

TIP OVERVIEW

What is the TIP and what projects are included?

The Transportation Improvement Program (TIP) is a list of surface transportation projects, programs and investment priorities in the nine-county San Francisco Bay Area over a four year period. As the federally-designated Metropolitan Planning Organization (MPO) for the nine-county San Francisco Bay Area, Metropolitan Transportation Commission (MTC) is required by the California Department of Transportation (Caltrans) to prepare and adopt a regional TIP at least once every two years, concurrently with all other MPOs in the state.

The TIP can be found online at: www.mtc.ca.gov/our-work/fund-invest/transportation-improvement-program

Projects Included in the TIP

The TIP includes all surface transportation projects that are federally funded, require a federal action, or are considered regionally significant for air quality conformity purposes. The majority of projects in the TIP are federally-funded, although some local or state-funded projects may also be included, particularly those that are large in scale or impact travel patterns over a relatively large geographic area, such as a new lane on a state highway. Given its federal focus, many locally or state-funded projects are not included in the TIP, such as roadway maintenance projects, transit operations, planning efforts, and minor sidewalk or intersection improvements.

Role of the TIP

The TIP represents the projects that Bay Area jurisdictions, transit agencies, and other public entities intend to construct or implement in the near-term. Each project in the TIP must include details on project location and scope, as well as a comprehensive accounting of the amount and sources of funds that have been expended, are committed, or estimated to be reasonably available for the project.

The TIP also serves as an implementation tool of the long-range transportation plan. A project cannot receive federal funds or other federal project-related approvals unless the project is included in the TIP. As a result, inclusion in the TIP is a critical factor of any major project, if using federal funds or otherwise requiring federal actions.

Federal Requirements for the TIP

- Cover a period of at least 4 years.
- Updated at least once every 4 years (Caltrans requires an update every 2 years).
- Include all transportation projects with federal funds, requiring federal action, or regionally significant for air quality conformity purposes.
- Projects must be consistent with the region's long-range transportation plan.
- Financially constrained by year (funds committed to projects cannot exceed the funds estimated to be reasonably available).
- Financial plan that demonstrates that programmed projects can be implemented within the time contemplated.
- Make progress toward achieving federal performance targets.
- Accompanied by an evaluation and finding of air quality conformity.
- Provide public involvement and opportunity to comment prior to TIP approval.

TRANSPORTATION PLANNING AND PROGRAMMING

Where does the TIP
fit in the planning process?

As the near-term listing of federal projects and programs that stem from the long-range transportation plan, all projects included (also referred to as “programmed”, or “committed”) in the TIP must be consistent with, and work to implement the vision of the regional plan.

Plan Bay Area 2040

Plan Bay Area 2040 is the comprehensive regional plan for the nine-county Bay Area, coordinating both land use and transportation investments from 2017 through 2040. The plan is a federal requirement for all metropolitan areas, and also serves as the state-mandated Regional Transportation Plan (RTP) and Sustainable Community Strategy (SCS) for the Bay Area.

The current plan is available online at: <http://2040.planbayarea.org/>. Hard copies of the plan can also be viewed at MTC’s offices at 375 Beale St., San Francisco.

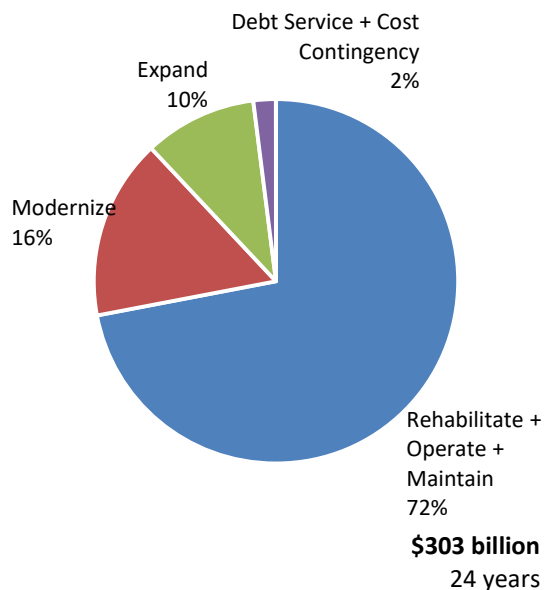
TIP in Context

Although the TIP and long-range transportation plan are related, there is an important distinction that complicates any side-by-side comparison between the two documents. While Plan Bay Area includes the universe of federal, state, regional and local revenues reasonably available to implement the transportation projects, program, and strategies over the 24 years of the plan, the TIP is much more focused on the near-term projects with federal funding. As a result, the TIP tends to be heavily weighted toward large capital projects, such as transit and highway expansions, that are more likely to require federal funds. The vast majority of funds that go to operate, maintain, and manage the region’s existing transportation system, a top priority of Plan Bay Area, are not typically captured in the TIP. An illustration of this distinction is provided on the following page.

Plan and TIP Investments by Mode/Type

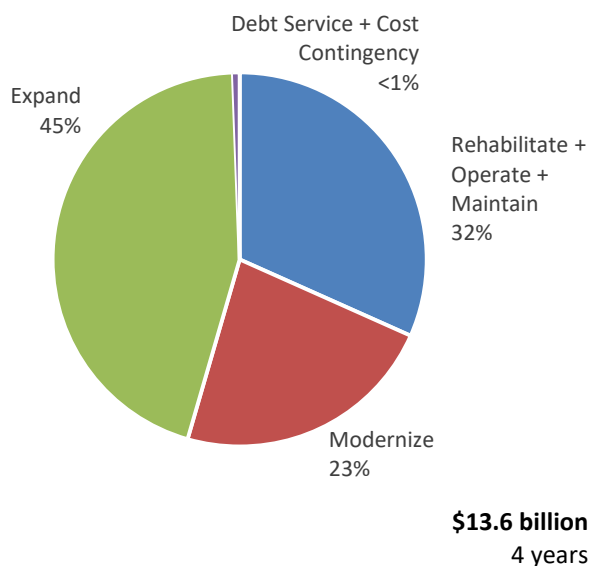
Plan Bay Area 2040 Investments

Expenditures by Investment Strategy



2019 TIP Investments

Expenditures by Investment Strategy



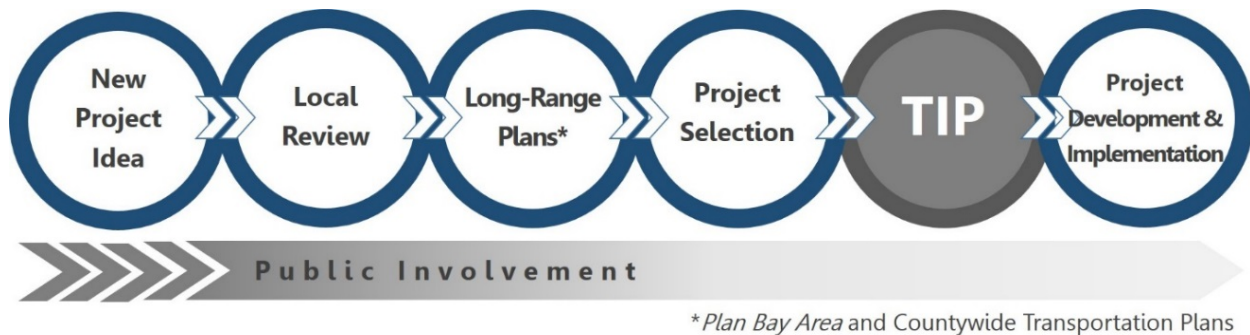
Projects from Idea to Implementation

Before projects are ever identified in the long-range plan or the TIP they have gone through several iterations of review and refinement. Ideas for projects first emerge through planning efforts at the jurisdictional, transit operator, and regional levels. Some of the primary sources for projects are the county congestion management programs, countywide transportation plans, transit operator short-range transit plans or similar transit capital and service planning efforts, and the state highway planning process conducted by Caltrans. These local and sub-regional planning efforts are then merged at a regional level through the long-range transportation plan.

When the project scope, schedule, and budget are developed, the project may then be proposed for funding. Project sponsors (the agencies designated to implement the projects) are responsible for applying for the funds, initiating requests for TIP programming, and carrying their projects to completion. In the Bay Area, the implementing agencies include public transit operators, Caltrans, MTC, the Bay Area Air Quality Management District, the Congestion Management Agencies (CMAs), the nine Bay Area counties, several joint power authorities, and the individual cities within each county.

Below is an illustration of how the TIP fits into the overall planning and programming process, from the time a transportation project is first conceived to its ultimate construction or implementation.

Idea to Implementation Flowchart



Congestion Management Process

In addition to preparing a long-range plan, MTC is required under federal regulations to address congestion management for the Bay Area through a process that provides for effective management and operation of new and existing facilities. The Congestion Management Process (CMP) is based on collaboration among transportation partners and stakeholders, specifically focused on congestion management strategies for key corridors. These strategies include public transit, carpool and vanpool programs, transportation demand management, and operational strategies to maximize the use of existing facilities. The current CMP is provided as Appendix A-54.

As part of the TIP development process, project sponsors must identify whether a project is capacity increasing for single occupant vehicles (SOVs). The project sponsor and CMAAs review these projects and confirm that they are consistent with all regional and local plans and processes. Appendix A-58 identifies the projects included in 2019 TIP that have been identified as capacity increasing for SOVs.

Air Quality Conformity

The TIP and long-range plan must also demonstrate transportation conformity. Transportation conformity is required under the Clean Air Act (Section 176(c) and 42 U.S.C. 7506(c)) to ensure that federally funded or approved highway and transit activities are consistent with, or conform to, the purpose of the state air quality implementation plan (SIP). Conformity to the purpose of the SIP means that transportation activities will not cause or contribute to new air quality violations, worsen existing violations, or delay timely attainment of the relevant national ambient air quality standards (NAAQS) or any interim milestones. The Environmental Protection Agency (EPA) transportation conformity rule (40 CFR Parts 51 and 93) establishes the criteria and procedures for determining whether metropolitan transportation plans, TIPs, and federally supported highway and transit projects conform to the purpose of the SIP. Transportation conformity applies to designated nonattainment and maintenance areas for transportation-related criteria pollutants: ozone, PM_{2.5}, PM₁₀, carbon monoxide and nitrogen dioxide.

Using the latest planning assumptions, MTC conducted a new air quality conformity analysis for the 2019 TIP. The conformity determination was made under the motor vehicles emissions

budget contained in the 2001 1-Hour Ozone Attainment Plan for the ozone precursors. Conformity for the 2006 24-hour PM2.5 standard was demonstrated by conducting an interim conformity test. The Transportation Control Measures (TCMs) A through E in the approved 2001 Ozone Attainment Plan have been fully implemented. All information on the timely implementation of TCMs in the Conformity Report is still current. A copy of the analysis is included as Appendix A-5, and is available online at <http://mtc.ca.gov/our-work/fund-invest/transportation-improvement-program> and at MTC's offices at 375 Beale St., San Francisco.

Federal Statewide Transportation Improvement Program

Just as each metropolitan region is required to develop a TIP, each state is required to develop a Federal Statewide Transportation Improvement Program (FSTIP) pursuant to federal regulations. The FSTIP includes all projects with federal funds, those that require a federal action and regionally significant transportation projects throughout the state. In California, regional TIPs are included in the FSTIP without modification once approved by the relevant Metropolitan Planning Organization (MTC, in the case of the Bay Area) and after the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), and Federal Environmental Protection Agency (EPA) make their required findings of financial constraint and air quality conformity. Projects must be in the FSTIP before funding authorities, such as FTA, FHWA, or the California Department of Transportation (Caltrans), can "obligate" funds (i.e., commit funds to contract) and therefore, before sponsors can actually spend any of these monies. Once adopted by MTC, the 2019 TIP will be submitted to Caltrans for incorporation into the FSTIP.

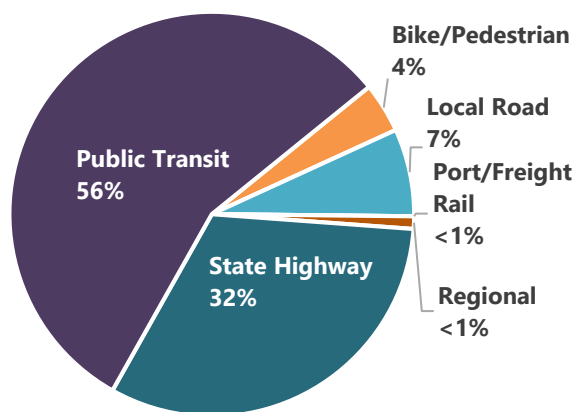
2019 TIP: FEATURES AND HIGHLIGHTS

What investments are included in the 2019 TIP?

The 2019 TIP for the nine-county San Francisco Bay Area includes more than 500 transportation projects¹ with more than \$13.6 billion in committed federal, state, and local funding for federal fiscal years 2018-19 through 2021-22, as well as over 200 projects shown for informational purposes only. The cumulative project cost for these projects, including funds spent in prior years as well as funding planned for future years, totals over \$60.5 billion.

2019 TIP Investments

2019-2022, \$13.6 billion



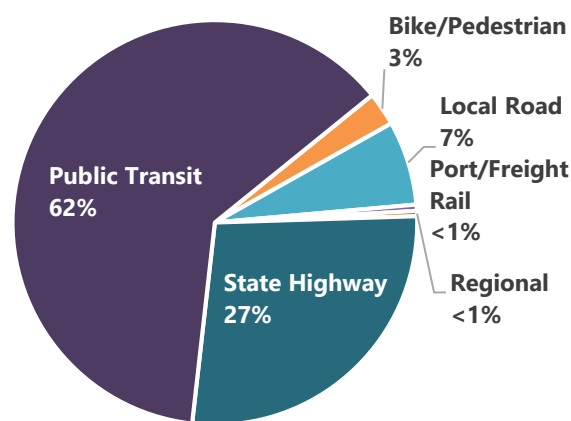
2019 TIP Investments by County

Millions \$, rounded

County	2019-2022 Programmed Investments	Total Project Costs ²
Alameda	\$791	\$5,478
Contra Costa	\$430	\$2,354
Marin	\$340	\$1,748
Napa	\$63	\$228
San Francisco	\$1,375	\$16,179
San Mateo	\$1,424	\$3,949
Santa Clara	\$3,763	\$11,481
Solano	\$97	\$1,409
Sonoma	\$142	\$622
Multi-County	\$5,155	\$17,084
Total	\$13,579	\$60,533

2019 TIP Total Project Costs

All years, \$60.5 billion



¹ In addition to individual project listings, the TIP also includes grouped listings or lump-sum entries for certain program categories, such as state highway maintenance, that summarize project and funding information for several additional projects.

² The 2019 TIP covers four years of committed funding for 2019 through 2022. In addition, the TIP is required to identify the total project cost for each project, including funding spent in years prior to 2019 as well as funding planned for the years after 2022.

New Projects

The majority of projects in the 2019 TIP have been carried over from the previous 2017 TIP. However, a relatively small number of projects were added during the development of the 2019 TIP. The list of projects new to the TIP is available as Appendix A-47.

Archived Projects

Once projects no longer have funding programmed in the TIP, either because they have been completed or because the funds have been directed to another project, they are archived from the TIP. Federal regulations require that the TIP identify the major projects that were implemented from the previous TIP. Appendix A-48 lists all projects that were present in the 2017 TIP that have been archived in revisions to the 2017 TIP or are being archived as part of the 2019 TIP development. This list does not include the projects that are in the 2019 TIP for illustrative purposes (projects with no funding within the four active years of the TIP) or projects that have been deleted (either as a project cancellation or through redirecting the funds to different projects or phases).

After the adoption of the 2019 TIP, and including projects archived as part of the 2019 TIP development process, \$3 billion dollars in federal, state, regional, and local funding was archived on a total of 251 projects. Additional information about the funding for archived projects is provided below.

Funding Breakdown of Archived Projects, by Fund Type

Fund Type	Total Funding (all years)		Funding from 2017 TIP Period (FY 2017 - FY 2020)	
	\$, in millions	%	\$, in millions	%
Federal	\$1,123	35%	\$123	35%
State	\$1,047	32%	\$54	16%
Regional	\$168	5%	\$19	5%
Local	\$908	28%	\$153	44%
Total	\$3,246	100%	\$349	100%

Funding Distribution of Archived Projects, by Travel Mode

Mode	Projects		Total Funding (all years)		Funding from 2017 TIP Period (FY 2017 - FY 2020)	
	#	%	\$, in millions	%	\$, in millions	%
Bike/Pedestrian	83	33%	\$245	8%	\$27	8%
Local Road	63	25%	\$200	6%	\$71	20%
Port/Freight Rail	2	1%	\$107	3%	\$-	0%
Regional	2	1%	\$15	<1%	\$-	0%
State Highway	20	8%	\$1,285	40%	\$91	26%
Public Transit	81	32%	\$1,395	43%	\$160	46%
Total	251	100%	\$3,246	100%	\$349	100%

The largest capital projects, in terms of total project costs, that have been archived are listed in the table below. The full list of archived projects is available as Appendix A-48.

Top 10 Largest Archived Projects (\$ in millions)

Rank	County	Project Sponsor	Project Name	Total Funding (all years)
1	Various	MTC	Freeway Performance Initiative (FPI)	\$255
2	San Francisco	SFMTA	SFMTA: Muni Forward Capital Implementation Program	\$168
3	Various	BART	BART Station Modernization Program	\$166
4	Sonoma	Son Co TA	Son 101 HOV - Redwood Hwy to Rohnert Park Expwy	\$132
5	Alameda	Caltrans	I-880/SR 262 I/C and HOV lanes	\$131
6	San Francisco	SFMTA	Islais Creek Motor Coach Facility Phase I & II	\$121
7	Sonoma	Son Co TA	Son 101 HOV - Steele Lane to Windsor (North)	\$120
8	San Francisco	SFMTA	SFMTA: Trolley Coach Replacement	\$118
9	Alameda	ACTC	I-880 SB HOV Lanes - Marina Blvd to Hegenberger	\$117
10	Alameda	Port of Oakland	Outer Harbor Intermodal Terminals (OHIT)	\$106

Grouped Listings

Federal regulations allow projects that are exempt from air quality conformity analysis (project types listed under 40 CFR 93.126 and 127, Tables 2 & 3) to be grouped together as single project listings in the TIP (23 CFR 450.216 and 450.324). Examples of some of the project types that can be grouped in the TIP include: certain transit programs, pavement resurfacing projects, safety projects, and bridge rehabilitation projects.

The process for adding or revising a grouped (lump sum) listing, the State Managed Grouped Project Listings Process, is developed by the California Federal Programming Group (CFPG), California Department of Transportation (Caltrans), Federal Highway Administration (FHWA) and Federal Transit Administration (FTA). MTC’s grouped listings in the 2019 TIP follow and adhere to the provisions of the State-Managed Grouped Project Listings Process.

The back-up lists for grouped listings in the 2019 TIP are included in Appendix A-49 and can also be accessed on the MTC’s TIP website: www.mtc.ca.gov/our-work/fund-invest/tip/tip-grouped-listings.

ADA projects

Consistent with federal requirements, the 2019 TIP identifies projects implementing the Americans with Disabilities Act (ADA) required paratransit and key station plans. The ADA requires that public transportation services and facilities, including trains and rail stations, be accessible to persons with disabilities. Rail system operators are allowed to designate certain

stations as key stations and to make these readily accessible to and useable by individuals with disabilities, including individuals who use wheelchairs. Most of the projects adopted in the key station plans have been implemented. Appendix A-50 lists some of the ongoing ADA implementation transit projects.

2019 TIP Schedule

The development of the 2019 TIP began in December 2017 and is scheduled for final federal approval in December 2018. The public outreach schedule for the 2019 TIP is as follows:

- | | |
|---------------------|---|
| June 18, 2018: | Beginning of public review period for Draft 2019 TIP and Draft Transportation Air Quality Conformity Analysis of the Amended Plan and 2019 TIP |
| July 11, 2018: | Presentation of the Draft 2019 TIP Draft Transportation Air Quality Conformity Analysis of the Amended Plan and 2019 TIP at the MTC Programming and Allocations Committee meeting |
| July 19, 2018: | End of public review and comment of Draft 2019 TIP and Draft Transportation Air Quality Conformity Analysis of the Amended Plan and 2019 TIP |
| September 12, 2018: | MTC Programming and Allocations Committee review of 2019 TIP and Transportation Air Quality Conformity Analysis of the Amended Plan and 2019 TIP and referral to Commission |
| September 26, 2018: | Commission scheduled to approve the 2019 TIP and Transportation Air Quality Conformity Analysis of the Amended Plan and 2019 TIP |
| December 17, 2018: | 2019 TIP Approval by FHWA and FTA (anticipated date) |

MTC's responses to significant comments will be included as an appendix to the 2019 TIP.

2019 TIP At-a-Glance

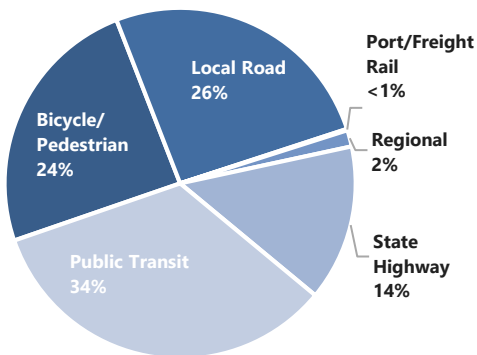
TIP-at-a-Glance provides a graphical summary of the number of projects, TIP funding and total project costs by mode, purpose and fund type for the entire region and each of the nine counties within the region.

Regional Distribution of Funds by Mode (Millions \$, rounded)

Mode	# of Projects		TIP Period Funding					Total Project Cost		
			FY 18/19	FY 19/20	FY 20/21	FY 21/22	TIP Period Funding			
Bicycle/Pedestrian	193	24%	\$167	\$124	\$135	\$84	\$510	4%	\$1,624	3%
Local Road	205	26%	\$331	\$179	\$276	\$109	\$895	7%	\$4,071	7%
Port/Freight Rail	1	<1%	\$17	\$17			\$34	<1%	\$301	<1%
Regional	12	2%	\$42	\$17	\$10	\$10	\$78	1%	\$222	<1%
State Highway	114	14%	\$1,282	\$1,499	\$436	\$1,191	\$4,408	32%	\$16,550	27%
Public Transit	267	34%	\$2,932	\$1,476	\$2,566	\$679	\$7,653	56%	\$37,765	62%
Total	792	100%	\$4,771	\$3,311	\$3,424	\$2,072	\$13,579	100%	\$60,533	100%

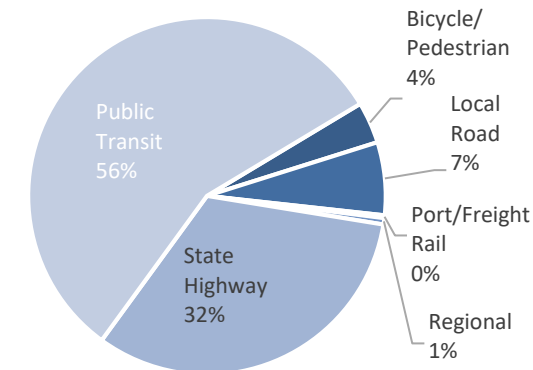
Share of Projects by Mode

Total number of Projects = 792



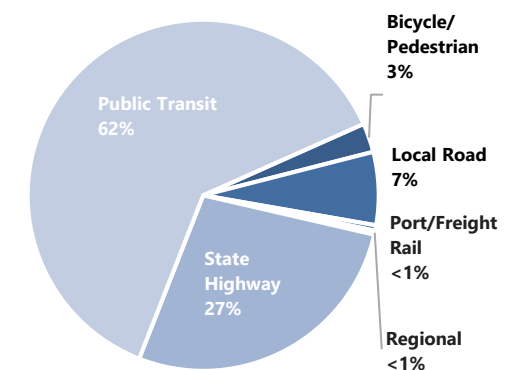
TIP Period Funding by Mode

Total Project Costs = \$13.6 billion



Total Project Cost by Mode

Total Project Costs = \$60.5 billion



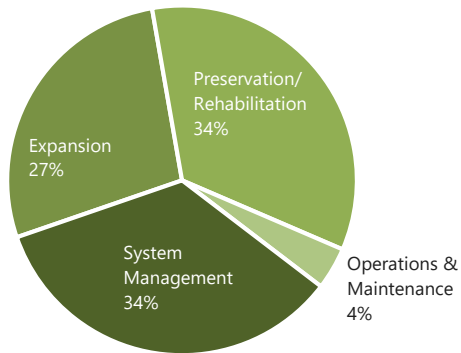
2019 TIP At-a-Glance, continued

Regional Distribution of Funds by Purpose (Millions \$, rounded)

Purpose	# of Projects		TIP Period Funding					Total Project Cost		
			FY 18/19	FY 19/20	FY 20/21	FY 21/22	TIP Period Funding			
Expansion	218	27%	\$2,377	\$921	\$2,426	\$627	\$6,352	47%	\$32,936	55%
Preservation/Rehabilitation	271	34%	\$1,591	\$1,499	\$403	\$757	\$4,251	31%	\$18,275	30%
Operations & Maintenance	31	4%	\$54	\$52	\$2	\$0	\$109	1%	\$830	1%
System Management	272	34%	\$749	\$839	\$592	\$688	\$2,867	21%	\$8,492	14%
Total	792	100%	\$4,771	\$3,311	\$3,424	\$2,072	\$13,579	100%	\$60,533	100%

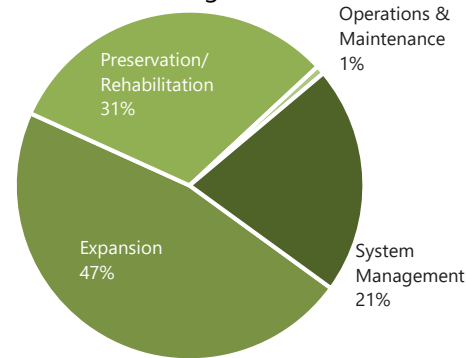
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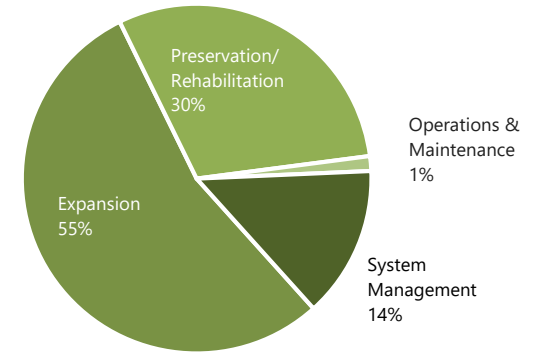
TIP Period Funding by Purpose

TIP Period Funding = \$13.6 billion



Total Project Cost by Purpose

Total Cost = \$60.5 billion

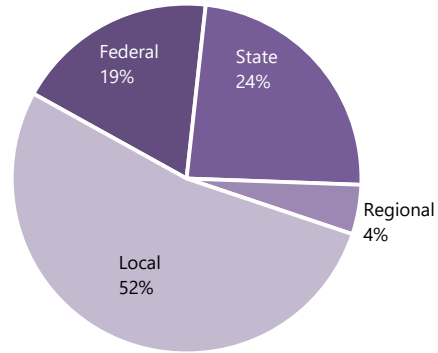


2019 TIP At-a-Glance, continued

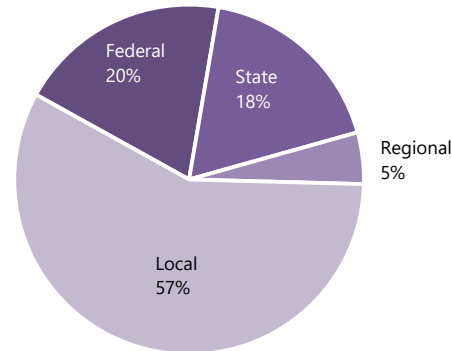
Regional Distribution of Funding by Source (Millions \$, rounded)

Type	TIP Period Funding (in \$1,000s)					Total Project Cost		
	FY 18/19	FY 19/20	FY 20/21	FY 21/22	TIP Period Funding			
Federal	\$871	\$899	\$429	\$340	\$2,539	19%	\$11,889	20%
State	\$1,342	\$849	\$255	\$789	\$3,234	24%	\$10,876	18%
Regional	\$188	\$230	\$106	\$99	\$623	4%	\$2,876	5%
Local	\$2,370	\$1,333	\$2,634	\$845	\$7,183	52%	\$34,892	57%
Total	\$4,771	\$3,311	\$3,424	\$2,072	\$13,579	100%	\$60,533	100%

TIP Period Funding by Source
TIP Period Funding = \$13.6 billion



Total Project Cost Funding by Source
Total Project Cost = \$60.5 billion



2019 TIP At-a-Glance, continued

Distribution of Funding by Mode for Each County and the Region (Millions \$, rounded)

County	Bicycle/ Pedestrian	Local Road	Port/ Freight Rail	Regional	State Highway	Public Transit	Total TIP Period Funding
Alameda	\$121	\$116	\$34		\$337	\$182	\$791
Contra Costa	\$63	\$107			\$212	\$48	\$430
Marin	\$125	\$12			\$101	\$102	\$340
Napa	\$12	\$27			\$15	\$9	\$63
San Francisco	\$26	\$71			\$208	\$1,070	\$1,375
San Mateo	\$28	\$31			\$537	\$827	\$1,424
Santa Clara	\$105	\$243			\$475	\$2,940	\$3,763
Solano	\$19	\$37			\$13	\$28	\$97
Sonoma	\$8	\$23			\$94	\$16	\$142
Regional	\$3	\$228		\$78	\$2,415	\$2,430	\$5,155
Total Bay Area	\$510	\$895	\$34	\$78	\$4,408	\$7,653	\$13,579

Distribution of Funding by Purpose for Each County and the Region (Millions \$, rounded)

County	Expansion	Maintenance/ Rehabilitation	Operations	System Management	Total TIP Period Funding
Alameda	\$383	\$154	\$18	\$237	\$791
Contra Costa	\$258	\$67	\$16	\$88	\$430
Marin	\$36	\$178	\$2	\$124	\$340
Napa	\$26	\$9	\$7	\$21	\$63
San Francisco	\$753	\$542	\$12	\$68	\$1,375
Santa Clara	\$684	\$54	\$5	\$681	\$1,424
San Mateo	\$2,979	\$149	\$10	\$625	\$3,763
Solano	\$39	\$13	\$24	\$21	\$97
Sonoma	\$94	\$25	\$6	\$17	\$142
Regional	\$1,098	\$3,061	\$10	\$985	\$5,155
Total Bay Area	\$6,352	\$4,251	\$109	\$2,867	\$13,579

2019 TIP At-a-Glance, continued

Distribution of Funding by Source for Each County and the Region (Millions \$, rounded)

County	Federal	State	Regional	Local	Total TIP Period Funding
Alameda	\$207	\$145	\$15	\$424	\$791
Contra Costa	\$153	\$84	\$9	\$184	\$430
Marin	\$227	\$17	\$18	\$78	\$340
Napa	\$27	\$15	\$0	\$21	\$63
San Francisco	\$219	\$118	\$50	\$987	\$1,375
San Mateo	\$653	\$364	\$95	\$311	\$1,424
Santa Clara	\$276	\$275		\$3,212	\$3,763
Solano	\$53	\$13		\$31	\$97
Sonoma	\$39	\$85		\$18	\$142
Regional/Multi-County	\$686	\$2,118	\$436	\$1,915	\$5,155
Total Bay Area	\$2,539	\$3,234	\$623	\$7,183	\$13,579

2019 TIP: INVESTMENT DECISIONS

What is the overall investment focus of the 2019 TIP?

Transportation investments in the long-range plan and TIP are categorized into two primary categories for evaluation: maintenance and management of the existing transportation network and system expansion.

Investment Decisions

The current long-range transportation plan prioritizes the maintenance, rehabilitation and management of the existing transportation system, by dedicating 88% of the projected \$303 billion in transportation revenues towards the operation, maintenance and modernization of the existing network of transit, bridges, highways, and local streets and roads. A further 2% of the Plan's revenues are dedicated to debt service and cost contingencies for various projects and programs. That leaves roughly 10% of the plan's expenditures for projects that address expansion for transit, highways, local streets and roads, bridges, complete streets, as well as cap-and-trade reserve funds.

By comparison, 54% of the funds programmed in the 2019 TIP (\$7.4 billion) are dedicated to maintenance, rehabilitation and management of the existing system, with 45% (\$6.1 billion) programmed for system expansion projects. Less than 1% of funds in the TIP are dedicated to debt service specifically as these costs and cost contingencies are typically included in their associated projects.

In comparing these investments side-by-side, it is important to keep in mind that while the plan includes the universe of revenues reasonably expected to be available to implement its planned transportation projects, programs, and strategies, the TIP is much more focused on projects with federal funding. As a result, the TIP ends up being more heavily weighted toward large capital projects, such as transit and highway improvements that are more likely to require federal funds. The vast majority of funds that go to operate, maintain, and manage the region's existing transportation system, a top priority of the long-range plan, are not typically captured in the projects programmed in the TIP.

A brief discussion of the three primary investment categories from Plan Bay Area 2040 and the more specific near-term funding strategies in the 2019 TIP follows. The detailed investment plan from Plan Bay Area 2040 can be found in Appendix A-46. Additional information on the financial constraint of the 2019 TIP is provided on page 35 of this section and in Appendix A-59.

Operate and Maintain the Existing System

This investment category includes rehabilitation and replacement of transit vehicles and facilities as well as the upkeep of freeways and local roadways. It also includes the operation of the transit system programs.

- **Major investments:** Some of the most significant projects that the region is currently undertaking to ensure adequate maintenance of existing transportation systems are: the regional toll bridge retrofit/rehabilitation programs, the BART railcar replacement program, US 101 Doyle Drive replacement, and VTA's Bus Replacement and Preventive Maintenance program. For the full list of major projects in the TIP (projects with total costs over \$200 million), including grouped listings, see the lists and map on pages 20 through 25 of this section.
- **Local Streets and Roads:** Approximately \$414 million, or 3%, of the 2019 TIP is programmed on the preservation and rehabilitation of local streets and roads. Much of the revenue for streets and roads rehabilitation comes from gas tax subventions, which are typically not included in the TIP. The investment level for streets and roads in the 2019 TIP, in combination with the non-federal revenues for the local streets and roads outside of the TIP, is expected to lead to a slight decrease in the condition of pavement in the region.

In terms of federal funding, local streets and roads preservation is eligible for Surface Transportation Block Grant Program (STP) funding through the One Bay Area Grant (OBAG) program. In the second cycle of OBAG funding (OBAG 2), which covers FY 2017-18 through FY 2021-22, approximately 33% of the available funds were committed to local streets and roads rehabilitation projects.

As part of OBAG, jurisdictions are required to have complete streets policies in place either through a board resolution or a general plan that complies with the California Complete Streets Act of 2008 to ensure that the needs of non-motorists are considered during project development. For more information on the OBAG program, see Appendices A-15 and A-16, or online at <http://www.mtc.ca.gov/our-work/invest-protect/focused-growth/one-bay-area-grants>.

- **Transit Capital Maintenance:** To address transit capital maintenance needs, Plan Bay Area 2040 investments will be able to fully address the operating needs for transit at current service levels as well as fund 100 percent of vehicle replacements and most other essential transit capital rehabilitation and maintenance needs over the Plan period. As noted in the 2017 TIP, an assessment of projected needs and revenues for MTC's Transit Capital Priorities (TCP) Program demonstrates that if programming for transit capital replacement and rehabilitation projects, including projects funded through the Core Capacity Challenge Grant Program, is constrained to match projected Federal Transit Administration formula funds from FY 2014-15 through FY 2029-30, needs in the middle of this period starting in FY2017-2018 will exceed revenues, when expenditures on major vehicle replacement projects for BART, Caltrain, and SFMTA, and other Core Capacity projects peak. A significant portion of the capital investment need identified in the previous 2017 TIP has been satisfied by a large regional investment in the Bay Area

Rapid Transit (BART) car replacements; for which the region has been setting aside funds for the past several years in order to prepare for this major investment.

Currently, more than \$1.9 billion, or 14%, is programmed for transit capital maintenance in the 2019 TIP. This amount is anticipated to increase as additional transit as specific programs and financing strategies are adopted by the Commission and amended into the TIP.

- **Transit Operations:** While Plan Bay Area 2040 funds all of the region's transit operating needs, much of this funding comes from state, regional and local sources that are not typically included in the TIP. Less than 1% of funding in the 2019 TIP is directed toward operating the transit system, with set-asides for paratransit making up almost half of these funds.

Modernize

This investment category includes improvements and upgrades that improve the efficiency and safety of the existing transportation systems without significantly increase the spatial footprint of current facilities.

- **Major Investments:** The electrification of the Caltrain System and operational improvements to the US-101/Zanker Road/Skyport Drive/N. First Street interchange in San Jose represent two of the largest modernization projects in the 2019 TIP.
- **Roadway Performance:** Plan Bay Area includes various strategies to effectively manage the region's roadways. This includes programs that employ intersection improvements, technological advancements and transportation demand management (TDM) to reduce congestion and delay. During the four year 2019 TIP period, the region has programmed over \$2 billion, or 17%, to such projects, including: interchange reconfiguration projects; the conversion of existing freeway lanes to express lanes; and regional operations programs such as the 511 program, regional rideshare, transportation marketing, freeway operations and incident management, and regional signal timing programs.
- **Transit Modernization and Efficiency:** Roughly 6% of funding in the 2019 TIP is directed towards programs and projects that improve the efficiency of the transit system. In addition to the Caltrain electrification project mentioned above, this category includes station improvements, transit signal priority programs and transit-focused TDM programs.

Expand

This investment category targets investments to strategically expand transportation facilities. These investments include construction of new high occupancy/toll lanes, highway and rail expansions, and rapid bus routes/express bus service.

- **Major investments:** Major strategic expansion projects with the highest levels of programming in the 2019 TIP period include the BART extension from Berryessa to San

Jose, core capacity improvements to the BART system, the extension of Caltrain to Downtown San Francisco, and the construction of managed lanes on US-101 in San Mateo County. For the full list of projects in the 2019 TIP with total project costs over \$200 million, including grouped listings, see the lists and map on pages 20 through 25 of this section.

Most major transit expansions in the TIP are part of MTC Resolution No. 3434, "Regional Transit Expansion Program," which represents the region's consensus agreement on Bay Area transit expansion (see Appendix A-9).

TIP Investment Analysis

As a part of the development of the TIP, MTC completes an analysis of TIP investments specifically focused on the Bay Area's disadvantaged populations. The 2019 TIP Investment Analysis is included as Appendix A-3.

The results of the population use-based analysis indicate that overall, the investments in the 2019 TIP direct an equitable proportion of investments to projects that support the transportation of residents of low-income households, racial or ethnic minorities, and seniors.

- The share of investments supporting overall low-income trips (33%) and trips made by minority populations (57%) exceeds the share of trips made by each group (27% and 52%, respectively).
- The share of investments supporting overall travel distance by low-income populations (24%) and minority populations (52%) also slightly exceeds the share of overall distance travelled by each group (22% and 50%, respectively).
- The share of investments supporting trips (10%) and travel distance (8%) made by seniors is slightly under, but still roughly equivalent, to their relative share of each measure (11 and 10%).

There are a few variances worth noting in the population used-based analysis and disparate impact analysis, specifically related to transit.

- The share of transit investments that support trips made by passengers in low-income households (38%) falls somewhat short of these passengers' relative share of the transit trips taken (47%).
- Federal and state transit investments result in a per capita benefit for minorities that slightly exceeds the per capita benefit for non-minorities (101% of non-minority per capita benefit). However, on a per transit rider basis, federal and state transit investments fall short, with a minority per rider benefit of 89% of the non-minority per rider benefit.

It is important to note, however, that the TIP does not reflect the full picture of transportation investments in the Bay Area over the long-term. As noted above, the TIP only includes four years of near-term fund programming. Also, since the TIP primarily documents projects that require federal actions or use federal funds, it tends to include more large capital projects than

rehabilitation programs. Additionally, funding shown in the TIP is included in the year that project phases begin or are obligated and does not reflect the actual flow of funding and expenditures within these phases. While rehabilitation programs will have their funding spread across many years, large capital projects tend to have their funding lumped into a single year even if the funds will actually be expended over a number of years, some of which may be outside the scope of the TIP. When compared to the investments described in the Plan, the 2019 TIP only reflects about 25% of average annual transportation spending in the Bay Area.

Since the equity analysis of the Plan includes more projects and programs than just those that are federally focused and transportation funding is captured from more years, it is not disproportionately influenced by the types of projects described above.

TIP Performance Analysis

The Moving Ahead for Progress in the 21st Century Act (MAP-21) established new requirements for performance management to ensure the most efficient investment of Federal transportation funds. To incorporate the new federal performance requirements into the Transportation Improvement Program (TIP), MTC is required to show (1) that the TIP “makes progress towards achieving [the region’s] performance targets” and (2) that the TIP includes, “to the maximum extent practicable, a description of the anticipated effect of the TIP towards achieving the performance targets.” A discussion of the status of these performance measures as well as an assessment of the anticipated effects of TIP investments is included as Appendix A-4.

Projects in the 2019 TIP Over \$200 Million
(\$ in millions)

TIP ID	County	Original TIP	Sponsor	Project Name	Mapping Label (Page S1-24)	Total Project Cost (all years)	Project Cost within 2019 TIP Period
BRT030001	Santa Clara	2003	VTA	BART - Berryessa to Santa Clara Extension	1	\$4,780	\$2,569
SF-050002	San Francisco	2005	TBJPA	Caltrain - San Francisco Downtown Extension	2	\$4,250	\$598
REG170017	Multi-County	2017	BART	BART Transbay Core Capacity Improvements	3	\$3,511	\$1,075
REG090037	Multi-County	2009	BART	BART: Railcar Procurement Program	4	\$2,719	\$1,047
SCL110005	Santa Clara	2011	VTA	BART - Warm Springs to Berryessa Extension	5	\$2,522	\$0
SF-010015	San Francisco	2001	TJPA	TBJPB - New Transbay Transit Center	6	\$2,259	\$0
SF-010028 SM-190002	San Mateo	2001	Caltrain	Caltrain Electrification and Expansion Vehicle Procurement	7	\$2,184	\$769
SF-991030	San Francisco	1999	SF County TA	US 101 Doyle Drive Replacement	8	\$2,107	\$100
SF-010037	San Francisco	2001	SFMTA	SFMTA - Central Subway Extension	9	\$1,565	\$0
REG170023	Multi-County	2017	MTC	MTC - Financing Repayment for Transit Capital Priorities	A	\$1,560	\$57
REG130002	Multi-County	2013	MTC	BATA - Toll Bridge Rehabilitation Program	10	\$1,108	\$303
SF-070029	San Francisco	2007	TJPA	TBJPB - Transbay Transit Center TIFIA Loan Debt Service	11	\$1,075	\$21
SF-110006 SF-130006	San Francisco	2011 2013	SF DPW	SF - Hunters Point Shipyard, Candlestick Point and South East Waterfront Transportation Improvements	12	\$690	\$28
REG050020	Multi-County	2005	BART	BART - Preventive Maintenance	13	\$674	\$0
SOL070020	Solano	2007	STA	I-80/I-680/SR 12 Interchange Improvements	14	\$661	\$9
SCL990046	Santa Clara	1999	VTA	VTA - Preventive Maintenance	B	\$596	\$0
SON090002	Multi-County	2009	SMART	SMART - Initial Operating Segment and Extensions	15	\$596	\$14
SM-150017	San Mateo	2015	CCAG	US101 Managed Lanes from Santa Clara Co. Line to South of Grand Ave	16	\$514	\$474
SCL050009	Santa Clara	2005	VTA	VTA - Regional Conector from Eastridge to Milpitas BART	17	\$510	\$269
SCL110002	Santa Clara	2011	VTA	US-101 - Santa Clara County Express Lanes	18	\$466	\$68

Projects in the 2017 TIP Over \$200 Million (continued)
(\$ in millions)

TIP ID	County	Original TIP	Sponsor	Project Name	Mapping Label (Page S1-24)	Total Project Cost (all years)	Project Cost within 2019 TIP Period
CC-050025	Contra Costa	2005	BART	BART - East Contra Costa Rail Extension to Antioch	19	\$460	\$0
SF-130001	San Francisco	2013	SF DPW	SF- Better Market Street Transportation Elements	20	\$415	\$20
ALA170009	Alameda	2017	ACTC	I-680 - SR 84 to Alcosta Express Lanes	21	\$394	\$13
MRN970016	Marin	1997	GGBHTD	Golden Gate Bridge - Seismic Retrofit	22	\$382	\$7
SON070004	Sonoma	2007	Son Co TA	US-101 - Marin-Sonoma Narrows HOV Lane (Sonoma)	23	\$374	\$89
SF-090012	San Francisco	2009	SFMTA	SFMTA - Additional Light Rail Vehicles	C	\$366	\$54
MRN050034	Marin	2005	TAM	US-101 - Marin-Sonoma Narrows HOV Lane (Marin)	24	\$353	\$8
MRN050019	Marin	2005	GGBHTD	Golden Gate Bridge-Suicide Deterrent Safety Barrier	25	\$349	\$100
SCL050001	Santa Clara	2005	VTA	VTA - Bus Replacement	D	\$317	\$50
ALA110046	Alameda	2011	Oakland	Oakland Army Base Infrastructure Improvements	26	\$301	\$34
ALA170008	Alameda	2017	ACTC	I-580/I-680 Interchange - Widening for Managed Lanes	27	\$300	\$8
SF-070004	San Francisco	2007	SFMTA	SFMTA - Geary Bus Rapid Transit	28	\$300	\$9
BRT97100B	Multi-County	1997	BART	BART - Rail, Guideway and Structures Program	29	\$297	\$43
SF-95037B	San Francisco	1995	SFMTA	SFMTA - Rail Replacement Program	E	\$290	\$63
BRT030004	Multi-County	2003	BART	BART - Train Control Renovation	30	\$264	\$25
SF-070027	San Francisco	2007	SF County TA	SF - Yerba Buena Island (YBI) Ramp Improvements	31	\$261	\$101
REG110030	Multi-County	2011	Caltrain	Caltrain - Positive Train Control System	32	\$258	\$0
SF-170004	San Francisco	2017	SFMTA	SFMTA - Trolley Coaches Replacement	F	\$256	\$0
SCL090040	Santa Clara	2009	VTA	VTA - Light Rail Extension to Vasona Junction and Double Tracking	33	\$252	\$22
ALA170085	Alameda	2017	ACTC	Oakland - 7th Street Grade Separation - East	34	\$250	\$0
BRT030005	Multi-County	2003	BART	BART - Traction Power System Renovation	35	\$245	\$43

SF-990022	San Francisco	1999	SFMTA	SFMTA - ADA Paratransit Operating Support	G	\$241	\$12
ALA978004	Alameda	1997	ACTC	Fremont & Union City - New East-West Connector from I-880 to SR-238	36	\$236	\$47
SOL110001	Solano	2011	MTC	I-80 - Fairfield to Vacaville Express Lanes	37	\$228	\$0
CC-170017	Contra Costa	2017	CCTA	I-680 - Central Contra Costa County Express Lanes	38	\$225	\$0
ALA170010	Alameda	2017	ACTC	I-880 - Hacienda to Hegenberger Northbound HOV/Express Lanes	39	\$221	\$5
ALA150001	Alameda	2015	ACTC	SR-84 - Ruby Hill Dr to I-680 Widening	40	\$220	\$40
SF-970170	San Francisco	1997	SFMTA	SFMTA - Overhead Line Reconditioning & Traction Power Program	H	\$210	\$40
ALA150004	Alameda	2015	AC Transit	AC Transit - East Bay Bus Rapid Transit	41	\$206	\$3
ALA150008	Alameda	2015	ACTC	Lake Merritt to South Hayward - East Bay Greenway Bike/Ped Imps	42	\$204	\$0

Grouped Listings in the 2019 TIP Over \$200 Million

(\$ in millions)

TIP ID	County	Original TIP	Sponsor	Project Name	Total Project Cost (all years)	Project Cost within 2019 TIP Period
VAR170006	Multi-County	2017	Caltrans	GL: Pavement Resurf./Rehab - SHOPP Roadway Presv.	\$1,312	\$703
VAR170007	Multi-County	2017	Caltrans	GL: Safety Imprv. - SHOPP Collision Reduction	\$762	\$487
VAR170010	Multi-County	2017	Caltrans	GL: Bridge Rehab and Reconstruction - SHOPP	\$750	\$488
VAR170012	Multi-County	2017	Caltrans	GL: Bridge Rehab/Recon. - Local Hwy Bridge Program	\$743	\$207
VAR170008	Multi-County	2017	Caltrans	GL: Emergency Repair - SHOPP Emergency Response	\$501	\$42
VAR170005	Multi-County	2017	Caltrans	GL: Safety Improvements - SHOPP Mobility Program	\$225	\$151

2019 TIP Listings with Costs Greater than \$200 Million

RED Road Project
BLUE Transit Project

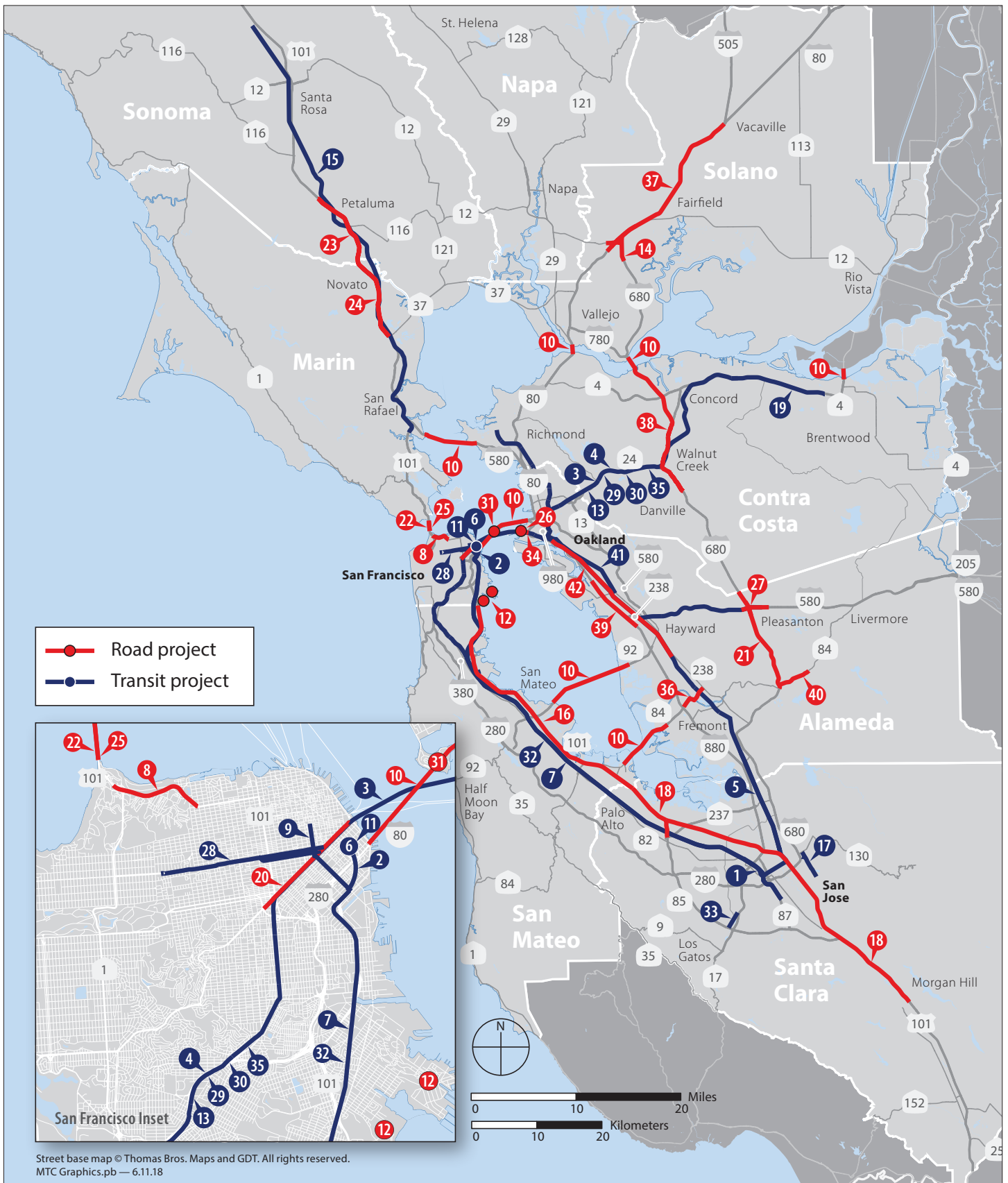
- 1 **BART – Berryessa to Santa Clara Extension**
Santa Clara County
\$4.78 billion
- 2 **Caltrain – San Francisco Downtown Extension**
San Francisco County
\$4.25 billion
- 3 **BART – Transbay Core Capacity Improvements**
Alameda, Contra Costa, San Francisco and
San Mateo Counties
\$3.51 billion
- 4 **BART – Railcar Procurement Program**
Alameda, Contra Costa, San Francisco and
San Mateo Counties
\$2.72 billion
- 5 **BART – Warm Springs to Berryessa Extension**
Alameda and Santa Clara Counties
\$2.52 billion
- 6 **TJPA – New Transbay Transit Center**
San Francisco County
\$2.26 billion
- 7 **Caltrain – Electrification and Expansion Vehicle
Procurement**
San Francisco, San Mateo and Santa Clara Counties
\$2.18 billion
- 8 **US-101 – Doyle Drive Replacement**
San Francisco County
\$2.11 billion
- 9 **SFMTA – Central Subway Extension**
San Francisco County
\$1.57 billion
- 10 **BATA – Toll Bridge Rehabilitation Program**
Multiple Counties
\$1.11 billion
- 11 **TJPA – Transbay Transit Center TIFIA Loan
Debt Service**
San Francisco County
\$1.08 billion
- 12 **SF – Hunters Point Shipyard, Candlestick Point
and South East Waterfront Transportation
Improvements**
San Francisco County
\$690 million
- 13 **BART – Preventive Maintenance**
Multiple Counties
\$674 million
- 14 **I-80/I-680/SR-12 – Interchange Improvements**
Solano County
\$661 million
- 15 **SMART – Initial Operating Segment and
Extensions**
Marin and Sonoma Counties
\$596 million
- 16 **US-101 – Managed Lanes from Santa Clara
County Line to South of Grand Avenue**
San Mateo County
\$514 million
- 17 **VTA – Regional Connector from Eastridge to
Alum Rock**
Santa Clara County
\$510 million
- 18 **US-101 – Santa Clara County Express Lanes**
Santa Clara County
\$466 million
- 19 **BART – East Contra Costa Rail Extension to
Antioch**
Contra Costa County
\$460 million
- 20 **SF – Better Market Street Transportation
Elements**
San Francisco County
\$415 million
- 21 **I-680 – SR-84 to Alcosta Express Lanes**
Alameda County
\$394 million
- 22 **Golden Gate Bridge – Seismic Retrofit**
Marin and San Francisco Counties
\$382 million
- 23 **US-101 – Marin-Sonoma Narrows
HOV Lane (Sonoma)**
Sonoma County
\$374 million
- 24 **US-101 – Marin-Sonoma Narrows
HOV Lane (Marin)**
Marin County
\$353 million
- 25 **Golden Gate Bridge – Suicide Deterrent
Safety Barrier**
Marin and San Francisco Counties
\$349 million
- 26 **Oakland – Army Base Infrastructure
Improvements**
Alameda County
\$301 million
- 27 **I-580/I-680 Interchange – Widening for
Managed Lanes**
Alameda County
\$300 million
- 28 **SFMTA – Geary Bus Rapid Transit**
San Francisco County
\$300 million
- 29 **BART – Rail, Guideway and Structures Program**
Alameda, Contra Costa, San Francisco and
San Mateo Counties
\$297 million
- 30 **BART – Train Control Renovation**
Multiple
\$264 million
- 31 **San Francisco – Yerba Buena Island (YBI)
Ramp Improvements**
San Francisco County
\$261 million
- 32 **Caltrain – Positive Train Control System**
San Francisco, San Mateo and Santa Clara Counties
\$258 million
- 33 **VTA – Light Rail Extension to Vasona Junction
and Double Tracking**
Santa Clara County
\$256 million
- 34 **Oakland – 7th Street Grade Separation – East**
Alameda County
\$252 million
- 35 **BART – Traction Power System Renovation**
Alameda, Contra Costa, San Francisco and
San Mateo Counties
\$245 million
- 36 **Fremont and Union City – New East-West
Connector from I-880 to SR-238**
Alameda County
\$236 million
- 37 **I-80 – Fairfield to Vacaville Express Lanes**
Solano County
\$228 million
- 38 **I-680 – Central Contra Costa County
Express Lanes**
Contra Costa County
\$225 million
- 39 **I-880 – Hacienda to Hegenberger
Northbound HOV/Express Lanes**
Alameda County
\$221 million
- 40 **SR-84 – Ruby Hill Drive to I-680 Widening**
Alameda County
\$220 million
- 41 **AC Transit – East Bay Bus Rapid Transit**
Alameda County
\$206 million
- 42 **Lake Merritt to South Hayward – East Bay
Greenway Bike/Ped Improvements**
Alameda County
\$204 million

NOT MAPPED

- A **MTC – Financing Repayment for
Transit Capital Priorities**
Multiple Counties
\$1.56 billion
- B **VTA – Preventive Maintenance**
Santa Clara County
\$596 million
- C **SFMTA – Additional Light Rail Vehicles**
San Francisco County
\$366 million
- D **VTA – Bus Replacement**
Santa Clara County
\$317 million
- E **SFMTA – Rail Replacement Program**
San Francisco County
\$290 million
- F **SFMTA – Trolley Coaches Replacement**
San Francisco County
\$250 million
- G **SFMTA – ADA Paratransit Operating Support**
San Francisco County
\$241 million
- H **SFMTA – Overhead Line Reconditioning and
Traction Power Program**
San Francisco County
\$210 million



2019 TIP Listings with Costs Greater than \$200 Million



PROJECT SELECTION AND PROGRAMMING

How are TIP projects selected and programmed?

Project Selection Processes

The process by which a project is selected for federal, state, and regional funding depends on the type of project and the specific fund source being sought. Below is a list of some of MTC's major program-specific processes and resolutions. The full listing of project selection and programming resolutions are available as appendices to this document (Appendices A-15 through A-41) and are also available at on the MTC website at <http://mtc.ca.gov/our-work/fund-invest/transportation-improvement-program>.

- Coordinated Public Transit-Human Services Transportation Plan, Resolution No. 4310
- Regional Transit Expansion Program, Resolution No. 3434
- 2018 Regional Transportation Improvement Program (RTIP), Resolution No. 4308
- One Bay Area Grant 2 (OBAG 2), Resolution No. 4202
- Active Transportation Program (ATP), Regional Program, Cycle 4, Resolution No. 4324
- Transit Capital Priorities (TCP) for FY2016-17 through FY2019-20 (FTA Sections 5307, 5337, and 5339), Resolution Nos. 4242 and 4272
- Lifeline Transportation Program, FY2016-17 and FY2017-18, Resolution No. 4309
- Enhanced Mobility for Seniors and Individuals with Disabilities Program for FY2014-15 through FY2016-17 (Section 5310), Resolution Nos. 4266 and 4269
- FTA Rural Formula for FY2017-18 (Section 5311), Resolution No. 4292
- Transit Core Capacity Challenge Grant for FY2014-15 through FY2029-30, Resolution No. 4123

TIP Programming

Once selected for funding, a project is eligible for inclusion in the TIP. As a result, the TIP is a compilation of projects that have typically already been reviewed and acted upon by MTC and sponsoring agencies. Many projects in the TIP have been carried forward from previous iterations of the TIP, reflecting project selection or programming actions by the Commission from prior years.

In addition to the projects selected and programmed by MTC, the TIP also includes Toll Bridge projects and regionally significant local projects approved and funded by transportation agency partners and/or referenda. Examples here include the voter approved toll increase in the Bay Area, Regional Measure 2, and county sales tax measures.

The constrained TIP also includes available State funds, including Proposition 1B, State Transportation Improvement Program (STIP) funds, and the Road Repair and Accountability Act of 2017 (SB1) utilizing the latest fund estimates, and funding actions by the State.

Projects selected for these regional and State funds are typically selected for funding and then amended into the TIP by MTC.

Fund Management

Federal regulations stipulate that federal funds must be programmed in the TIP up to the apportionment level for that fiscal year for that fund source. The funds must be programmed within the fiscal year in which the funds are to be obligated/transferred by the Federal Highway Administration (FHWA), obligated by the Federal Transit Administration (FTA), or awarded in a FTA grant. This improves the overall management of federal Obligation Authority (OA) within the region and ensures that OA is available for projects that are programmed in a particular fiscal year.

As a result, MTC requires that projects selected for federal funding demonstrate the ability to use the funds within the established federal, state and regional funding deadlines. This criterion is used by MTC for selecting projects for funding and for placement of funding in a particular year of the TIP.

TIP Period

The TIP covers a four-year period. For the 2019 TIP, the period is Federal Fiscal Years 2018-19 through 2021-22. Previously expended funds (shown as 'prior') and funds estimated to be available in future years and are included for informational purposes and to display total project cost. All projects included in the TIP must show the total project cost escalated to the year of expenditure. Projects may be revised as cost estimates are refined and they proceed through the environmental process.

Expedited Project Selection Process

Federal regulations allow for the movement of projects within the period of the TIP and FSTIP subject to procedures agreed to by partnering agencies, including the State and transit operators within the region (23 CFR Part 450.332). MTC developed such a process, in consultation with the region's transportation partners, to permit the movement of projects in the first four years of the TIP:

- All movements must be consistent with the Regional Transportation Plan (RTP), must not adversely affect the expeditious implementation of Transportation Control Measures (TCMs), must comply with the provisions of Title VI, must not negatively impact the planned delivery of other projects in the regional programs, and must not affect the conformity finding of the TIP.
- For regional Surface Transportation Block Grant Program (STP), Congestion Mitigation and Air Quality Improvement (CMAQ) funds, and other funds administered by the Federal Highways Administration (FHWA), MTC has developed a project funding delivery policy through extensive consultations with its regional transportation partners including the Bay Area transit operators, Congestion Management Agencies (CMA's), counties,

FHWA, FTA and Caltrans. The Regional Project Funding Delivery Policy (MTC Resolution No. 3606, revised) details how project-funding deadlines and fund management requirements are enforced and how projects may be moved within the time period of the adopted TIP. The policy satisfies the requirement of the expedited project selection procedures as stated in CFR 450.332. The project funding delivery policy is also embedded in the TIP revision procedures, adopted along with the 2019 TIP. Although a TIP revision is not required at the time a project is moved, a revision may be processed following each federal fiscal year to reconcile the TIP for financial constraint purposes.

- For projects within the State Transportation Improvement Program (STIP) and Active Transportation Program (ATP), MTC will move projects subject to amendment or allocation approval by the California Transportation Commission (CTC). Caltrans may move projects in the State Minor Program, Highway Maintenance (HM) Program, and State Highway Operation Protection Program (SHOPP) document within the TIP/FSTIP period without revising the TIP, with notification to MTC.
- Caltrans Division of Local Assistance has implemented a project selection process for the Local Highway Bridge Program (LHBP), Highway Safety Improvement Program (HSIP), and other State-administered Local Assistance programs to produce the TIP listing of projects. This process was developed in cooperation with the implementing agencies, FHWA, the MPOs, Local Highway Bridge Advisory Committee, and HSIP Advisory Committee. Caltrans, MTC and the transit operators agree that the Caltrans Division of Local Assistance may move projects within the LHBP, HSIP, and other State-administered Local Assistance programs within the TIP/FSTIP period without revising the TIP, with notification to MTC.
- For FTA administered funds, projects may be moved within the period of the TIP/FSTIP at the request of the agency, as long as funding is available and the change does not negatively impact the delivery or availability of funds for other projects ready for obligation.
- Implementing agencies wishing to advance projects using their own local funds until federal funds are available may request Advance Construction Authorization (ACA) from Caltrans, or pre-award authority from FTA to proceed with the project using local funds until OA and apportionment becomes available. In accordance with the Regional Project Funding Delivery Policy (MTC Resolution No, 3606, revised), projects using ACA or FTA Grant Award Authority for FHWA-administered funds have priority for federal obligations when the availability of Obligation Authority is limited.

PROJECT DELIVERY

What happens after a project is programmed in the TIP?

After a project is programmed in the TIP, the project sponsor may proceed with delivering the project. An important component of project delivery is obligating, or drawing down, the funds that are programmed in the project's TIP listing.

Annual Listing of Obligated Projects

Detailed information about project delivery is available through the annual listing of obligated projects, a federal requirement that MTC publishes each year. The listing shows all federal funds that were obligated on projects in the previous fiscal year.

Fund obligations are a measure of progress in terms of project implementation or construction. However, projects for which funds have been obligated are not necessarily initiated or completed in that program year.

In addition, the amount of the obligation will not necessarily equal the total cost of that project or project phase. The total cost could also include matching funds, multiple phases, or could come in over or under budget. Negative obligations are also possible when unused funds are credited back after obligation.

The annual listing also is intended to increase the awareness of government spending on transportation projects to the public. The annual listing may be viewed at: <http://mtc.ca.gov/our-work/fund-invest/federal-funding/project-delivery> or at MTC's offices at 375 Beale St., San Francisco. The list for the previous federal fiscal year is also included in Appendix A-44.

FHWA Funding Project Delivery

To further facilitate project delivery and ensure all federal funds in the region are meeting federal and state regulations and deadlines, MTC has established funding deadlines for certain FHWA-administered funding, including STP and CMAQ funds. The region's Project Funding-Delivery Policy (MTC Resolution No. 3606, revised) establishes a standard policy for enforcing project funding deadlines and project substitutions for FHWA-administered funds. Projects selected to receive federal funds must have a demonstrated ability to use the funds within the established regional, state and federal funding deadlines. This criterion will be used for selecting projects for funding, and for placement of funding in a particular year of the TIP.

Recipients of FHWA-administered funding will also need to identify a staff position that serves as the single point of contact for the implementation of all FHWA-administered funds within

Project Obligation

When a project sponsor is ready to start spending money on a project or project phase, a request is sent from Caltrans to the Federal Department of Transportation requesting verification that the programmed funds are available for reimbursement. This verification of fund availability "obligates" the funds for use as soon as expenditures occur.

For Federal Transit Administration (FTA) projects, obligation occurs when the FTA grant is awarded.

that agency. The person in this position must have sufficient knowledge and expertise in the federal-aid delivery process to coordinate issues and questions that may arise from project inception to project close-out. The agency is required to confirm the contact information for this position at the time of programming of funds in the federal TIP. This person will be expected to work closely with FHWA, Caltrans, MTC and the respective CMA on all issues related to federal funding for all FHWA-funded projects implemented by the recipient.

Project sponsors that continue to miss delivery milestones and funding deadlines for any federal funds are required to prepare and update a delivery status report on all projects with FHWA-administered funds they manage, and participate if requested in a consultation meeting with the county CMA, MTC and Caltrans prior to MTC approving future programming or including any funding revisions for the agency in the federal TIP. The purpose of the status report and consultation is to ensure the local public agency has the resources and technical capacity to deliver FHWA federal-aid projects, is fully aware of the required delivery deadlines, and has developed a delivery timeline that takes into consideration the requirements and lead-time of the federal-aid process within available resources.

MTC staff actively monitors and reports the obligation status of projects to the Bay Area Partnership. The Partnership working groups will monitor project delivery issues as they arise and make recommendations as necessary. Specific provisions of the Regional Project Funding-Delivery Policy are contained within MTC Resolution No. 3606, revised, which is included as Appendix A-42.

PUBLIC & INTERAGENCY INVOLVEMENT

How are the public, project sponsors, stakeholders, and partner agencies involved in the TIP?

MTC is committed to a public involvement process that is transparent, proactive and provides comprehensive information, timely public notice, full public access to key decisions, and opportunities for continuing involvement. Because all projects included in the TIP are consistent with the region's long-range transportation plan, MTC's extensive public outreach for development of the plan is reflected in the TIP as well. Additionally, the process for updating and revising the TIP is directed by procedures contained in the MTC Public Participation Plan (PPP). The PPP is available at http://www.mtc.ca.gov/get_involved/participation_plan.htm, and is included in Appendix A-6.

Outreach Efforts

For the TIP update process, the PPP stipulates that the draft TIP must be released for a 30 day public review and comment period. As part of the public review process, the draft document is made available for review online, and at MTC's offices at 375 Beale St., San Francisco, at major libraries throughout the Bay Area upon request, and submitted for intergovernmental review via the Association of Bay Area Government's Regional Clearinghouse, which notifies all local agencies in the Bay Area and receives their comments. Notices are also sent to an extensive list of interested parties including transportation agencies, other state, federal and tribal agencies and other transportation interests. During the public comment period, the draft TIP and draft air quality conformity determination is presented at a standing committee meeting.

After the public comment period, MTC's responses to significant comments are compiled and included as an appendix to the final draft TIP. The final draft TIP is then presented to a standing committee of the Commission and forwarded to the full Commission for adoption. Once adopted, the TIP is sent to the Caltrans Office of Federal Programs for inclusion into the California Federal Statewide Transportation Improvement Program (FSTIP) or Statewide TIP, and later forwarded to FHWA and the FTA for final federal approval.

Additional public outreach for the TIP are described below.

- MTC publishes a Guide to the San Francisco Bay Area's TIP, which is targeted to the public. The objective of the guide is to better explain what the TIP is in the context of a larger planning and project development and funding process. Since the first edition in 2011, the guide has been posted on the MTC website and distributed to the public at various workshops including public hearings and other events. MTC also distributes the guide to state, local and federal resource agencies and Tribal Nations as part of our consultation on the development of the TIP. The guide is included as Appendix A-2 and

is available on MTC's website at: <http://mtc.ca.gov/our-work/fund-invest/transportation-improvement-program>.

- As part of the development of the current plan, MTC, together with the Association of Bay Area Governments, hosted several public outreach meetings. These meetings included outreach materials specific to the TIP included maps of the largest TIP projects in each county, county spending by various project types, an overview to how the TIP fits into the overall transportation planning process, and information about the TIP development schedule.

FTA Requirements

Federal transit law and joint FHWA/FTA planning regulations governing the metropolitan planning process require a locality to include the public and solicit comment when the locality develops its metropolitan long-range transportation plan and its metropolitan TIP. FTA has determined that when a recipient follows the procedures of the public involvement process outlined in the FHWA/FTA planning regulations, the recipient satisfies the public participation requirements associated with development of the Program of Projects (POP) that recipients of applicable funds must meet. MTC's PPP and public outreach for the TIP satisfy the public participation requirements for the POP for applicable funds. Public notices of public involvement activities and times established for public review and comment on the TIP state that they satisfy the public involvement requirements of the FTA annual Program of Projects, for applicable funds.

Consistent with Federal requirements, the 2019 TIP identifies projects implementing the Americans with Disabilities Act (ADA) required paratransit and key station plans. The ADA requires that public transportation services and facilities, including trains and rail stations, be accessible to persons with disabilities. Federal regulations allow each rail system operator to designate certain stations as key stations and to make these readily accessible to and usable by individuals with disabilities, including individuals who use wheelchairs. Most of the projects adopted in the key station plans have been implemented. Appendix A-50 lists some of the ongoing ADA implementation transit projects.

Interagency Consultation Process

MTC consults extensively with Caltrans, county Congestion Management Agencies (CMAs), transit agencies, local jurisdictions, Tribal Nations and other partner agencies affected by transportation decisions, in the preparation of the region's long-range transportation plan, and in developing the priorities and programs during each TIP period.

This interagency consultation process includes:

- Project sponsors including Caltrans, local jurisdictions, county CMAs, and transit operators. These agencies review and consult with MTC on each of their respective projects in the TIP. Furthermore, through the Bay Area Partnership, these agencies are

involved every step of the way in the establishment of MTC programs and the selection of project criteria and delivery of transportation projects contained in the TIP.

- Central to developing the TIP is MTC's process for deciding how to invest discretionary federal dollars, meaning those funds that can be used on a variety of transportation needs, be they local streets, bus replacements, rail extensions, a new freeway interchange or bicycle and pedestrian facilities. To develop a plan for spending funds for the federal Surface Transportation Program (STP) and Congestion Mitigation and Air Quality Improvement Program (CMAQ), MTC works closely with local partner agencies and its citizen-based Policy Advisory Council to develop regional priorities. The priorities stem from the long-range plan, Plan Bay Area.
- MTC and other regional agency staff meet periodically with the Tribal Nations in the region to consult with them on the development of the regional long-range transportation plan and related programming processes. For the development of the current plan, Plan Bay Area 2040, a Tribal Summit was held on June 13, 2016 to discuss respective MTC and tribal roles in the development of transportation plans and programs in the Bay Area. The 'Guide to the TIP' was distributed at the Summit.
- Air Quality consultations on air quality issues occur through the Air Quality Conformity Task Force (including the Bay Area Air Quality Management District as well as representatives of the Environmental Protection Agency, California Air Resources Board, Federal Highway Administration and Federal Transit Administration and state and local transportation agencies) which reviews updates to the TIP and its air quality conformity analysis.
- Notices on the draft TIP updates are mailed out along with instructions on how to access and comment on the TIP. The mailing roster targets agencies involved in the preparation of the region's long-range plan, including Tribal Nations. Additionally, state agencies and local agencies are consulted through the Inter-Governmental Review process (Association of Bay Area Government's Area-wide Clearinghouse).
- MTC's compliance with the California Environmental Quality Act (CEQA) for the regional long-range transportation plan also serves as the framework to consult, as appropriate, with federal, state and local resource agencies responsible for land use management, natural resources, environmental protections, conservation, and historic preservation.

TIP REVISIONS

What happens after the TIP is adopted?

Revising the TIP

Once a TIP is adopted, revisions are made on a frequent and routine basis to accommodate changes to project scopes and funding. Revisions to the TIP may occur as amendments, administrative modifications, or technical corrections. Each type of revision follows a different set of implementation procedures. Administrative modifications and amendments are defined in federal regulations, specifically Title 23, CFR part 450.104. The Federal Highway Administration (FHWA), Federal Transit Administration (FTA), and California Department of Transportation (Caltrans) have developed amendment and administrative modification procedures for the TIP. These procedures are posted online at: <http://mtc.ca.gov/our-work/fund-invest/tip/tip-revisions-and-amendments>, in the MTC TIP Revision Process and Procedures document included in Appendix A-52, and by the MTC Public Participation Plan located in Appendix A-6.

MTC staff also has the authority to make technical corrections to the TIP, and the Executive Director and/or a Deputy Director has signature authority to approve administrative modifications for the TIP and Federal Statewide Transportation Improvement Program (FSTIP) under delegated authority by the California Department of Transportation (Caltrans) and to forward TIP amendments once approved by the Commission to the appropriate state and federal agencies for review and approval.

MTC processes TIP revisions when the circumstances prompting the change are compelling, and the change will not adversely affect air quality conformity or financial constraint findings of the TIP. All changes must be consistent with the regional transportation plan.

TIP Update

A TIP update is a complete update of the existing TIP to reflect new or revised transportation investment strategies and priorities. Given the dynamic nature of the TIP, with frequent project additions and amendments throughout the year, the TIP update process largely consists of moving projects already programmed in the existing TIP into the next four year period, re-demonstrating the program is constrained to estimated revenues, and re-demonstrating air quality conformity.

Federal regulations require that the TIP be updated at least once every four years. MTC may update the TIP more frequently, however, these updates are limited to special circumstances, such as aligning the update cycle with State processes or to reflect an amendment to the regional long-range plan. Caltrans requires all MPOs in the state to update their TIPs concurrently every two years.

FINANCIAL CONSTRAINT

The TIP must be financially constrained, meaning that the amount of funding programmed must not exceed the amount of funding estimated to be reasonably available. Financial constraint must be demonstrated by program and by year for the four active years of the TIP.

As an air quality non-attainment area, MTC may only program projects with committed funds in the first two years of the TIP. Reasonably available revenues (funds that are not yet committed to the project but are estimated to be available during the four years of the TIP) may be programmed to projects in the third and fourth years of the TIP.

Fiscal Constraint of the 2019 TIP

MTC has taken into consideration the transportation funding revenues expected to be available during the four years of the 2019 TIP (FY 2018-19 through FY 2021-22) and has found the programming of the 2019 TIP to be financially constrained by program and by year. For a full accounting of all funds included in the 2019 TIP, please refer to the 2019 TIP Fiscal Constraint Appendix A-59.

MTC re-demonstrates fiscal constraint with every amendment to the TIP. In addition, MTC continuously monitors developments in funding programs and funding needs of transportation projects, as reflected by the TIP project listing. Any significant changes are reviewed by MTC and its transportation partners; and, if needed, MTC will take appropriate actions, such as a TIP revision, to maintain the financial constraint of the TIP.

System Preservation, Operations and Maintenance Costs

In addition to the funds programmed to the projects in the TIP, fiscal constraint requirements also encompass the estimated costs of preserving, maintaining, and operating the region's transportation system as a whole. The bulk of these funds are not captured by the projects programmed in the TIP, which tend to be large, federally-funded capital projects. The framework of both MTC's current long-range plan and the 2019 TIP meet this requirement.

Below are key programs in the TIP which address system preservation, operation, and maintenance of the transportation system:

- **State Highways:** The State Highway Operation and Protection Program (SHOPP) is a program of projects administered by Caltrans to manage, preserve, and improve the existing State highway system. Caltrans develops a ten-year SHOPP plan that identifies the needs for rehabilitation and reconstruction of all state highways and bridges over a ten-year period. SHOPP projects fall into six major categories: Collision Reduction, Bridge Preservation, Roadway Preservation, Roadside Preservation, Mobility Improvement, and Major Disaster Restoration. Projects are approved for inclusion in the SHOPP on a statewide competitive basis, initiated by the Caltrans District Offices, with safety projects as the highest priority.

- **Local Streets and Roads:** Preservation costs for San Francisco Bay Area local roadway infrastructure (pavement, non-pavement and locally-owned bridges) are determined using a process that incorporates pavement management programs and analysis completed by jurisdictions. The information on local street and road needs feeds into the Regional Transportation Plan needs assessment and is a basis for making funds available for streets and roads preservation projects, which are programmed in the TIP. Refer to Appendix A-55 for more detailed information and Streets and Roads needs and analysis.
- **Transit Operations and Rehabilitation:** The TIP includes Financial Capacity Assessments for public transit agencies in the region, which assess the financial state of the transit operators in the region and initiatives being undertaken to maintain the existing capital plan and service operations. The assessments are included in Section 2 of the TIP document.

FUND SOURCES PROGRAMMED IN THE TIP

What are the primary federal, state and local fund sources included in the TIP?

The TIP includes transportation funding from a wide variety of sources. The following is a description of the primary fund sources and their availability within the four years of the 2019 TIP. All dollar amounts are shown in thousands.

Federal Transit Administration (FTA) Programs

- Section 5307 Urbanized Area Formula:** FTA Section 5307 funds are apportioned to urbanized areas by FTA based on population and service factors for the five large urbanized areas of San Francisco-Oakland, San Jose, Concord, Antioch, and Santa Rosa, and population factors for the seven small urbanized areas of Vallejo, Fairfield, Vacaville, Napa, Livermore, Gilroy-Morgan Hill, and Petaluma. MTC prioritizes these funds for transit capital replacement projects such as revenue vehicles and fixed guideway; however, some funds are also used for transit operations, system enhancements and job access and reverse commute projects. MTC adopted a preliminary Section 5307 program of projects for FY2016-17 through FY2019-20 in March 2017, and anticipates completing the next programming cycle in late FY2019-20. MTC anticipates that the next cycle will include FY2020-21 and one to three additional years, depending on the term of the next federal transportation authorization legislation.

FTA 5307	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	Totals
Revenues	217,558	244,273	235,316	242,375	939,523
Programming	213,722	225,367	1,494		440,583
Balance	3,836	18,907	233,822	242,375	498,940

(All funding in \$1,000s)

- 5309 Bus and Bus Facilities:** FTA Section 5309 Bus funds are used to fund bus and bus facility replacement, rehabilitation, expansion and enhancement projects. The program was replaced with the new Section 5339 Bus and Bus Facilities formula program by MAP-21 starting in FY2012-13 (see below). Several projects in the TIP include Section 5309 Bus funds programmed in previous years. The FTA Section 5309 Bus program funds were usually awarded by FTA directly to transit operators and other agencies through FTA's State of Good Repair, Bus Livability and other competitive, discretionary programs. The funds were also distributed by Congress through discretionary earmarks.
- 5309 Capital Investment Grants:** The FTA Capital Investment Grants program is a nationally competitive program and is used to fund new and expanded fixed guideway

systems including bus rapid transit systems. This program includes the New Starts, Small Starts and Core Capacity funding programs.

- Section 5310 Enhanced Mobility of Seniors and Individuals with Disabilities:** FTA Section 5310 funds are available to states or local government authorities, private non-profit organizations, or operators of public transportation for capital and operating projects that serve the specialized needs of transit-dependent populations beyond traditional public transportation services and Americans with Disabilities Act (ADA) complementary paratransit services. Within California, Caltrans is the designated recipient for the urbanized area (UA) and rural funds in the MTC region. However, under the FAST Act, Caltrans delegated program development for the large UA funds to MTC. MTC is responsible for the region’s large UA project scoring and selection as well as ensuring all projects are included in the region’s Coordinated Public Transit–Human Services Transportation Plan (“Coordinated Plan”). The Bay Area’s Coordinated Plan was adopted in February 2018, and will be updated in 2021.

FTA 5310	FY 2018-19*	FY 2019-20	FY 2020-21	FY 2021-22	Totals
Revenues	19,437	4,759	4,759	4,759	33,716
Programming	14,678				14,678
Balance	4,759	4,759	4,759	4,759	19,037

(All funding in \$1,000s)

* FY2018-19 funding includes prior year apportionments that have been carried over into the 2019 TIP period

- Section 5311 Rural Area Program:** FTA Section 5311 funds are available to transit operators that provide transportation services in rural areas. MTC develops the funding priorities for the Bay Area in conjunction with Caltrans who is the designated recipient and administers the funds. MTC programs the Bay Area’s regional apportionment to transit operators according to each operator’s rural area population and rural area route miles. Recipients are required to prioritize the replacement of capital equipment, with top priority for capital assets needed to maintain existing transit services. Recipients may use funds for operations if they document that the funds are not needed to maintain or replace capital equipment. Currently, funds are programmed through FY 2017-18.

FTA 5311	FY 2018-19*	FY 2019-20	FY 2020-21	FY 2021-22	Totals
Revenues	4,651	1,640	1,689	1,740	9,720
Programming	4,615				4,615
Balance	36	1,640	1,689	1,740	5,105

(All funding in \$1,000s)

* FY2018-19 funding includes prior year apportionments that have been carried over into the 2019 TIP period

- Section 5316 Job Access and Reverse Commute Program (JARC):** FTA Section 5316 funds were available for job access projects designed to transport welfare recipients and other eligible low income individuals to and from jobs and other trips related to employment.

MAP-21 eliminated Section 5316 as a separate program and combined its function and funds with the Section 5307 program (see above). Several projects in the TIP include Section 5316 funds programmed in previous years.

- Section 5317 New Freedom Program:** FTA Section 5317 was created by SAFETEA to provide formula funding for new public transportation services and public transportation alternatives beyond those required by ADA to assist persons with disabilities. MAP-21 eliminated Section 5317 as a separate program and combined its function and funds with the Section 5310 program (see above). Several projects in the TIP include Section 5317 funds programmed in previous years.
- Section 5337 State of Good Repair Program:** FTA Section 5337 is a funding program created by MAP-21. Eligible uses of the funds include the replacement and rehabilitation of fixed guideway assets including railcars, ferry vessels, buses operating in HOV lanes, and related infrastructure. Projects are limited to replacement and rehabilitation, or capital projects required to maintain public transportation systems in a state of good repair. The funds are apportioned by FTA to the four large urbanized areas of San Francisco-Oakland, San Jose, Concord and Antioch based on service factors. MTC programs the Section 5337 funds using the same criteria and schedule as the FTA Section 5307 funds (see above).

FTA 5337	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	Totals
Revenues	211,113	212,430	220,400	223,787	867,730
Programming	189,218	207,037	3,131		399,386
Balance	21,895	5,393	217,269	223,787	468,345

(All funding in \$1,000s)

- Section 5339 Bus and Bus Facilities Program:** FTA Section 5339 is a formula funding program created by MAP-21 to replace the Section 5309 Bus and Bus Facilities discretionary program (see above). Eligible uses of the funds include bus and bus facility replacement, rehabilitation, expansion and enhancement projects. The funds are apportioned to the 12 Bay Area urbanized areas by FTA based on population and service factors. MTC programs the Section 5339 funds using the same criteria and schedule as the FTA Section 5307 funds (see above).

FTA 5339	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	Totals
Revenues	12,299	15,258	13,510	13,916	54,983
Programming	11,741	11,054			22,795
Balance	558	4,204	13,510	13,916	32,188

(All funding in \$1,000s)

Federal Highway Administration (FHWA) Programs

- Surface Transportation Block Grant Program (STP):** Federal transportation legislation authorizes the State of California to distribute regional Surface Transportation Block Grant Program (STP) funds to areas within the State based on urbanized population shares. MTC pools the STP funds coming to the San Francisco Bay Area with CMAQ funds to develop a comprehensive and multi-modal program. MTC, in cooperation with its transportation partners, developed a variety of regional and local programs through the STP/CMAQ funded One Bay Area Grant (OBAG) program. In general, the STP funds support the Local Streets and Road rehabilitation program, the transit priorities and regional operations programs, planning activities, bicycle and pedestrian projects, and Transportation for Livable Communities. Programming is based on apportionments provided by Caltrans and the Federal Highway Administration (FHWA). STP apportionments for FY 2012-13 through 2016-17 are programmed as part of OBAG 1; apportionments for FY 2017-18 through FY2021-22 are programmed through the OBAG 2 programming cycle.

STP	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	Totals
Revenues	98,017	100,568	101,692	101,658	401,935
Programming	93,677	99,219	101,151	101,446	395,493
Balance	4,340	1,349	541	212	6,442

(All funding in \$1,000s)

- Congestion Mitigation and Air Quality Improvement Program (CMAQ):** Federal transportation legislation authorizes the State of California to spend Congestion Mitigation and Air Quality Improvement Program (CMAQ) funds in air basins that are not in compliance with federal air quality standards. California distributes CMAQ funds to the metropolitan planning organizations (MPOs) based on population and the severity of non-attainment of air quality standards in a particular air basin using various weighting factors. MTC pools the CMAQ funds coming to the San Francisco Bay Area with STP funds to develop a comprehensive multi-modal program, known as OBAG (see above). The CMAQ portion of OBAG funds projects and programs that address air quality such as transit programs, regional operations, bicycle and pedestrian projects, Safe Routes to School, the Climate Initiatives program, and Clipper^(SM) (universal fare card). The amounts available for programming were provided by Caltrans and the Federal Highway Administration (FHWA). CMAQ apportionments for the TIP period are shown below. CMAQ apportionments for FY 2012-13 through 2016-17 are programmed as part of OBAG 1; apportionments for FY 2017-18 through FY2021-22 are programmed through the OBAG 2 programming cycle.

CMAQ	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	Totals
Revenues	71,475	71,724	71,698	71,672	286,569
Programming	63,201	44,389	61,657	47,165	216,412
Balance	8,274	27,335	10,041	24,507	70,157

(All funding in \$1,000s)

- **Transportation Alternatives Program (TAP):** In 2013, the State Legislature combined multiple federal and state bicycle and pedestrian fund programs, including the federal Transportation Alternatives Program (TAP), into a single program. The state’s Active Transportation Program (ATP) is described under the State, Regional, and Local programs, below.
- **National Highway Freight Program (NHFP):** Introduced in 2015 with the FAST Act, the NHFP is a formula program supporting the efficient movement of freight on the National Highway Freight Network. In California, the funding is included in California’s Trade Corridor Enhancement Program – along with funding made available through Senate Bill 1. The state adopted the first TCEP in Spring 2018, and the funding will be included in the TIP in late 2018.
- **Highway Bridge Program:** Eliminated as a stand-alone federal program under MAP-21, Caltrans has continued to implement the local highway bridge program using other federal funds. The intent of the program is to replace or rehabilitate public highway bridges that are structurally deficient or functionally obsolete. Caltrans manages the statewide program, evaluating candidate projects for eligibility requirements, and including the successful candidate projects in the financially constrained program lists that are forwarded to MPOs for inclusion into the TIP. HBP funded projects are often programmed into the TIP as a single group listing, rather than individual projects.
- **Highway Safety Improvement Program (HSIP):** The purpose of HSIP is to achieve a significant reduction in fatalities and serious injuries on public roads. Caltrans manages the state’s allocation of these federal funds, using crash reduction factors to identify candidate projects for funding. HSIP funded projects are often programmed into the TIP as a single group listing, rather than individual projects.

Federal Discretionary Programs

- **Transportation Infrastructure Finance and Innovation Act (TIFIA):** The TIFIA program provides federal credit assistance in financing surface transportation projects of regional and national significance. Projects must cost at least \$50 million or 33.3% of a state’s annual appropriation of federal-aid funds, whichever is less; Intelligent Traffic System (ITS) projects have a lower project cost requirement of \$15 million. Federal credit assistance under TIFIA in the form of secured loans, loan guarantees, or standby lines of credit provides more flexibility in repayment terms and potentially more favorable interest rates than private capital market alternatives.

- **Transportation Investment Generating Economic Recovery (TIGER):** TIGER grants are awarded on a competitive basis for projects that will have a significant impact on the Nation, a metropolitan area, or a region. Since the TIGER program was first created in 2009, \$5.6 billion has been awarded for capital investments in surface transportation infrastructure over nine rounds of competitive grants. TIGER funds will be programmed into the TIP after they have been awarded.
- **Earmarks:** Earmarks are the provision of funds through Congressional action, either legislation or appropriations, to specific projects. In 2011, Congress eliminated earmarks from use. However, many earmarks remain programmed in the TIP (either in the four active years of the TIP or in prior years) on active and ongoing projects. In addition, the Consolidated Appropriations Act, 2016 included a provision that enables States to repurpose unobligated balances on earmarks that are more than ten years old. MTC will amend the TIP as necessary to reflect programming changes that may be required by the implementation of this provision.

State, Regional, and Local Programs

Not all state and local funds must be programmed in the TIP. However, if these funds are used to match federal dollars described above, or if they are attached to projects that require federal approval or other formal federal action, or if the project funded is considered to be regionally significant, they must be included in the TIP. State and local fund sources include the following:

- **State Transportation Improvement Program (STIP):** The California Transportation Commission (CTC) is required to biennially adopt a State Transportation Improvement Program (STIP). The STIP is a comprehensive listing of all major projects to be funded from specified state funding programs and certain federal funds that flow directly to the state. As a result, many of the projects that are included in the STIP must eventually be included in the regional TIPs and the FSTIP as well. The STIP is funded in large part by the state excise tax on gasoline, which will reset to 17.3 cents per gallon in 2019 and escalate annually thereafter per Senate Bill 1 (2017, Beall).

Regional Transportation Improvement Program (RTIP): The bulk (75%) of the STIP consists of spending programs developed at the regional level throughout California, called the Regional Transportation Improvement Programs (RTIP). The RTIP is a five-year capital improvement program of transportation projects on and off the State Highway System, funded with revenues from the State Highway Account (SHA), federal funds, and other funding sources.

Using the CTC Fund Estimate which distributes funding based on population and road miles, MTC submits the Bay Area's RTIP every two years. The amount available for programming and the actual programmed amount in the 2019 TIP reflect the

County Share balances and programming targets of the 2018 STIP Fund Estimate, and funding committed to the region as adopted by the CTC on March 21, 2018. The next STIP cycle will be in 2020.

Interregional Transportation Improvement Program (ITIP): The remaining element of the STIP (25%) is known as the Interregional Transportation Improvement Program (ITIP). The ITIP is intended to address transportation infrastructure needs that cross metropolitan boundaries and link the state’s transportation system, such as intercity rail and interregional highways. The ITIP is a five-year capital improvement program of transportation projects on and off the state highway system, funded with revenues from the SHA, federal funds, and other funding sources. The amount available for programming and the actual programmed amount in the 2019 TIP reflect the funding committed to the region adopted by the CTC on March 21, 2018. The next STIP cycle will be in 2020.

STIP	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	Totals
Revenues	75,581	108,984	87,695	69,312	\$341,572
Programming	75,581	108,984	87,695	69,312	\$341,572
Balance	0	0	0	0	0

(All funding in \$1,000s)

- State Highway Operation and Protection Program (SHOPP):** The purpose of the SHOPP is to adequately maintain and operate the state highway system. In accordance with Government Code Section 14526.5 and Streets and Highways Code Section 164.6, the SHOPP is a four-year program of projects with the purpose of collision reduction, bridge preservation, roadway preservation, roadside preservation, mobility, or facilities related to the state highway system. SHOPP is funded through the SHA, federal funding, and other sources, and received a funding boost from Senate Bill 1 (2017, Beall). Government Code Section 14526.4(a) also requires the State to prepare a robust Transportation Asset Management Plan (TAMP) to guide the selection of projects for the SHOPP. The most recent programming, the 2018 SHOPP, covers the four-year period from fiscal years 2018-19 through 2021-22. Similar to the RTIP, the SHOPP is updated every two years. The amount available for programming and the actual programmed amount in the 2019 TIP reflect the SHOPP funding available to the region as approved by the CTC.
- Active Transportation Program (ATP):** The State Legislature created the Active Transportation Program (ATP) in 2013 to combine multiple federal and state bicycle and pedestrian fund sources and programs into a consolidated state program. ATP includes federal funding sources such as the Transportation Alternatives Program (TAP), and state funding such as the Bicycle Transportation Account (BTA) and Safe Routes to Schools (SR2S). Starting in 2017, ATP received an annual \$100 million funding boost thanks to Senate Bill 1 (2017, Beall). The CTC has adopted three full cycles and one augmentation cycle of ATP programming, and the project selection process for the fourth cycle is

currently underway. Once adopted by the CTC, MTC will program the fourth cycle of ATP, for years 2019-20 through 2022-2023 into the 2019 TIP.

ATP	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	Totals
Revenues	50,629	34,508	19,022	10,290	115,079
Programming	50,629	34,508	19,022	0	104,159
Balance	0	0	0	10,290	10,290

(All funding in \$1,000s)

- Senate Bill 1 (SB 1) Funds:** In 2017, the State Legislature approved and the Governor signed Senate Bill 1 into law. SB 1 increases certain transportation taxes and fees, which generate new revenue for existing and new transportation programs. Many of the existing programs receiving additional funding thanks to SB 1 (such as the STIP, SHOPP, and ATP) are discussed earlier in this section. Additional competitive programs created and augmented by SB 1 include the Solutions for Congested Corridors program, Trade Corridor Enhancement Program, Local Partnership Program competitive share, and Transit and Intercity Rail Capital Program (which also includes funding from cap and trade). Formula programs created and augmented by SB 1 include the Local Streets and Roads program and the Local Partnership Program formula share. CTC adopted the first cycle of competitive programs on May 16, 2018, and MTC will program these projects into the 2019 TIP.
- Proposition 1B Bond Funds:** Approved by voters in 2006, the program includes nearly \$20 billion in investments statewide through the Corridor Mobility Improvement Account (CMIA), Trade Corridors Improvement Fund (TCIF), Public Transportation Modernization, Improvement, and Service Enhancement Account (PTMISEA), and other programs. The majority of Proposition 1B funding has been fully programmed and projects delivered.
- Transportation Development Act (TDA) & State Transit Assistance (STA) funds:** TDA revenues are derived from a state sales tax of one-quarter of one percent on all retail sales in each county, used to finance transit operations, and bus and rail projects as well as special paratransit services for disabled passengers, and bicycle and pedestrian projects. STA funds are generated from the state sales tax on diesel fuel. These funds can be used for both transit capital and operating projects and are distributed 50% to the Population-Based program and 50% to the Revenue-Based program.
- Regional Measure 1 (RM 1), Regional Measure 2 (RM 2), and other bridge toll funds:** Bridge Toll funding is funding generated from tolls collected on the seven state-owned toll bridges in the bay area. The Bay Area Toll Authority (BATA) administers and allocates base toll revenues from the seven state-owned bridges to Caltrans for the day-to-day operations, maintenance and administration of these bridges, as well as their capital improvement and rehabilitation. BATA also serves as a pass-through agency for Regional

Measure 2 (RM2) bridge toll funds to specific voter-approved projects to relieve traffic congestion in bridge corridors, earthquake retrofit of state-owned toll bridges and other traffic mitigation projects related to retrofit work. Other bridge toll funding programs include Regional Measure 1 (RM1) and AB1171 projects to relieve traffic congestion in bridge corridors; AB 664 Net Bridge Toll Revenues, which MTC’s policy is to use to match federally funded transit capital projects that relieve congestion on the San Francisco-Oakland Bay, San Mateo-Hayward and Dumbarton bridges; and Two Percent Bridge Toll revenues, which are derived from the transit element of RM1 and fund specific ferry and non-ferry capital projects.

Bridge Tolls	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	Totals
Revenues	712,998	716,580	720,179	723,797	2,873,554
TIP Programming	180,211	230,216	106,000	99,000	615,427
Committed to Maintenance, debt service, etc.	532,787	486,364	614,179	624,797	2,258,127
Balance	0	0	0	0	0

(All funding in \$1,000s)

Regional Measure 3 (RM3), approved by the Bay Area voters in June 2018, provides for additional toll increases, with revenues slated to fund various transportation capital and operating projects in the region. RM3 revenues and projects will be added to the TIP over time as appropriate.

- Proceeds from county half-cent transportation sales taxes, and sales taxes for transit:**
 Includes 1/2¢ Sales Tax for transit and other highway improvements in Alameda, San Francisco, Contra Costa, Marin, Napa, Santa Clara, San Mateo, and Sonoma Counties. It does not include pending sales tax measure. Other local funding also includes Garvee Bond financing by local agencies, gas tax subventions, and Transportation Development Act (TDA) Articles 4 and 8 (1/4-cent sales tax) for transit operating assistance and capital projects. Programming of local funding takes place at the discretion of local collecting agencies.

Other Local	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	Totals
Revenues	5,088,274	5,211,289	5,333,726	5,546,771	21,180,061
Programming	2,370,494	1,333,487	2,633,855	844,804	7,281,640
Balance	2,717,780	3,877,802	2,699,872	4,701,967	13,997,421

(All funding in \$1,000s)

Innovative Financing

- Advance Construction:** Advance Construction (AC) is a financial management tool used to advance projects to meet program goals and project delivery schedules using non-federal funds while remaining eligible for federal funding at a later date. Once federal

funding becomes available AC projects may be converted in whole or in part to normal federal funding. The previously expended funds are then replenished by federal reimbursements.

- **Toll Credits:** Section 120(j) of Title 23 allows states to use certain toll revenue expenditures as a credit toward the non-federal matching share of programs authorized by Title 23 (except for the emergency relief programs) and for transit programs authorized by Chapter 53 of Title 49, referred as transportation development credits. Toll credits are not additional funds, but may be used in lieu of the non-federal match, bringing federal participation in a project to 100 percent of the project cost. The TIP must remain fiscally constrained when using toll credits in lieu of the non-federal match. Tracking of toll credits is performed through MTC's Fund Management System (FMS). State and Regional toll credits policies and procedures are included in Appendix A-39 and Appendix A-40.

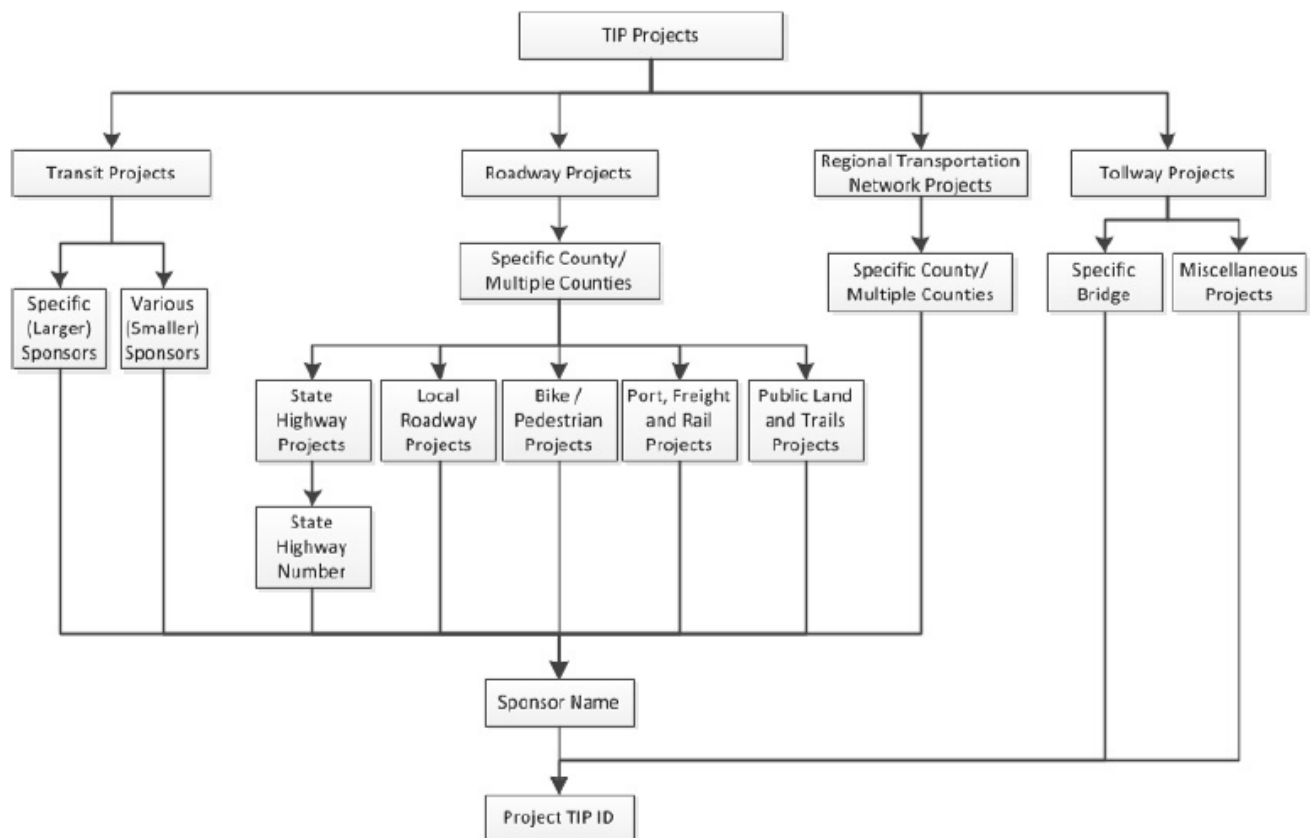
HOW TO READ THE PROJECT LISTINGS

How do I find information on specific TIP projects?

Organization

Project listings provide a detailed description for each individual project listed in the TIP. The projects are organized into four sections, transit projects, roadway projects, regional transportation projects (region-wide projects and initiatives), and tollway projects. Transit projects are listed alphabetically by operator. Roadway projects are sorted first by county and then by general project type (state highway, local roadway, bicycle and pedestrian, port, freight and rail, and public lands and trails), and listed alphabetically by project sponsor. Regional transportation projects are sorted by county and then listed by TIP ID number. Projects being implemented on toll facilities are sorted by the specific toll bridge that they affect and then by TIP ID.

Sort Order for Detailed Project Listings



Another way to locate the page number for a specific project is through the indices located at the end of Volume 1, Section 3. The indices are organized by County and sorted by TIP ID.

Single Line Project Listing Reports

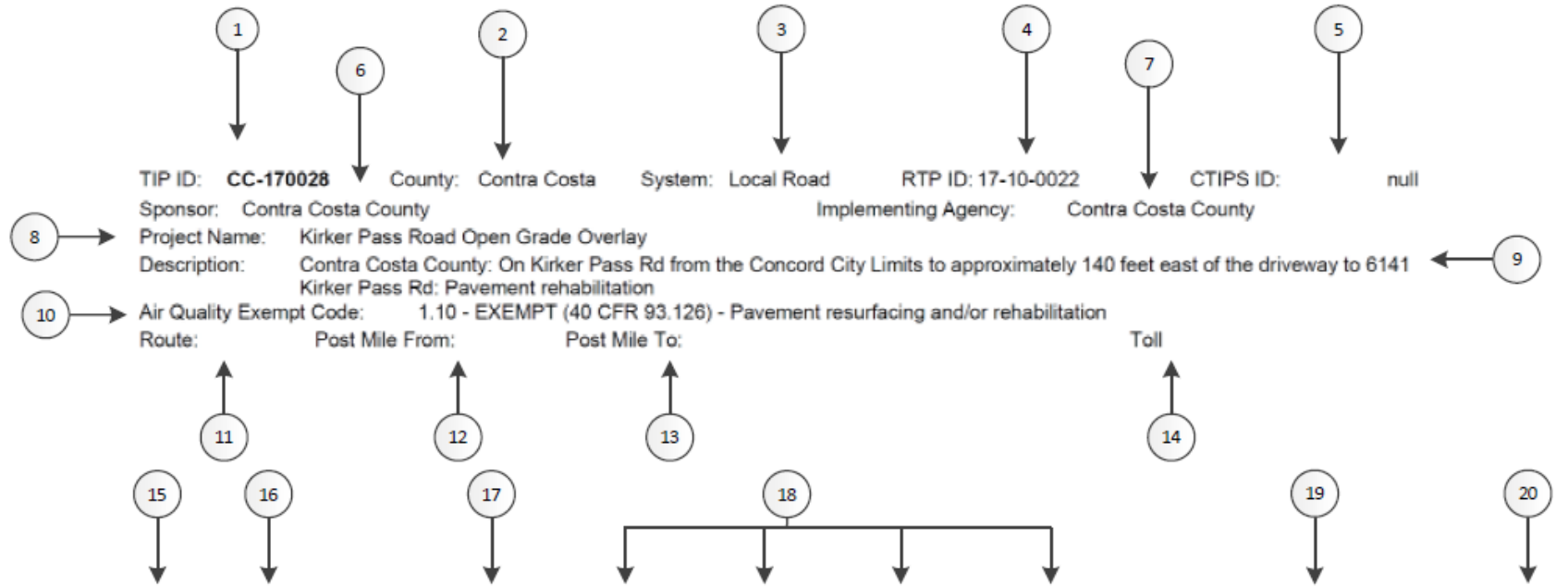
To view high level project information and aggregated funding information about each project, single line project listings and reports are included as Appendix A-57. The listings are divided by county with projects within each county sorted by project sponsor, transportation system, project purpose, and then TIP ID. The following four single line project listing reports have been included as Appendix A-57.

1. Single Line Project Listing by County
2. Single Line Project Funding Report – Funding by Phase
3. Single Line Project Funding Report – Funding by Authority
4. Single Line Project Funding Report – Funding by Funding by Fiscal Year

Key to Detailed Project Listings

Project listings contain detailed information about the scope, location, funding and schedule. Below is a sample project listing and corresponding key.

Sample Detailed Project Listing



TIP ID: **CC-170028** County: Contra Costa System: Local Road RTP ID: 17-10-0022 CTIPS ID: null
 Sponsor: Contra Costa County Implementing Agency: Contra Costa County
 Project Name: Kirker Pass Road Open Grade Overlay
 Description: Contra Costa County: On Kirker Pass Rd from the Concord City Limits to approximately 140 feet east of the driveway to 6141
 Air Quality Exempt Code: 1.10 - EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation
 Route: Post Mile From: Post Mile To: Toll

All funding in thousands of dollars		Prior Years	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	Future Years	Total Programmed
PE	OTHER LOCAL	\$ 175						\$ 175
CON	OTHER LOCAL		\$ 877					\$ 877
CON	STP		\$ 1,343					\$ 1,343
Total Programmed Funding:		\$ 175	\$ 2,220					\$ 2,395

Key to Detailed Project Listing

Project Information		
#	Data Label	Definition
1	TIP ID	A unique number used to identify projects in the TIP. The first three characters indicate the location where the project is being implemented and refers to either a specific county, various counties, or the entire region. The next two digits indicate the version of the TIP where the project was first shown (i.e. for projects added during the 2015 TIP, these digits are 15). The final four digits indicate the order in which the project first appeared in the TIP.
2	County	The county in which the project is located. Projects may also be located in "Various" counties or they may be "Regional" projects.
3	System	The transportation system for which the project improvement is attributed: public transit, local streets and roads, State Highway System or Interstate System, Port and Freight Rail Facilities, Public Lands and Trails, Toll Bridges and Express Lanes (Tollway), and Regional projects.
4	RTP ID	The RTP ID refers to the unique parent project as described in MTC's regional long-range plan.
5	CTIPS ID	A unique number used to identify projects in the California Transportation Improvement Program System (CTIPS).
6	Sponsor	The agency in charge of administering a project.
7	Implementing Agency	The agency administering or implementing a project in partnership with the Sponsor.
8	Project Name	The name or title of the project.
9	Project Description	A brief description of the project location and the scope of work being implemented.
10	Air Quality Exempt Code	The Air Quality Exemption status per federal Environmental Protection Agency (EPA). A list of Air Quality Exempt Codes may be found in Appendix A-51.
11	Route	The State Highway System (SHS) or State Route (SR) number, if applicable.
12	Post Mile From	The beginning limit of a project's location on the State Highway System or on a State Route (if applicable).
13	Post Mile To	The terminating limit of a project's location on the State Highway System or on a State Route (if applicable).

Key to Detailed Project Listing (continued)

14	Toll Credits	The amount of Toll Credits being used on the project. More information on the use of toll credits may be found in Appendix A-39 and Appendix A-40.
Funding Information		Please note that the years indicated in the funding information section of the project listing are shown as Federal Fiscal years. The Federal Fiscal Year (FY) in the TIP is from October 1 to September 30 of the following calendar year.
15	Phase	The stage of the project for which the specified funds have been programmed. Phases include: environmental (ENV), design engineering (PSE), preliminary engineering (PE), right of way acquisition (ROW), Caltrans support for right of way (ROW-CT/ROW-SUP), construction (CON), and Caltrans support for construction (CON-CT/CON-CE).
16	Fund Source	The program, law, or other source from which the specified funds originated. A list of all fund codes currently in use, including the associated funding sources, may be found in Appendix A-45.
17	Prior Years	Funding programmed in years prior to the current TIP. These funds are shown for information only. Amounts shown are in \$1,000s.
18	The Four Years of the 2019 TIP	Funding programmed in years covered by the current TIP. Amounts shown are in \$1,000s.
19	Future Years	Funding programmed in years after the current TIP. These funds are shown for information only. Amounts shown are in \$1,000s.
20	Total Programmed	The rows of the funding information table are calculated to show the total amount of funding from a given source programmed in a given phase. The columns are calculated to show the total amount of funding for all phases from all fund sources for a given year. The bottom right corner is calculated to show the total amount of funds programmed for a project inclusive of all fund sources, years, and phases.

THE TIP ONLINE

How to find up-to-date information about TIP projects

How to View the TIP Online

In addition to being printed as a stand-alone document, the TIP is also posted online at: mtc.ca.gov/our-work/fund-invest/transportation-improvement-program. This allows project sponsors and the general public to see what transportation projects are planned in their area and in the entire Bay Area. To view the TIP online, the user will need a computer with Internet access capabilities or the user can visit any public library in the Bay Area and ask to use their Internet accessible computer.

Up-to-date Information

Individual project listings are also maintained in a publicly available database online. This database reflects the current version of each project, including any approved revisions (such as scope or funding changes). MTC's web-based Fund Management System (FMS) is located at: mtc.ca.gov/our-work/fund-invest/fund-management-system.

For specific or detailed information on individual projects, the particular project sponsor or lead implementing agency should be contacted directly.

View Project Locations in the TIP Interactively

Many projects in the TIP have been mapped to provide a geographic visualization of the project. However, not all projects can easily be mapped. Projects that are not tied to a specific location, such as transit operations and maintenance projects, planning projects and studies, cannot be mapped. To view project maps, visit the FMS application at: fms.mtc.ca.gov/fms/home.ds.

Once at the FMS homepage screen, select "Project Search," and click on the "Search" button. This will bring up a complete list of projects in the current TIP. Projects that can be mapped interactively display a red compass button in the left-most column of the listing under the "Map It" header. If the project is mapped, it can be viewed by clicking on the project's red compass button.

The screenshot shows the FMS interface with a navigation bar at the top containing "Project Manager", "Report Manager", "Help", and "Privacy Policy". Below this is a header for "VIEW PROJECT: BART - Warm Springs Extension". A navigation menu includes "Project Search" (highlighted with a blue arrow), "Project Detail", "Funding", "Air Quality", and "Project Documents". The main content area is divided into two sections: "Alternate ID Information" and "General Info".

Alternate ID Information		General Info	
TIP ID	ALA050015	FMS ID	103.00
CTIPS ID	20600002801	RTP ID	21132
Version	9	TIP Revision No	2015-00
Revision	Amendment	RTP Revision No	

For problems accessing MTC's TIP or FMS online, contact:

Adam Crenshaw

Phone: 415-778-6794

Email:

acrenshaw@bayareametro.gov

Contacts for Questions about the TIP

For questions on the TIP, you may contact:

Adam Crenshaw
Phone: 415-778-6794

- OR -

Karl Anderson
Phone: 415-778-6645
Email: kanderson@bayareametro.gov

Email: acrenshaw@bayareametro.gov

For detailed information on individual projects, the particular project sponsor or lead implementing agency should be contacted directly.

General information on the transportation financing process can be found in the MTC publication, *A Guide to the San Francisco Bay Area's Transportation Improvement Program, or TIP*, updated for the 2019 TIP. The guide is posted on MTC's website at <http://mtc.ca.gov/our-work/fund-invest/transportation-improvement-program>. Printed copies are available the MTC offices also be viewed at MTC's offices at 375 Beale St., San Francisco, and may be ordered via e-mail library@bayareametro.gov or telephone (415) 778-5236.



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