop, but San Francisco projects are selected by SFCTA and SFMTA. The LTP supports projects that improve transportation choices for low-income or otherwise disadvantaged communities or closes barriers to mobility. As the Geary corridor traverses identified Communities of Concern (Tenderloin/Civic Center, Western Addition, and Inner Richmond; see Figures 4.14-1 and 4.14-2), components of the proposed project could potentially compete well in future LTP cycles. While the amount of LTP funding varies from cycle to cycle, with each cycle lasting approximately 3 years, in 2013 SFCTA programmed a little over $5 million and SFMTA programmed over $17 million to eligible projects. Based on previous cycles, the project could compete for $5 million in the 2017 call.

9.1.4.4 STATE

- **Transit and Intercity Rail Capital Program (TIRCP) ($20 million).** The state's cap-and-trade program includes 10 percent of continuously appropriated funds for the TIRCP. SFMTA received $86 million in the first two rounds of programming. In August 2016, the Legislature approved Assembly Bill 1613, which, among other

things, appropriated $135 million from prior auction process to TIRCP. TIRCP will fund direct investments in transit programs that reduce greenhouse gas emissions and benefit disadvantaged communities. The proposed project would be eligible to seek funds from this program. MTC has adopted a regional framework for the TIRCP, and includes funds for SFMTA core capacity and BRT projects generally, potentially also including the Geary BRT Project.

9.1.4.4.1 LOCAL

- **New Local and Regional Revenue Measures ($30 million).** The City and County of San Francisco and MTC are committed to identifying new revenues to fund transportation, including a new local revenue measure (Regional Measure 3) and an additional bridge toll on state-owned bridges in the Bay Area. If one or more measures pass in 2018, it could raise funds in the order of $100-plus million annually for transportation, which could be distributed among various projects, potentially up to $30 million for Geary BRT Phase II.
- **Cost-Sharing Opportunities ($11 million).** As described in Section 9.1.2, a number of concurrent improvements are planned to be coordinated with the BRT components to minimize public disruption and maximize efficiency and benefits, e.g., utility improvements and street resurfacing. SFCTA and SFMTA will continue to pursue cost-sharing opportunities with lead agencies for those improvements, e.g., SFPUC and San Francisco Public Works.
- **Other Developer Contributions ($10 million).** The SFMTA works with real estate developers to fund transportation improvements that mitigate the impacts caused by new development through development agreements or other arrangements, which are separate and on top of Transportation Sustainability Fee (TSF) funds. It is possible that the project could receive up to $10 million in funds from developer contributions.
- **TSF ($5 million)**. In 2015, San Francisco approved the TSF as part of a program that aims to take a comprehensive approach to new development's role in supporting the transportation system. The TSF replaces the Transit Impact Development Fee and helps to offset the impacts of new development on the transportation system. The TSF is anticipated to fund a $1.2 billion expenditure program over 30 years. The amount and timing of these funds are dependent on the pace of development in San Francisco, but revenues are anticipated to be collected beginning in Fiscal Year 2016/17 with approximately $5 million that could be used for the project.

SFCTA and SFMTA staff will continue to advocate for future regional, state, and federal revenue sources for the project, including new state and regional revenues such as from an additional Bay Area bridge toll, which is contemplated in the 2017 Regional Transportation Plan, *Plan Bay Area 2040*, adopted by MTC in July 2017.

Table 9-4 Planned and Potential Geary Funding Sources for BRT Phase II

PROPOSED FUNDING SOURCE	PROPOSED (UP TO) AMOUNT ($M)	PROPOSED YEAR AVAILABLE
FEDERAL FUNDS		
FTA Small Starts	$100	FY 2018
TPI – Investment	$5	FY 2018-2027
OBAG Program (Federal STP/CMAQ Program funds)	$3.1	FY 2018-2027
Lifeline Transportation Program	$5	FY 2019
STATE FUNDS		
Cap and Trade	$20	FY 2017-2020
LOCAL FUNDS		
Prop K Sales Tax	$47.5	FY 2011-2020
Prop AA	$2.1	FY 2017-2020
New Local Revenue Measure	$30	FY 2018-2020
Cost sharing opportunities (e.g., Public Utilities Commission, San Francisco Public Works, others for utilities, paving, etc.)	$11	FY 2018-2020
Other Developer Contributions	$10	FY 2018-2020
TSF	$5	FY 2015-2020
TOTAL	**$239M [1]**	

[1] The potential funding amounts add up to more than the Phase 2 project cost ($235 million).

9.2 Operations and Maintenance Costs

This section summarizes the expected operations and maintenance costs associated with each of the build alternatives. Funding for operations and maintenance of the proposed project would come from existing revenue sources for SFMTA, which include fare and parking revenues, operating grants (e.g., State Transit Assistance), traffic fees, and fines. Changes that have been incorporated into the Hybrid Alternative since the Draft EIS/EIR would not increase the proposed amount of transit service or materials that require maintenance, such as landscaping or other infrastructure, so the operations and maintenance costs have not changed.

9.2.1 | Operating Costs

Table 9-5 illustrates the annual costs for SFMTA to run vehicles and provide revenue service for the No Build and the build alternatives. These estimates include the annualized vehicle operating costs and roadway maintenance costs. The operational cost of Alternative 2 and the Hybrid Alternative/LPA are the highest; approximately 33 percent higher than the No Build Alternative. Alternatives 3 and 3-Consolidated are approximately 26 percent and 20 percent higher than the No Build Alternative, respectively.

Each build alternative would provide increased transit service (relative to No Build Alternative) in anticipation of higher demand resulting from improved transit performance.

It should be noted that these service plans and resulting operating costs are intended for analysis and comparison purposes only. Ultimately, SFMTA will make service decisions based on the analysis of empirical ridership data and other available resources. Therefore, actual service plans may vary.

Table 9-5 Annual Operating and Maintenance Costs for Proposed Service

COST TYPE	NO BUILD ALTERNATIVE	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 3-CONSOLIDATED	HYBRID ALTERNATIVE/ LPA
Annualized Revenue Hour Vehicle Operating Cost*	$36,471,000	$48,409,000	$45,586,000	$43,322,000	$48,340,000
% Change From No Build Alternative	--	+33%	+25%	+19%	+33%
Other Incremental Annualized Operating and Maintenance Costs**	$251,000	$1,091,000	$596,000	$596,000	$858,000
% Change From No Build Alternative	--	+335%	+137%	+137%	+242%
Total Cost	$36,722,000	$49,500,000	$46,182,000	$43,918,000	$49,198,000
Total % Change From No Build Alternative	--	+35%	+26%	+20%	+34%

Note: Operating and vehicle maintenance costs based on National Transit Database (NTD); other roadway maintenance accounts for paving, pothole, red lane, and landscape costs.

* Vehicle cost type includes costs for operating the service and maintaining the vehicles.

** Other cost type includes busway surface maintenance and landscaping maintenance.

Source: SFMTA, 2015

9.2.2 | Maintenance Costs

Table 9-5 also shows the maintenance cost of the street infrastructure improvements. Each of the build alternatives would result in greater maintenance costs than the No Build Alternative. Increased maintenance costs include any needed repairs to potholes and patches to any center-running bus-only lanes, maintenance of thermoplastic material in side-running bus-only lanes, and additional landscaping and tree maintenance costs for new medians. Alternative 2 and the Hybrid Alternative/LPA would have higher maintenance costs than Alternatives 3 and 3-Consolidated due to the additional costs associated with maintaining the red lanes in the side-running segments.

In summary, the total estimated annual operations and maintenance cost for the No Build Alternative would be approximately $36.7 million. As shown in Table 9-5, annualized operations and maintenance cost estimates range from $43.9 million for Alternative 3-Consolidated (20 percent higher than the No Build Alternative), to $49.5 million for Alternative 2 (35 percent higher than the No Build Alternative). For the Hybrid Alternative/LPA,

annualized operations and maintenance would cost $49.2 million, approximately 34 percent higher than the No Build Alternative.

9.3 Coordination with Metropolitan Transportation Commission and *Plan Bay Area* Consistency

MTC serves as the transportation planning, coordinating, and financing agency for the nine-county San Francisco Bay Area. MTC functions as both a regional transportation planning agency for California, and for federal purposes, as the region's metropolitan planning organization. As such, it is responsible for regularly updating the Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS), which adopts a land use vision and a transportation investment and growth strategy for the Bay Area. The most recent RTP/SCS, *Plan Bay Area 2040*, was adopted in 2017 and specifies how $303 billion in anticipated federal, state, and local transportation funds will be spent in the Bay Area over the next 24 years. Improvements to local and express bus services are included as a major project in *Plan Bay Area 2040*, including BRT service on the Geary corridor. The *Plan Bay Area 2040* Investment Strategy Report includes the Geary Corridor BRT Project at $300 million as a high-performing project in the financially constrained plan.

MTC approved in September 2016 the 2017 TIP, the comprehensive four-year regional spending plan, and updated it to conform to *Plan Bay Area 2040* in July 2017; the Federal Highway Administration (FHWA) and FTA determined the TIP to conform to the SIP on August 23, 2017.

9.4 Risk Analysis

A risk analysis accounts for potential issues that could increase the total project costs and delivery schedule. Risks affecting costs include those that may result from unforeseen necessary changes to the project scope, as well as those that may result from schedule delays. For the delivery schedule, risks could impact the remainder of the project development process and also the construction process. The types of risks identified for the proposed project are as follows:

- **Project cost risks.** While the project's level of design detail and uncertainty is appropriate for a project at this stage of development, project changes may occur during the detailed engineering design phase that may increase the project's capital cost, including:
    - Selection of transit lane paving materials.
    - Extent of necessary underground utility modifications for the project's median bus lane, bus bulb, and pedestrian bulb features.

  - Extent of necessary street and sidewalk repair.
  - Bus and pedestrian bulb design assumptions relating to SFPW standards and policies, including those related to paving materials and necessary underground utility relocations.
  - Extent of necessary work between Presidio Avenue and Masonic Avenue above the Masonic tunnel, including remedial median and pavement work, potential changes to bus stop design relating to the Masonic plaza, and relocation of overhead contact system wires for the 43 Masonic bus line.
  - Availability of power connections for side-running bus stops.
  - Cooperation from property owners on driveway locations in the Divisadero area.
  - Types and extent of required temporary facilities and services during construction.

- **Project development schedule risks.** These risks may affect the schedule for completing the detailed engineering design phase of the project, including:
  - Regulatory process and requirements relating to the potential need to relocate historic Golden Triangle or Japantown street lights.
  - Potential discovery of contaminated soils or groundwater.
  - Coordination with related underground utility and street repair work in the Geary corridor.
- **Construction schedule risk.** The project's construction plan bases construction duration on assumptions reasonable for this stage of project development, but issues still pose the potential to add delays, including those discussed above as cost risks, and the following:
  - Attainment of remaining agency approvals for certain construction items.
  - Necessary major construction activities for utilities
  - Community acceptance of disruption to parking, streets, and transit service, especially during certain night-time hours and holidays.
  - Discovery of buried cultural resources.
  - Avoidance of construction activities during migratory bird season.

- Changes to construction methods necessary to avoid properties identified as sensitive to strong vibrations.
- For Alternatives 3 and 3-Consolidated, Fillmore underpass fill material availability when needed.

9.5 Financial Analysis Conclusions

In conclusion, the funding plan for the project remains a work in progress, as is normal for a project of this type in the environmental phase, with over $115 million of the needed capital funding already committed and up to $196 million in planned and potential funding sources identified. As the project enters the detailed engineering design phase, SFCTA and SFMTA will seek additional grants from various sources to complete the funding plan. Funding for operations and maintenance of the project would come from existing revenue sources for SFMTA, which include fare and parking revenues, operating grants (e.g., State Transit Assistance), traffic fees, and fines.