MTC REGIONAL TRANSIT ASSET MANAGEMENT GROUP PLAN

September 2018

Sponsored by

METROPOLITAN TRANSPORTATION COMMISSION

WSP

MTC Regional Transit Asset Management Group Plan

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Prepared by

WSP

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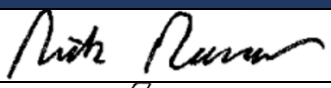
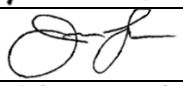
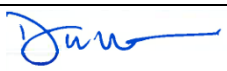
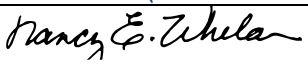
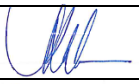
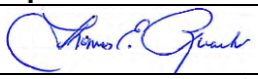
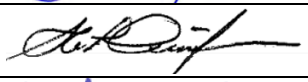
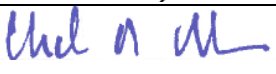
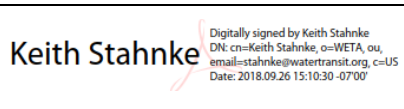
Accountable Executives Statement

We approve this plan and the performance targets included in the plan. In addition, we affirm our commitment to delivering this Transit Asset Management (TAM) plan to ensure the delivery of safe, reliable, and cost-effective transit service to our customers throughout the San Francisco Bay Area region.

Tier II Operator	Accountable Executive		Signature
	Name	Title	
Central Contra Costa Transit Authority (CCCTA)	Rick Ramacier	General Manager	
Dixon Readi-Ride	Joe Leach	City Engineer/Public Works Drector	
Eastern Contra Costa Transit Authority (Tri Delta)	Jeanne Krieg	Chief Executive Officer	
Fairfield and Suisun Transit	David A. White	City Manager	
Livermore Amador Valley Transit Authority (LAVTA)	Michael Tree	Executive Director	
Marin County Transit	Nancy Whelan	General Manager	
Napa Valley Transportation Authority (NVTA)	Kate Miller	Executive Director	
Petaluma Transit	Jared Hall	Transit Manager	
Rio Vista Delta Breeze	Robert Hickey	City Manager	
Santa Rosa CityBus	Jason Nutt	Director of Transportation	
Solano County Transit (SolTrans)	Beth Kranda	Executive Director	
Sonoma County Transit	Bryan Albee	Transit Systems Manager	
Union City Transit	Thomas Ruark	Public Works Director	
Vacaville City Coach	Shawn Cunningham	Director of Public Works	
Western Contra Costa Transit Authority (WestCAT)	Charlie Anderson	General Manager	
Water Emergency Transportation Authority (WETA)	Keith Stahnke	Operations Manager	 Keith Stahnke Digitally signed by Keith Stahnke DN: cn=Keith Stahnke, o=WETA, ou, email=stahnke@watertransit.org, c=US Date: 2018.09.26 15:10:30 -07'00'

Plan At a Glance

METROPOLITAN TRANSPORTATION COMMISSION

PLAN PARTICIPANTS

CityCoach · NVTA (Napa Valley Transportation Authority) · San Francisco Bay Ferry · SolTrans · FAST · PetalumaTransit · Sonoma County Transit · Rio Vista Delta Breeze · Tri-Valley Wheels · Union City California · marin transit · Dixon California · Tri Delta Transit · County Connection · South Bass City Bus · WestCAT

PLAN GUIDING PRINCIPLES

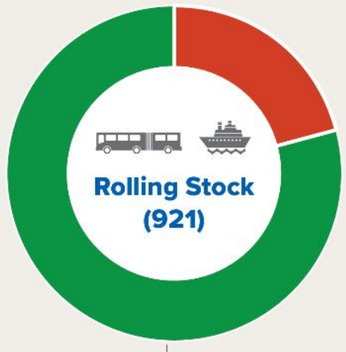
Maintain, update, and enhance the region's asset inventory to better invest in a state of good repair

Monitor and improve the condition of the system by setting annual performance measures and targets and documenting the progress towards those targets

Invest in state of good repair based on a structured decision support framework to ensure available funds are spent where they are needed most

Maintain a list of investment priorities that considers safety, accessibility, and available funding

STATE OF GOOD REPAIR SUMMARY



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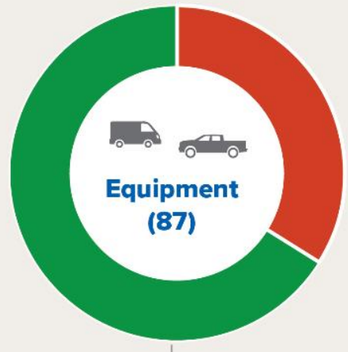

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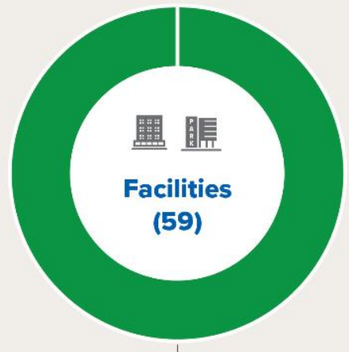

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TAM INVESTMENT PRIORITIZATION APPROACH

☑ 1. Scheduled Maintenance

Funding Source: City General Fund, Measure B, Measure BB, STA, TCP (5307, 5337, 5339), TDA, TDA IV

☑ 2. Planned Overhauls*

Funding Source: City General Fund, Measure B, Measure BB, STA, TCP (5307, 5337, 5339), TDA, TDA IV

☑ 3. Replacements

Funding Source: AB 664, CalOES, Debt Financing, FTA 5309, FTA 5311, HVIP, LCTOP, Measure B, Measure BB, PTMISEA, SB-1, STA, State Zero Emission Vehicle Program, TCP (FTA 5307, 5337, 5339), TDA, TDA IV, TFCA, TPI

The investment prioritization approach prioritizes annual maintenance activities, followed by planned overhauls. Both activities will enable operators to get to the planned useful life from their assets. When the asset comes up for replacement based on its planned useful life (third priority), operators will use a set of evaluation criteria to establish replacement priorities. These criteria include:

- Safety
- Impact to service and operators (reliability)
- Maintenance
- Age
- Condition

** Applies to longer life assets*

September 28, 2018

Plan At a Glance

METROPOLITAN TRANSPORTATION COMMISSION

ASSET CONDITION AND PERFORMANCE TARGETS

Performance targets are based on what agencies can realistically achieve based on expected funding levels. The performance measures do not reflect the two year procurement period before replacement vehicles are placed in service (to replace those vehicles that have exceeded their ULB).

ROLLING STOCK

Rolling stock performance is measured by the percentage of revenue vehicles (by type) that meet or exceed the ULB.

Vehicle Type	Total # of Vehicles	# of Vehicles that Meet or Exceed ULB	% of Vehicles that Meet or Exceed ULB (FY 2018)	FY 2018 Performance Target	FY 2019 Performance Target**
AB–Articulated Bus	10	0	0%	0%	
AO–Automobile	9	2	22%	0%	
BR–Over-the-Road Bus	50	23	46%	83%	
BU–Bus	545	57	10%	22%	
CU–Cutaway	216	94	44%	23%	
FB–Ferryboat	14	2	14%	0%	
VN–Van	77	19	25%	28%	

EQUIPMENT

Equipment performance is measured by the percentage of non-revenue service vehicles (by type) that meet or exceed the ULB.

Vehicle Type	Total # of Vehicles	# of Vehicles that Meet or Exceed ULB	% of Vehicles that Meet or Exceed ULB (FY 2018)	FY 2018 Performance Target	FY 2019 Performance Target**
Automobile	41	18	44%	34%	
Trucks and other Rubber-Tired Vehicles	45	12	27%	34%	
Ferryboat	1	0	0%	0%	

FACILITIES

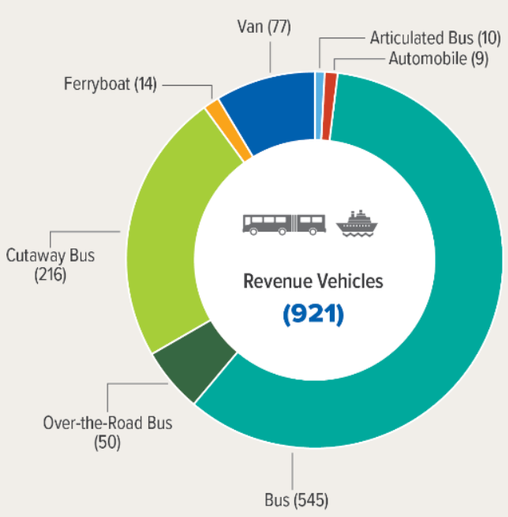
Facility performance is measured by the percentage of facilities (by group) that are rated less than '3' on the Transit Economic Requirements Model (TERM) scale.

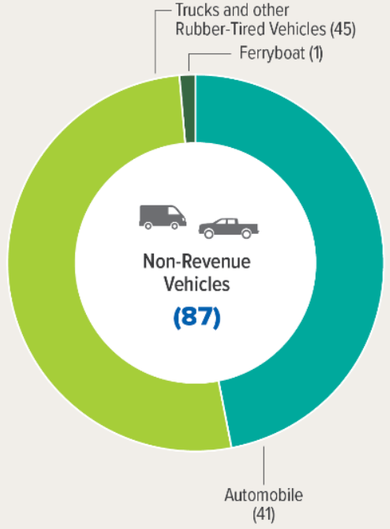
Facility Type	Total # of Facilities	# of Facilities Below '3' on TERM Scale	% of Facilities Below '3' on TERM Scale (FY 2018)	FY 2018 Performance Target	FY 2019 Performance Target**
Administrative and Maintenance Facility	21	0	0%	11%	
Passenger and Parking Facility	38	0	0%	12%	

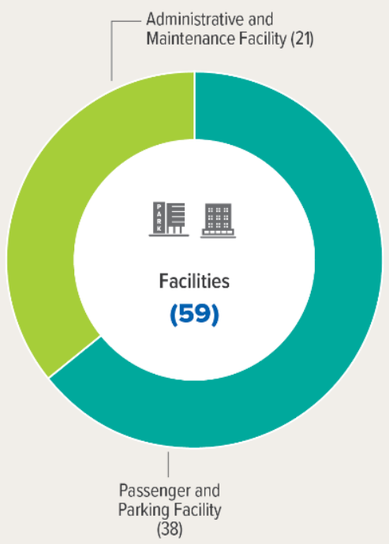
LEGEND Below or meets performance target; Exceeds performance target

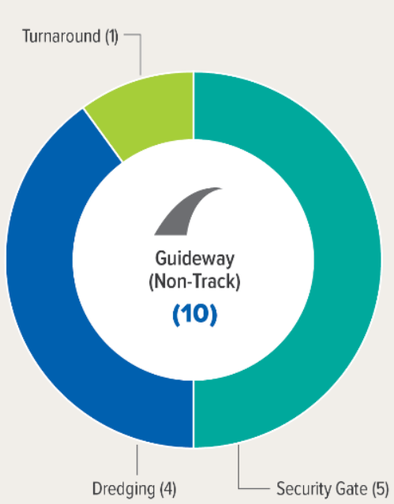
*** FY 2019 Performance Target Setting is in progress; the TAM Plan will be updated to include the targets when they are finalized*

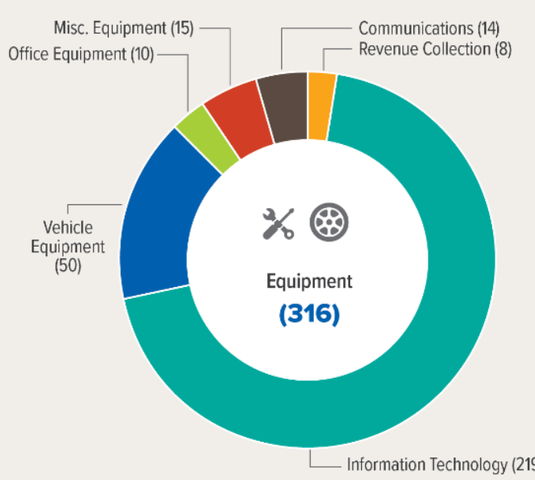
CAPITAL ASSET INVENTORY











September 28, 2018

1 Introduction

1.1 Plan Overview

This Transit Asset Management (TAM) plan is sponsored by the Metropolitan Transportation Commission (MTC), the transportation planning, financing, and coordinating agency for the nine-county San Francisco Bay Area. It covers the following 16 Tier II[1] operators (hereafter referred to as the "group") in the Bay Area region:

- Central Contra Costa Transit Authority (CCCTA) (County Connection)
- City of Dixon (Dixon Readi-Ride)
- Eastern Contra Costa Transit Authority (ECCTA) (Tri Delta)
- Fairfield and Suisun Transit (FAST)
- Livermore Amador Valley Transit Authority (LAVTA)
- Marin County Transit
- Napa Valley Transportation Authority (Vine Transit)
- Petaluma Transit
- Rio Vista Delta Breeze
- Santa Rosa CityBus
- Solano County Transit (SolTrans)
- Sonoma County Transit
- Union City Transit
- Vacaville City Coach
- Western Contra Costa Transit Authority (WestCAT)
- Water Emergency Transportation Authority (WETA)

This plan is compliant with the TAM Final Rule (49 CFR Part 625) and covers the 2018-2022 planning horizon. This plan establishes the group's process for improving the state of good repair of the region's transit system and advancing its asset management practices.

The plan is organized into the following sections:

- **TAM Plan Guiding Principles** describes the asset management principles that set the foundation for this plan.
- **Capital Asset Inventory** summarizes the collective asset inventory of the group plan participants.
- **Performance and Condition** summarizes the collective performance and condition of the group plan participants' asset inventory.
- **Asset Lifecycle Strategies** describes the treatment activities that are performed on assets throughout their lifecycle to ensure they meet their expected useful life.

[1] The FTA defines a Tier II operator as an agency that "owns, operates, or manages either (1) 100 or fewer vehicles in revenue service during peak regular service across all non-rail fixed route modes or in any one non-fixed route mode (2) a subrecipient under the 5311 Rural Area Formula Program (3) any American Indian tribe (625.5)."

- **Decision Support** describes the investment prioritization approach the operators are using to estimate capital investment needs over time and develop their list of priorities.
- **Investment Prioritization** lists the projects to improve and manage the state of good repair of capital assets.

The Federal Transit Administration (FTA) defines transit asset management as a business model that prioritizes funding based on the condition of transit assets to achieve or maintain transit networks in a state of good repair. In other words, asset management is about doing the right amount of work, at the right time, to deliver the right service level for the right cost.

Figure 1 illustrates the relationship between the plan sections. Asset management allows agencies to have a comprehensive understanding of what assets they have, their condition, and the work that needs to be done to maintain desired performance levels.

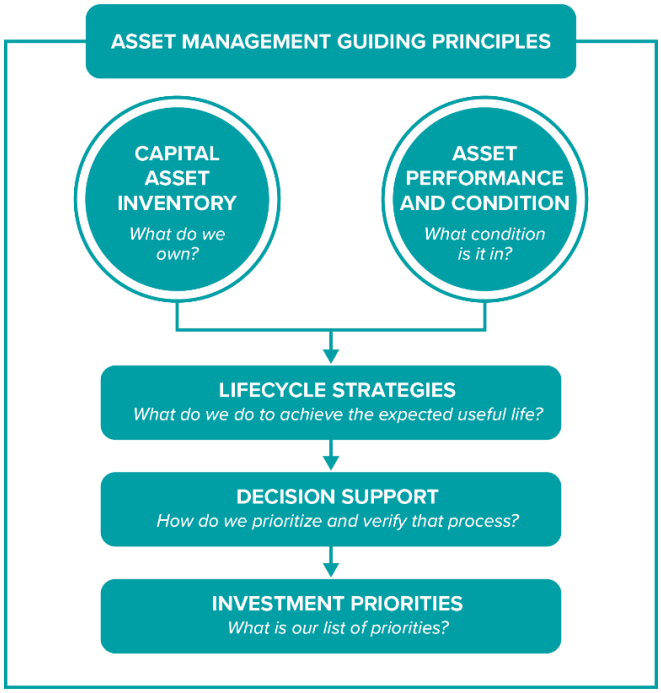


Figure 1: TAM Plan Overview

The primary asset classes covered in this TAM plan are illustrated in Figure 2. Fifteen of the operators operate bus and/or paratransit service and one operator operates passenger ferry service.

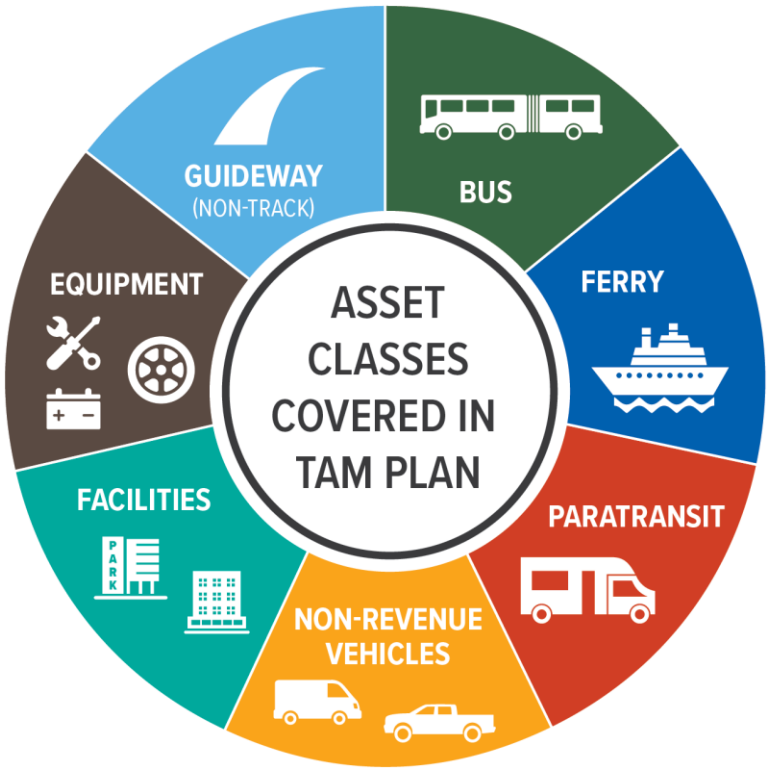


Figure 2: Asset Classes Covered in TAM Plan

1.2 Plan Participants

Table 1 identifies the plan participants and their operating characteristics. The Tier II operators are collectively responsible for providing transit service throughout eight counties of the nine-county San Francisco Bay Area: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Solano, and Sonoma counties (Figure 3). While most operators provide fixed route and/or paratransit service, one operator provides deviated fixed route service (Rio Vista Delta Breeze) and one operator provides passenger ferry service (WETA).

Table 1: Summary of Tier II Operator Characteristics

Tier II Operator	Modes	Service Area
Central Contra Costa Transit Authority (County Connection)	Bus (fixed route), paratransit	Concord, Pleasant Hill, Martinez, Walnut Creek, Clayton, Lafayette, Orinda, Moraga, Danville, San Ramon, and unincorporated communities in Central Contra Costa County
City of Dixon (Dixon Readi-Ride)	Paratransit	Dixon city limits, ADA service to Davis and Vacaville

Tier II Operator	Modes	Service Area
Eastern Contra Costa Transit Authority (Tri Delta)	Bus (fixed route), paratransit	Antioch, Brentwood, Oakley, Pittsburg and unincorporated communities in Eastern Contra Costa County
Fairfield and Suisun Transit (FAST)	Bus (fixed route), paratransit	Fairfield and Suisun City, Benicia, El Cerrito, Pleasant Hill, Vacaville, Dixon, Davis, Sacramento
Livermore Amador Valley Transit Authority (LAVTA)	Bus (fixed route), paratransit	Dublin, Pleasanton, Livermore, and surrounding unincorporated areas of Alameda County
Marin Transit	Bus (fixed route), paratransit	Eleven incorporated cities and towns (Belvedere, Corte Madera, Fairfax, Larkspur, Mill Valley, Novato, Ross, San Anselmo, San Rafael, Sausalito, Tiburon) and the unincorporated county
Napa Valley Transportation Authority (Vine Transit)	Bus (fixed route), paratransit, on-demand	Napa County
Petaluma Transit	Bus (fixed route), paratransit	Petaluma city limits
Rio Vista Delta Breeze	Bus (deviated fix route)	Isleton, Rio Vista, Fairfield, Suisun City, Pittsburg/Bay Point BART Station, and Antioch with connections to Lodi
Santa Rosa CityBus	Bus (fixed route), paratransit	Santa Rosa city limits
Solano County Transit (SolTrans)	Bus (fixed route), paratransit	Benicia and Vallejo
Sonoma County Transit	Bus (fixed route), paratransit	Cloverdale, Healdsburg, Windsor, Santa Rosa, Sebastopol, Rohnert Park, Cotati, Sonoma, Petaluma and surrounding Sonoma County unincorporated areas including the Sonoma Valley and Lower Russian River communities
Union City Transit	Bus (fixed route), paratransit	Union City city limits
Vacaville City Coach	Bus (fixed route), paratransit	Vacaville city limits
Western Contra Costa Transit Authority	Bus (fixed route), paratransit	Pinole, Hercules, and the unincorporated areas of Montalvin Manor, Bayview, Tara Hills, Rodeo, Crockett, and Port Costa
Water Emergency Transportation Authority	Ferry	Provides service between Alameda, Oakland, San Francisco, South San Francisco, and Vallejo.

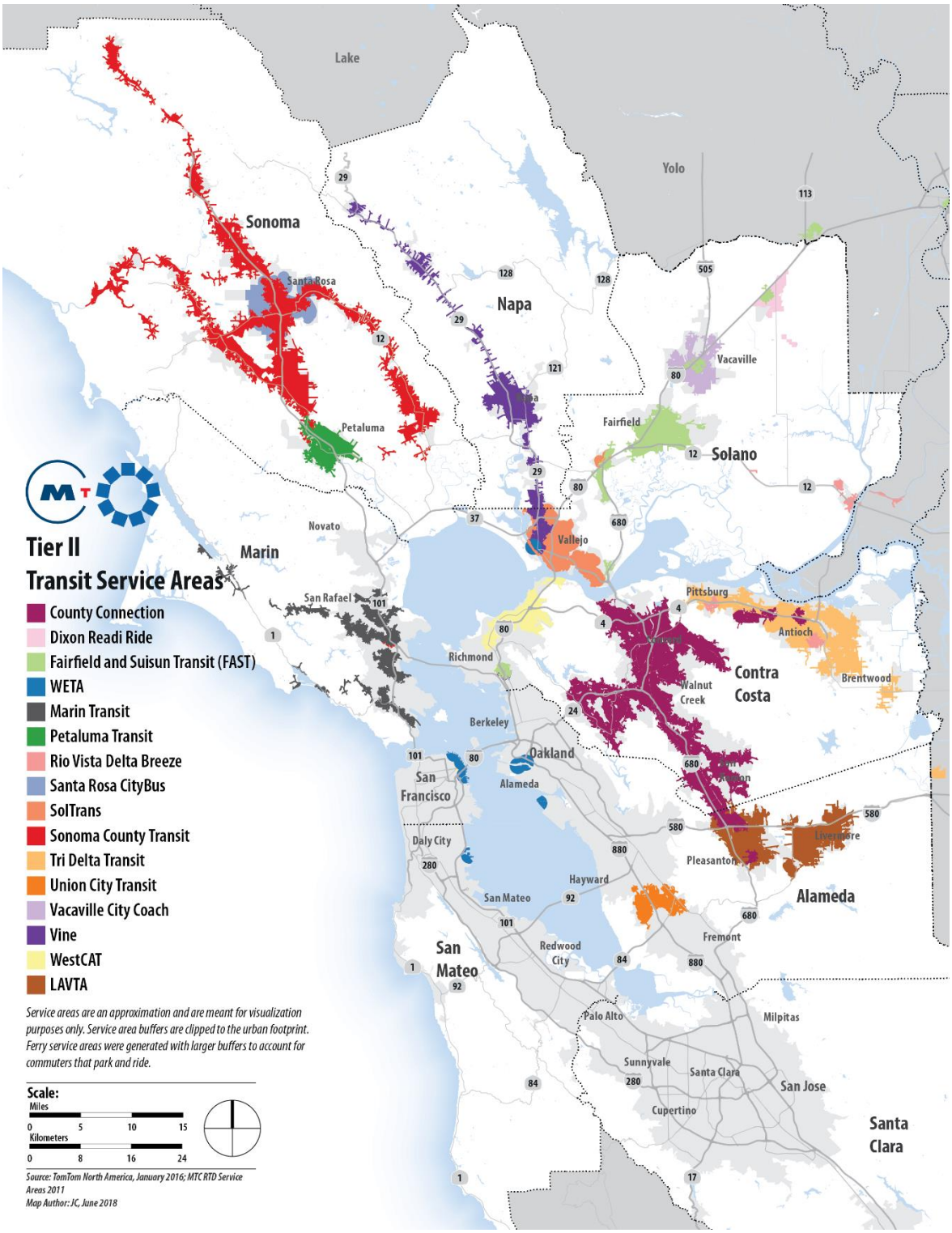


Figure 3: Tier II Operator Service Areas

1.3 Federal TAM Requirements

As part of *Moving Ahead for Progress in the 21st Century* (MAP-21) and the subsequent *Fixing America's Surface Transportation* (FAST) Act, the FTA has enacted regulations for transit asset management that require transit service providers to establish asset management performance measures and targets, as well as develop a TAM plan.

The TAM Final Rule was published on July 26, 2016 and went into effect on October 1, 2016. The rule amended the United States (U.S.) Code of Federal Regulations (CFR) Title 49 Parts 625 and 630, which relate to TAM and the National Transit Database (NTD) respectively.

The TAM Final Rule distinguishes requirements between larger and smaller or rural transit agencies (Tier I versus Tier II agencies). The 16 group TAM plan participants are all Tier II providers, which is defined by the TAM Final Rule as an agency that "owns, operates, or manages either (1) 100 or fewer vehicles in revenue service during peak regular service across all non-rail fixed route modes or in any one non-fixed route mode (2) a subrecipient under the 5311 Rural Area Formula Program (3) any American Indian tribe (625.5)."

1.3.1 State of Good Repair Performance Measures

The TAM Final Rule requires that transit agencies establish state of good repair (SGR) performance measures and targets for each asset class to convey condition information. The Tier II providers are required to report on the performance measures outlined in Figure 4.

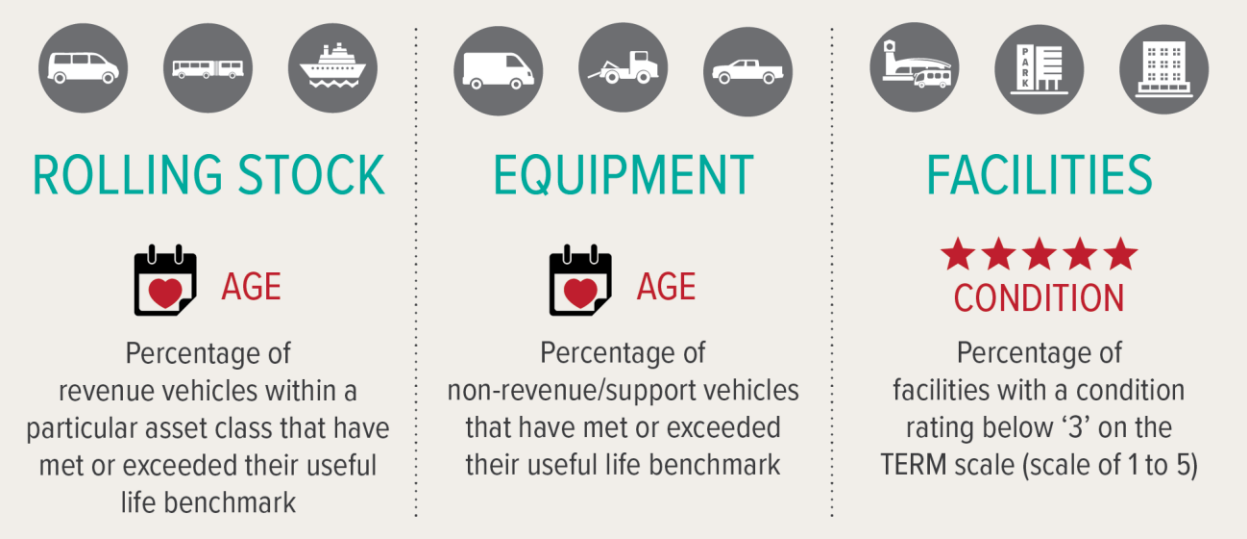


Figure 4: State of Good Repair Performance Measures

1.3.2 TAM Plan Elements

Each Tier II provider must develop its own TAM plan or participate in a group TAM plan. A Tier II provider's TAM plan or group TAM plan must include the first four elements illustrated in Figure 5.

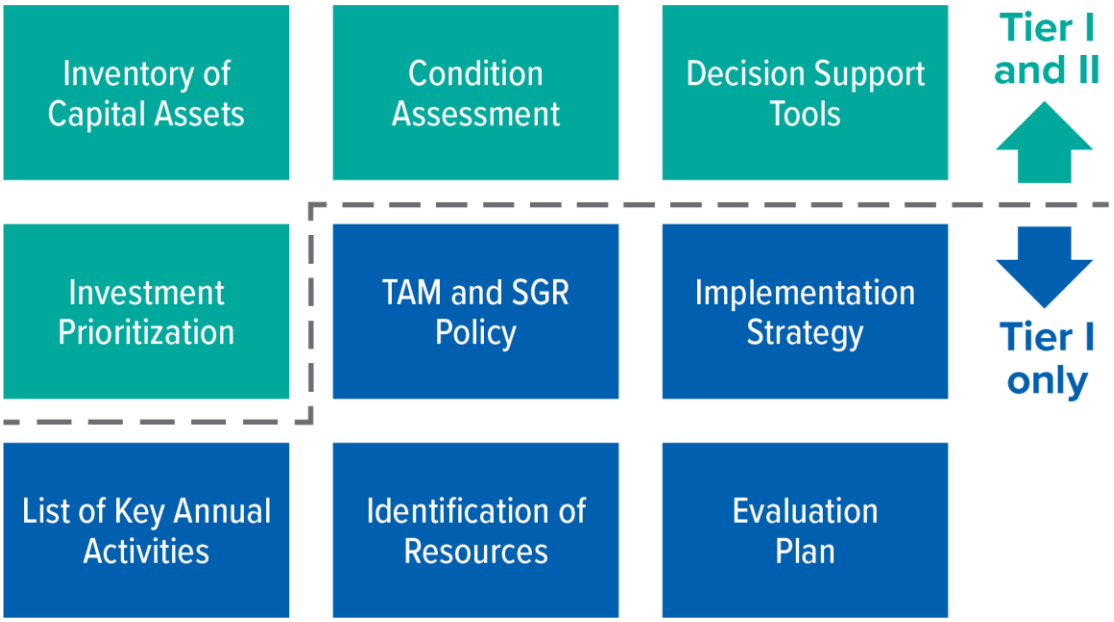


Figure 5: Required TAM Plan Elements

Table 2 below identifies the sections of this TAM plan that address the required elements illustrated in Figure 5. In addition, the TAM plan requirements (as outlined in U.S. 49 CFR), and how this TAM plan addresses those requirements, are listed in Appendix A.

Table 2: How this TAM Plan Addresses Required TAM Plan Elements

#	Required TAM Plan Element for Tier II Operators	Group TAM Plan Section
1	Inventory of Capital Assets	Section 3, Capital Asset Inventory
2	Condition Assessment	Section 4, Performance and Condition
3	Decision Support Tools	Section 6, Decision Support
4	Investment Prioritization	Section 7, Investment Prioritization

1.3.3 Reporting Requirements

A provider's initial TAM plan must be completed by October 1, 2018. U.S. 49 CFR § 625.29 (a) states that a TAM plan should cover a planning horizon of at least four years. Amendments to the TAM plan may be undertaken at any time and should be initiated following any major change to the asset inventory, condition assessment, or investments. The TAM plan should also be updated following any change to prioritization processes affecting the timing of future projects.

In addition to the performance targets and TAM plan, the TAM Final Rule requires that two additional asset management reports be submitted to the NTD annually:

— The **Data Report** should describe the condition of the transportation system currently and the SGR performance targets for the upcoming year.

- The **Narrative Report** should describe changes in the transportation system condition and report progress on meeting the performance targets from the prior year.

For the Tier II operators, the first Data Report is due by October 31, 2018 (although only one-quarter of facilities condition assessments are due in 2018). The first Narrative Report is due within four months of the provider's 2019 fiscal year end, or October 31, 2019, for Tier II operators. Subsequent narrative reports are due annually.

2 TAM Plan Guiding Principles

The Tier II operators have identified a set of guiding principles that set the direction for this TAM plan, as described in Figure 6.

Figure 6: Asset Management Guiding Principles

2.1.1 Transit Asset Management Approach and Vision

The operators' first and foremost priority is to provide safe, reliable, and cost-effective service to its customers. To do this, they will ensure assets are kept in a state of good repair and improve short- and long-term planning to maximize the return on investment and get the most value out of their assets. Operators will prioritize scheduled maintenance activities (including planned preventive maintenance activities and inspections) to ensure their assets meet their expected useful life and work toward improving the timely replacement of assets (particularly as it relates to the provision of revenue service). This will improve the physical condition and performance of the transit system and minimize service disruptions.

This TAM plan is a starting point for operators to build on; it provides operators with the strategies and tools to support improved decision making and better plan for current and future needs.

3 Capital Asset Inventory

MTC maintains a comprehensive regional database of transit assets owned by all Bay Area transit operators (including both Tier I and Tier II operators). The operators report their inventory data on an annual basis to MTC for updates to this database, commonly known as the Regional Transit Capital Inventory (RTCI). The objective of the RTCI is to collect consistent and comparable data on the region's transit capital assets and associated replacement and overhaul costs from each operator to inform future transit capital needs. MTC is currently enhancing the RTCI to simplify the generation of information to provide to FTA's NTD annually.

3.1 Capital Asset Inventory

The collective asset inventory of the Tier II operators is summarized in Figure 7. A more detailed inventory by operator is provided in Appendix C. This inventory reflects a snapshot at the time of the development of this TAM plan.

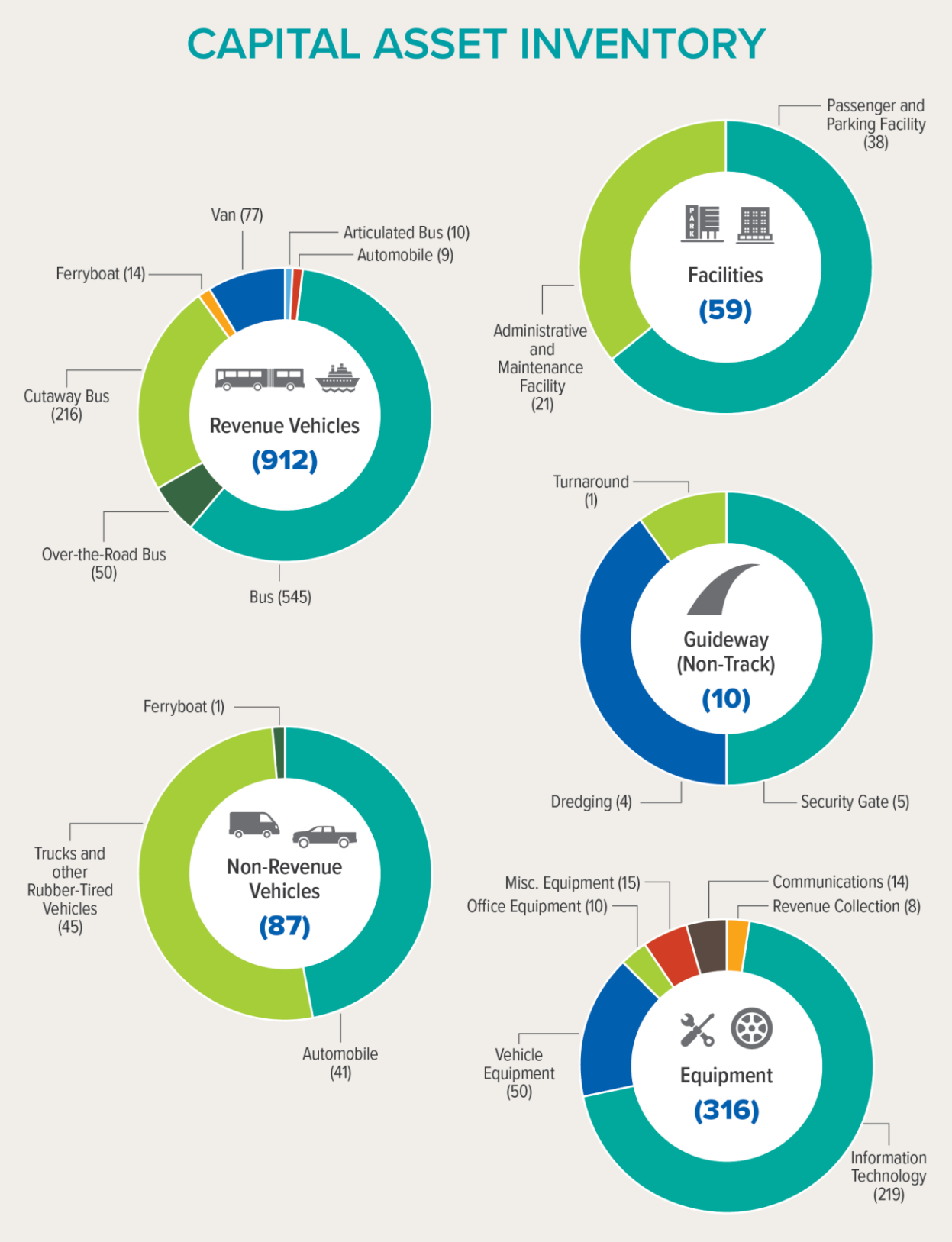


Figure 7: Capital Asset Inventory

3.2 Ownership and Responsibility

Most Tier II operators outsource their maintenance and operations work to a vendor, but there are a few operators that perform at least some of the work in-house by agency staff. Table 3 summarizes maintenance and operations responsibility at each agency.

Table 3: Operations and Maintenance Responsibility

Agency	Operations and Maintenance Responsibility
Central Contra Costa Transit Authority (CCCTA)	Operations and maintenance of vehicles are performed by agency staff.
Dixon Readi-Ride	Approximately 98% of all maintenance work (for revenue vehicles, equipment, and facilities) is performed by an outside vendor.
Eastern Contra Costa Transit Authority (Tri Delta Transit)	Operations of fleet is contracted to a vendor while fleet maintenance is conducted by agency staff. Facility maintenance is performed at the discretion of the Chief Operating Officer and Procurement, depending on the task and equipment maintenance is conducted by agency staff.
Fairfield and Suisun Transit	About 85% of maintenance work on revenue vehicles, non-revenue vehicles, and equipment is performed in-house by the City's Vehicle Maintenance department. About 95% of the work for facilities is contracted to outside vendors. Operations is contracted to a private contractor, MV Transportation.
Livermore Amador Valley Transit Authority (LAVTA)	Operations and maintenance of vehicles and facilities are contracted out. For facilities, while the operations and maintenance contractor oversees the work and performs some of it, they hire plumbers, electricians, etc. when needed.
Marin County Transit	Agency uses purchased transportation contractors and relies on the providers for all revenue vehicle maintenance work; transit service is intertwined with Golden Gate Bridge, Highway and Transportation District since Marin Transit contracts with the agency for fixed route service and they contract with Marin Transit for the provision of demand response.
Napa Valley Transportation Authority	Agency uses a purchased transportation contractor to operate all five of its public transit services and relies on the provider to determine what they need; facility and vehicle maintenance is outsourced.
Petaluma Transit	Most maintenance work (for revenue and non-revenue vehicles, and facilities) is contracted to a vendor; ~50% of equipment maintenance is performed by a contractor.
Rio Vista Delta Breeze	Solano Transportation Authority manages the operation of Delta Breeze through a contract with the City of Rio Vista.
Santa Rosa CityBus	All maintenance work for fixed-route and non-revenue vehicles is done in-house by City of Santa Rosa Fleet Services. Paratransit vehicle maintenance is contracted to the vendor. Facility maintenance is performed by City of Santa Rosa Facilities Maintenance and contractors as needed.
Solano County Transit (SolTrans)	All maintenance work (for revenue and non-revenue vehicles, equipment, and facilities) is contracted to a vendor, although facility maintenance for the administrative building and transit center is managed by SolTrans staff.
Sonoma County Transit	Maintenance work for revenue and non-revenue vehicles is performed by a contractor; equipment and facility maintenance is contracted to various vendors.

Agency	Operations and Maintenance Responsibility
Union City Transit	Operations and maintenance of vehicles are contracted out; ~50% of facility maintenance is performed by a contractor.
Vacaville City Coach	The City's fleet section within the Public Works department maintains all transit vehicles, although some work is occasionally contracted out to a vendor due to time and/or specialized processes/tools required; facilities and equipment maintenance is also conducted by agency staff.
Western Contra Costa Transit Authority (WestCAT)	Operations and maintenance of vehicles and facility maintenance are contracted out but performed under the direction of the agency's Maintenance Director.
Water Emergency Transportation Authority (WETA)	All maintenance work (for revenue and non-revenue vehicles, equipment, and facilities) is contracted to a vendor.

4 Performance and Condition

4.1 State of Good Repair Summary

Figure 8 summarizes the overall state of good repair of rolling stock, equipment (non-revenue service vehicles), and facilities, using the performance measures and targets discussed in Section 4.2, Performance Measures and Targets.

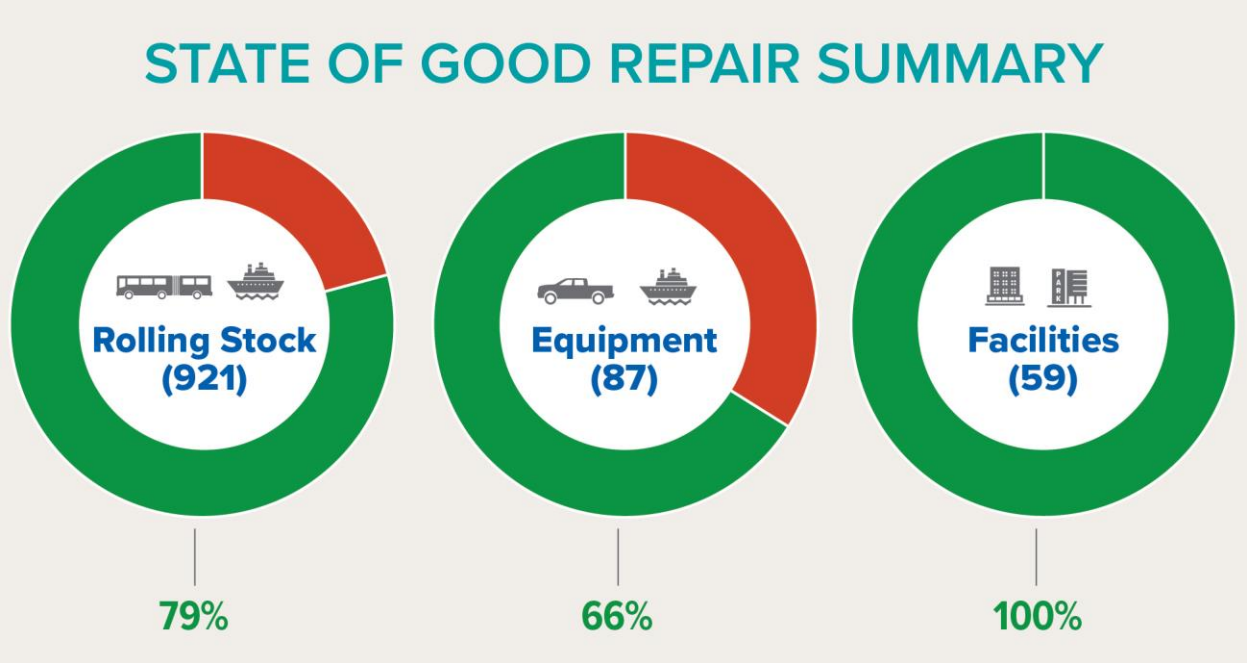


Figure 8: State of Good Repair Summary

Over 80 percent of revenue vehicles are in a state of good repair. Twenty-seven percent of Cutaway Buses have exceeded their useful life benchmark (ULB); this is due to 65 Cutaway Buses (out of 245 total) that have exceeded their ULB.

Over half of all equipment (non-revenue service vehicles) (57 percent) are in a state of good repair. Forty-six percent of Automobiles (or 25 of 54) and 35 percent of Trucks and Other Rubber-Tired Vehicles (or 13 of 37) have exceeded their useful life.

All the facilities that the Tier II operators have at least partial capital responsibility for are currently in a state of good repair (Figure 9). While a total of 45 facilities (out of 59 facilities in total) are rated a "4" or above (62 percent of Administrative and Maintenance facilities and 84 percent of Passenger and Parking Facilities), 38 percent of Administrative and Maintenance facilities (or 8 out of 21 Administrative and Maintenance Facilities) and 16 percent of Passenger and Parking Facilities (or 6 of 38 Passenger and Parking Facilities) are rated a "3." The facilities that are rated a "3" will be monitored carefully to ensure they are maintained in a state of good repair or replaced once they have exceeded their useful life.

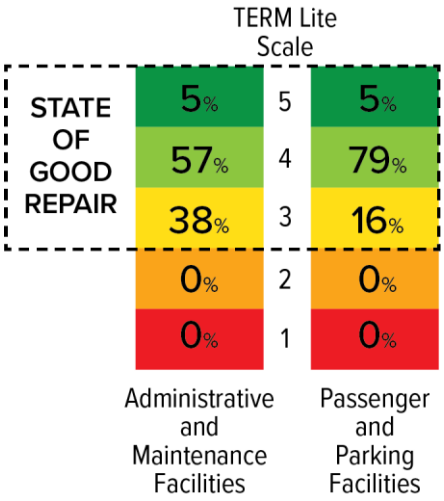


Figure 9: Summary of Facility Condition

4.2 Performance Measures and Targets

The condition of the Tier II operators' assets is calculated based on age (revenue vehicles, equipment (non-revenue service vehicles)) and physical condition (facilities).

The Tier II operators have calculated their performance measures against performance targets that MTC has set for Fiscal Year (FY) 2018. The target setting process for FY 2019 is currently underway; the TAM plan will be updated to reflect those targets once they are set. The performance measures and targets are summarized in Figure 10. These performance measures are calculated based on the inventory that was current at the time of the development of this TAM plan. These performance measures will be updated as operators finalize their inventories for submission to the NTD.

For revenue vehicles and equipment (i.e., non-revenue service vehicles), performance measures were calculated based on ULBs, which can be found in Appendix D. Agencies have set their own ULBs; they are based on the default ULBs identified in MTC's Transit Capital Priorities (TCP) process (which is used to distribute formula funds), and adjusted to reflect the expected ULBs by each agency (see Section 6, Decision Support, for a description of the TCP process) based on when assets are actually being retired.

The facility performance measures are based on physical condition assessments conducted by Tier II operators in 2018 on all the facilities for which operators have direct capital responsibility. Operators will conduct another round of facility condition assessments in 2022. The facility performance measures were calculated using a weighted average; for each facility, operators assigned percentages to each primary level facility element (based on both replacement value and criticality) to calculate an overall facility score.

Performance targets for each asset class were set by MTC based on the individual targets that operators set in January 2017. This target setting was based on what agencies can realistically achieve given expected funding levels in future years. The targets have been approved by each operator's accountable executive.

Since operating conditions in the Bay Area are ideal (i.e., temperate weather) and Tier II operators operate less mileage and carry less volume than the Tier I operators in the region, many Tier II operators

can keep their assets running safely beyond their planned ULB (e.g., running a bus for 16 years instead of the FTA default ULB of 14 years). Agencies use the ULBs for planning purposes, and some operators replace their assets only when required (rather than when they reach their ULB) to be good stewards of public funds.

In addition, when operators purchase replacement vehicles, there is a two-year procurement period before those replacement vehicles are placed in service. Many vehicles that have exceeded their ULB in the performance measures will be retired soon, pending the delivery of replacement vehicles.

PERFORMANCE MEASURES AND TARGETS

Performance targets are based on what agencies can realistically achieve based on expected funding levels. The performance measures do not reflect the two year procurement period before replacement vehicles are placed in service (to replace those vehicles that have exceeded their ULB).

ROLLING STOCK

Rolling stock performance is measured by the percentage of revenue vehicles (by type) that meet or exceed the ULB.

Vehicle Type	Total # of Vehicles	# of Vehicles that Meet or Exceed ULB	% of Vehicles that Meet or Exceed ULB (FY 2018)	FY 2018 Performance Target	FY 2019 Performance Target*
AB–Articulated Bus	10	0	0%	0%	
AO–Automobile	9	2	22%	0%	
BR–Over-the-Road Bus	50	23	46%	83%	
BU–Bus	545	57	10%	22%	
CU–Cutaway	216	94	44%	23%	
FB–Ferryboat	14	2	14%	0%	
VN–Van	77	19	25%	28%	

EQUIPMENT

Equipment performance is measured by the percentage of non-revenue service vehicles (by type) that meet or exceed the ULB.

Vehicle Type	Total # of Vehicles	# of Vehicles that Meet or Exceed ULB	% of Vehicles that Meet or Exceed ULB (FY 2018)	FY 2018 Performance Target	FY 2019 Performance Target*
Automobile	41	18	44%	34%	
Trucks and other Rubber-Tired Vehicles	45	12	27%	34%	
Ferryboat	1	0	0%	0%	

FACILITIES

Facility performance is measured by the percentage of facilities (by group) that are rated less than '3' on the Transit Economic Requirements Model (TERM) scale.

Facility Type	Total # of Facilities	# of Facilities Below '3' on TERM Scale	% of Facilities Below '3' on TERM Scale (FY 2018)	FY 2018 Performance Target	FY 2019 Performance Target*
Administrative and Maintenance Facility	21	0	0%	11%	
Passenger and Parking Facility	38	0	0%	12%	

LEGEND Below or meets performance target Exceeds performance target

** FY 2019 Performance Target Setting is in progress; the TAM Plan will be updated to include the targets when they are finalized*

Figure 10: Performance Measures and Targets

4.3 Equipment (>$50,000) Condition

While performance measures and targets are not required (for NTD reporting) for equipment that have an acquisition value of >$50,000 (excludes non-revenue service vehicles), the condition of the equipment needs to be included in the TAM Plan, since the Final Rule requires operators to report on the condition of *all* inventoried assets for which providers have direct capital responsibility.

The condition of this equipment is summarized in Table 4. While about half of all equipment have exceeded their useful life (175 out of 315, or 55 percent), this equipment is still safely performing as intended and will be replaced as funding becomes available.

Table 4: Condition Summary of Equipment >$50,000

Equipment Type	Quantity	ULB	# of Equipment that Meet or Exceed ULB	% of Equipment that Meet or Exceed ULB
Communications	14	5	1	7%
Information Technology	219	5, 6, 8, 10, 12	138	63%
Misc Equipment	15	10, 15, 20, 30	7	47%
Office Equipment	10	5, 15, 25, 30	4	40%
Revenue Collection	8	5, 10, 12, 30	3	38%
Vehicle Equipment	50	5, 10, 15, 20, 25, 30	22	44%

5 Asset Lifecycle Strategies

This section is not required for the Tier II operator group TAM plan, but has been included as best practice.

This section discusses the key asset management practices that agencies are using throughout the asset lifecycle. These strategies set out the approach for managing each asset class to ensure assets remain in a state of good repair and meet their planned useful lives.

5.1 Lifecycle Management Strategies

5.1.1 Bus

Most operators are retiring their buses at the end of their useful life (per the minimum useful life requirements outlined in the TCP process, Table 5, which are applicable to both Tier I and Tier II operators in the Bay Area).

Table 5: Transit Capital Priorities Useful Life of Assets

Mode	TCP Minimum Useful Life
Heavy-Duty Buses, other than Over-the-Road-Coaches	12 years (or 500,000 miles in service)
Over-the-Road-Coaches	14 years (or 500,000 miles in service)
Medium-Duty Buses	10 years (or 500,000 miles in service)
Van	4, 5, or 7 years, depending on type
Heavy/Steel Hull Ferries	30 years
Lightweight/Aluminum Hull Ferries	25 years
Used Vehicles	Varies by type
Tools and Equipment	10 years
Service Vehicle	7 years
Non-Revenue Vehicle	7 years
Facility	Varies by facility and component replaced

In some cases, operators have adjusted the TCP minimum useful lives based on experience and knowledge of their assets' operational capacity and environment (e.g., adjusting the useful life for buses from 12 to 14 years, given operating conditions, enables the agency to get 14 years out of its buses). As described previously, since many of the Tier II operators operate less mileage and carry less volume than the Tier I operators, they can run their vehicles longer. If operators voluntarily replace buses or vans beyond the minimum federally eligible useful life specified in Table 5 (because the buses are still able to provide safe and reliable service), they are eligible for either of two financial compensations:

- Operators receive all the savings but need to apply the savings to capital replacement and rehab projects
- Operators receive half of the savings to the region created by later replacement of vehicles, which may be programmed to lower scoring eligible projects

Some operators have taken advantage of this compensation for deferred replacement and have used the savings toward preventive maintenance, facility improvements (e.g., landscaping, security cameras, paving), and vehicle upgrades (e.g., upgrading 40-foot buses to 45-foot buses).

Some operators have fleet maintenance plans that describe inspections and preventive maintenance activities and programs performed on their fleet. More information can be found in the following plans:

- *ECCTA Vehicle Maintenance Plan*, (February 2015)
- *NVTA Fleet Maintenance Action Plan* (2017)
- *City of Santa Rosa Transit Maintenance Plan* (April 2017)
- *SolTrans Vehicle Maintenance Plan* (August 2013)
- *WCCTA Vehicle Maintenance Plan* (March 2014)

Aside from regular preventive maintenance activities, most operators are not performing any major overhauls on their buses; this is largely due in part to the low mileage that the buses incur over their lifetime (as compared to the Tier I operators in the region). Three operators, Fairfield and Suisun Transit, Santa Rosa CityBus, and SolTrans, are required by California Air Resources Board regulations to perform engine overhauls on the diesel engines of their hybrid bus fleet. Fairfield and Suisun Transit is rebuilding its engines at approximately 185,000 miles; Santa Rosa CityBus is rebuilding its engines at approximately 185,000 to 370,000 miles; and SolTrans is rebuilding its engines at approximately 185,000 to 225,000 miles. In addition, to engine replacements, FAST also follows manufacturer recommendations to refresh batteries at six years of age (for $25,000) and to replace batteries at 12 years (for $50,000). For FAST's commuter coaches (diesel MCIs), the engines are replaced with remanufactured engines at 500,000 to 550,000 miles. Transmissions are changed as needed.

5.1.2 Ferry

Since ferries are longer-life assets, they undergo periodic rehabilitation to ensure they meet their planned 25-year useful life. Ferries may undergo the following types of rehabilitation and refurbishment:

- Major component rehabilitation/replacement: Major component rehabilitation/replacement life-cycles can include propulsion systems, navigation systems, onboard monitoring and alarm systems, interior components, and boarding apparatus. The need for this type of rehabilitation is often cyclical and can be planned. For example, engine overhauls are generally required every 12,000 hours of operation. Other major component work, including rehabilitation/retrofit of passenger amenities, is determined by a preventative maintenance program and inspection process.
- Quarter-life refurbishment: A quarter-life repower/refurbishment is scheduled when a ferry reaches 6.5 and approximately 19 years of service life, and includes major dry-docking, overhauls to drive train running gear, passenger cabin refurbishment, and HVAC and main engine overhaul work.
- Mid-life refurbishment: A mid-life repower/refurbishment is scheduled when a ferry reaches 12.5 years of service life. Ferries are repowered at mid-life in order to provide for continued safe and reliable operation. This work generally includes replacement of major vessel systems, such as engines, electronics, propulsion systems, and refurbishment of the passenger cabins, as well as sandblasting and repainting vessels.

- **End-of-life repower/refurbishment:** End-of-life repower/refurbishment may be undertaken to keep vessels operational beyond their typical useful lives of 25 years. End-of-life work activities are the same as quarter-life activities, except that the main engine is replaced rather than overhauled. Equipment service hours and specific vessel needs may affect the timing of the repower/refurbishment projects.

For more information, refer to WETA's *Preventive Maintenance Plan* (December 2016).

5.1.3 Facility

Several operators have facility maintenance plans in place to effectively manage maintenance of the facility and ensure it meets its planned useful life. The specific inspection activities, checklists, and schedules are located in the following operators' plans:

- *Eastern Contra Costa Transit Authority Facility Maintenance Plan* (September 2016)
- *Napa Valley Transportation Authority Soscol Gateway Transit Center Facilities Maintenance Plan* (July 2016)
- *Petaluma Transit Administration, Operations, and Maintenance Facility: Facility Maintenance Plan* (August 2015)
- *Santa Rosa CityBus Facility and Equipment Maintenance Plans* for the Transit Operations Building, Transit Mall, and Westside Transfer Center (2017)
- *SolTrans Vallejo Transit Center: Facility Maintenance Plan* (December 2014)
- *SolTrans Operations and Maintenance Facility: Facility Maintenance Plan* (December 2017)
- *Sonoma County Transit Facility and Equipment Maintenance Plan* (May 2016)
- *Vacaville City Coach Facility and Equipment Preventive Maintenance Program* (December 2013)
- *WCCTA Building Maintenance Plan* (February 2015)
- *WETA Preventive Maintenance Plan* (December 2016)

Much of the major work conducted on facilities is based on discussions with agency staff and contractor's hands-on knowledge of their assets.

MTC is undertaking a project to update the RTCI to be able to store data consistently at a level recommended in the FTA Condition Assessment Calculation Guidebook. This will allow operators to collect facility data at a more granular level and use the RTCI as the "system of record."

6 Decision Support

6.1 Decision Support Overview

Agencies are currently using a range of approaches to identify and prioritize their annual needs. Typically, activities are identified using information from the maintenance staff such as maintenance history, reliability of the asset, and the age of the asset. Agencies then consider the funding sources available to them (which for the TCP, is dependent on whether they are competing for funds in their urbanized area with Tier I operators), and then request funding from MTC for a list of projects.

MTC, in partnership with the region's transit operators, developed the TCP Process and Criteria to distribute formula funding to ensure that limited federal transit dollars go towards projects that are the most essential to the region and consistent with the region's current long-range Regional Transportation Plan. In order to receive federal transit funding, operators must participate in the Transit Capital Priorities (TCP) process, which considers all projects eligible for federal transit dollars in score order (see Section 6.2, MTC Transit Capital Priorities for more on score order), with an emphasis given to the most essential projects that replace and sustain the existing transit system capital plant. Since the process primarily funds replacement projects, it has some influence on how operators prioritize their investments.

This section also presents an investment prioritization approach that operators will use moving forward to prioritize investments related to the management of their assets (although they will continue to use the TCP process to apply for formula funds) and a description of the TERM Lite analysis that was conducted to establish near- and long-term needs.

6.2 MTC Transit Capital Priorities

Most of the Tier II operators participate in MTC's TCP process, which has three primary objectives:

- Fund basic capital requirements, with an emphasis given to the most essential projects that replace and sustain the existing transit system capital plant. The operators are expected to fund routine and preventive maintenance to achieve the expected life of an asset, while MTC considers funding for overhauls on long-life assets to exceed the expected life.
- Maintain reasonable fairness to all operators, which will be based on the total funding available to each operator over a period of time, the level and type of service provided, timely obligation and disbursement of prior year grants, and other relevant factors.
- Complement other MTC funding programs for transit, including the Surface Transportation Program (STP), Congestion Mitigation-Air Quality (CMAQ) funds, and State Transportation Improvement Program (STIP) funds.

The TCP process scores projects (on a scale from 8 to 17) submitted by operators based on project categories (revenue vehicle replacement, revenue vehicle rehabilitation, etc.). Once projects are scored, a draft preliminary program is reviewed internally by MTC's staff and with the operators via the Partnership Transit Finance Working Group (TFWG) before it is finalized and presented to the Commission for approval. The project scores are provided in Appendix E. The TCP is the primary source of capital funding for most Tier II operators.

Since multiple operators are eligible to claim funds in more than one urbanized area (Table 6), the TCP uses the Regional Priority Model to establish funding priority for apportioning high-scoring capital projects (per the process described above) to eligible urbanized areas.

Table 6: Urbanized Area Eligibility

Urbanized Area	Eligible Transit Operators
San Francisco–Oakland	AC Transit, ACE, BART, Caltrain, GGBHTD, Marin County Transit, SFMTA, SamTrans, Union City Transit, WETA, WestCAT
San Jose	ACE, Caltrain, VTA
Concord	ACE, BART, CCCTA, LAVTA
Antioch	BART, ECCTA
Santa Rosa	GGBHTD, Santa Rosa CityBus, Sonoma County Transit
Vallejo	Napa Valley Transportation Authority on behalf of American Canyon, Solano County Transit[2]
Fairfield	Fairfield and Suisun Transit
Vacaville	Vacaville City Coach
Napa	Napa Valley Transportation Authority
Livermore	ACE, LAVTA
Gilroy-Morgan Hill	Caltrain, VTA
Petaluma	GGBHTD, Petaluma Transit, Sonoma County Transit

**Bolded* agency denotes a Tier II operator*

This Regional Priority Model assumes a regional programming perspective and constrains regional capital demand to the amount of funds available to the region prior to apportioning projects to urbanized areas (UAs). It then apportions projects to UAs in the following order:

1. Fund operators that are the exclusive claimant in a single UA (e.g., LAVTA, Fairfield)
2. Fund projects for operators that are restricted to receiving funds in one urbanized area (e.g., WestCAT, CCCTA)
3. Fund balance of operator projects among multiple urbanized areas, as eligibility allows, with the objective of fully funding as many high-scoring projects as possible
4. Reduce capital projects proportionately in urbanized areas where need exceeds funds available
5. Fund lower-scoring projects (additional programming flexibility) to operators in urbanized areas where apportionments exceed project need

Since both Tier I and Tier II operators are claiming funds in urbanized areas where other operators are also eligible, all operators primarily claim TCP funds for vehicle replacement (score 16) and vehicle rehabilitation (score 16).[3] As a result, operators can end up with insufficient funding for other needs that

[2] SolTrans receives 99 percent of the UZA allocation; Napa Vine on behalf of American Canyon receives only a very small amount of ADA set aside funds.
[3] Vehicle rehabilitation is considered a score 16 only if it extends the useful life of the vehicle.

operators deem critical that are scored lower in the project ranking, such as safety (score 15), facility maintenance and replacement (score 13), preventive maintenance (score 9), and operations (score 8).

In addition to project scoring, the TCP also utilizes multi-county agreements for UA apportionments. The TCP recognizes three specific agreements, only one of which applies to two Tier II operators: the Sonoma County-Santa Rosa CityBus Agreement. Under this agreement, which went into effect in FY 2014, 58 percent of the Santa Rosa urbanized area funding will be distributed to Santa Rosa CityBus, and 42 percent of the UA funding will be distributed to Sonoma County.

Several operators are not FTA grantees and therefore they do not participate in the TCP scoring process, including Dixon Readi-Ride and Rio Vista Delta Breeze. These operators receive most (if not all) of their funds from the Transportation Development Act (TDA), which allowed each county to establish a quarter-cent sales tax to finance a range of transportation projects (i.e., transit operations, bus and rail projects, special transit services for disabled riders, pedestrian and bicycle facilities, and transportation planning). Most other operators receive TDA funds in addition to TCP funds; operators have full discretion over the use of TDA funds (they can be used for both capital projects and transit operations). Many operators use TDA funds for operations.

The TCP reflects the Commission's regional priorities in a constrained environment. Because the TCP is a funding allocation process, it has some influence on how operators prioritize their investments and the capital planning process. This is because funding availability is a key consideration for prioritizing investments and can affect which projects an agency is able to prioritize/move forward with, especially when funding sources can dictate what types of projects the funds can be used for. Agencies depend on the formula funding allocated through the TCP program for vehicle replacements to keep service running. For agencies that receive a significant amount of their capital and/or maintenance funding from the TCP process, the TCP programming can affect whether a project is undertaken.

6.3 Existing Prioritization Approach

All Tier II operators currently use a range of (informal) approaches (and combinations of approaches) to prioritize projects at their agencies. These approaches are summarized below:

- Prioritize investments based on the impact to and reliability of service – Most operators prioritize projects based on the impact to operations and reliability of service since this has a direct impact on the customer, and providing safe, efficient, and reliable service is of the utmost importance.
- Prioritize investments based on conversations with maintenance staff and knowledge and intuition of the condition of assets – Due to the small size of these operators, staff knowledge is an important component to determine which investments are of the highest priority.
- Prioritize investments based on the priorities outlined in the TCP – The project scoring in the TCP inherently prioritizes some projects (e.g., revenue vehicle replacement and rehabilitation) over other projects (e.g., equipment, maintenance/operating facilities). Since operators know what they can feasibly receive funding for, this can affect what they prioritize.
- Replace assets based on age and when they have reached their useful life – Some operators replace assets based on age using the FTA guidelines to determine when to replace assets.
- Prioritize investments based on condition data – Some operators use a data-driven approach to decision making to identify which investments to prioritize.

- **Rely on the contractor to identify which investments are a priority –** Many operators contract the operations and maintenance of their fleet and/or vehicles to a vendor and consult their contractor regarding maintenance and capital needs.

6.4 TAM Investment Prioritization Approach

This section discusses the investment prioritization approach that the Tier II operators will use to consistently prioritize projects/TAM activities to maintain the system in a state of good repair going forward and achieve a low total cost of ownership, regardless of the funding source of those projects.

The investment prioritization approach (Figure 11) prioritizes scheduled maintenance activities, followed by planned overhauls (i.e., activities to achieve the expected life of an asset), and replacement. Planned overhaul activities include any mid-life overhauls for buses, such as engine overhauls); ferry propulsion system or major component replacements; and major component replacements on facilities. The approach prioritizes overhauls of customer-serving facilities (i.e., passenger facilities) among facilities. Only a handful operators are currently conducted planned overhauls on their assets; planned overhauls generally apply to longer life assets.

The scheduled maintenance and overhaul activities enable operators to get to the planned useful life from their assets, thus reducing the total cost of ownership. When the asset is due for replacement based on its planned useful life, operators will use a set of evaluation criteria to establish replacement priorities. These criteria include the following:

- Safety
- Impact to service and operators (reliability)
- Maintenance
- Age
- Condition

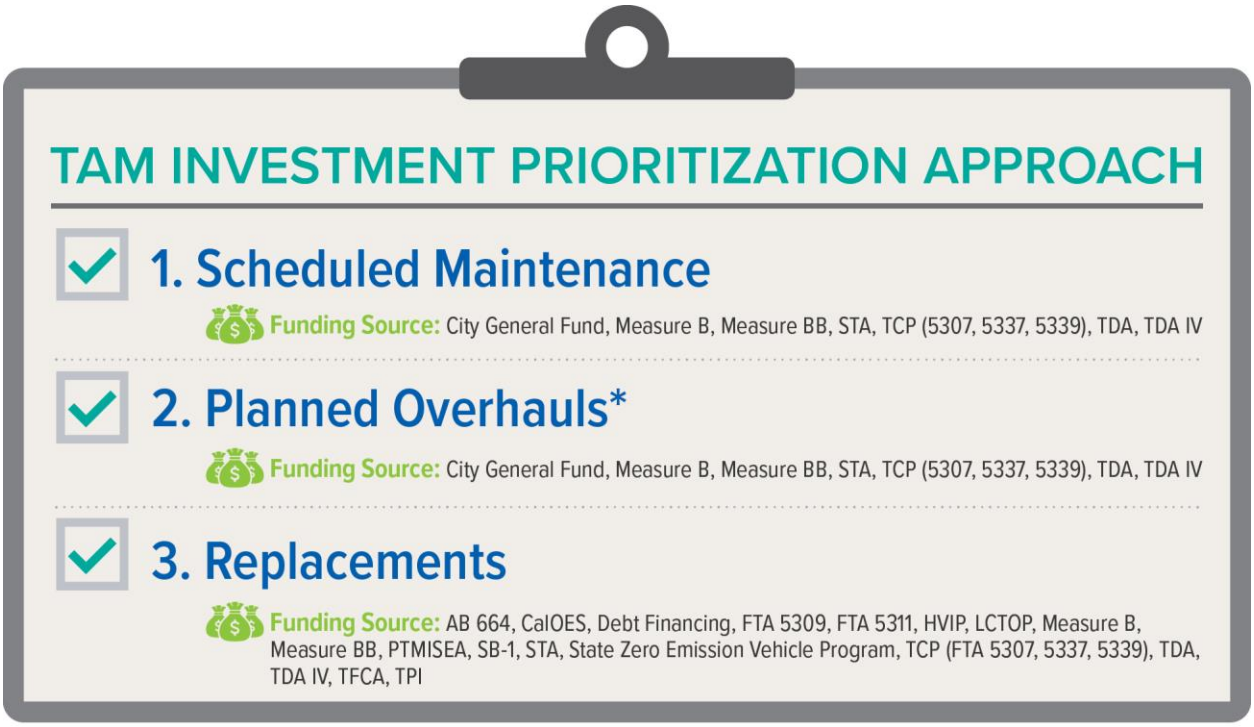


Figure 11:TAM Investment Prioritization Approach

Each asset class has its own set of evaluation criteria, and operators will evaluate the criteria (within each asset class) concurrently based on discussions with staff. Operators identify their priorities based on a holistic evaluation of the criteria for each project. Sample templates for evaluating replacement priorities using the criteria described below is provided in Appendix F.

Although funding may not be currently available for all projects (e.g., assets beyond ULB), operators will maintain a list of investment priorities should funding become available in later years that will be included in this TAM plan. This investment prioritization approach applies to those planned activities that operators are currently conducting on their assets. Since most operators are not conducting overhaul activities on their vehicles, these activities would not be included for prioritization. Most operators use a variety of factors for prioritizing replacements, and the factors listed here will provide a standard framework for the operators to use in the future. Figure 11 identifies current funding sources that operators are using for each type of activity.

This investment prioritization approach applies to assets that the Tier II operators already own. Decisions related to expanding or modernizing the system consider other factors and involve other divisions that are outside the scope of the asset management planning process.

6.4.1 Vehicles

Table 7 identifies the evaluation criteria that Tier II operators will use to evaluate and prioritize vehicle replacement projects.

Table 7: Evaluation Criteria for Vehicles

Evaluation Criteria	
Safety	Does operating the vehicle pose a safety risk to the traveling public or others that cannot be easily mitigated through routine maintenance/service to the vehicle?
Impact to Service and Operations	Is the vehicle reliably providing service to the public?
Maintenance	Does the vehicle require any major parts/components or major overhaul activities?
Age	Is the vehicle beyond its planned useful life? If yes, how many years is it beyond its planned useful life?
Condition/Usage	Is the vehicle in good condition/is the usage infrequent?

6.4.2 Equipment

Table 8 identifies the evaluation criteria that Tier II operators will use to evaluate and prioritize equipment replacement projects.

Table 8: Evaluation Criteria for Equipment

Evaluation Criteria	
Safety Risk to Staff	Does the condition of this equipment pose a safety risk to staff who use the equipment?
Safety Risk to Customers	Does the condition of this equipment affect the ability to maintain the safe operation of customer-facing assets (e.g., vehicles)?
Impact to Service and Operations	Does the condition of this equipment impact the ability to provide revenue service and meet existing levels of service?
Maintenance	What is the level of maintenance and inspection required to keep the equipment in working condition?
Age	Is the equipment beyond its planned useful life? If yes, how many years is it beyond its planned useful life?
Condition	What is the equipment's condition? The condition may be based on a visual inspection, review of maintenance records, and other tests that may have been performed on it.

6.4.3 Facilities

Table 9 identifies a set of evaluation criteria to support investment prioritization of facility element replacements. Facility projects will be prioritized at the primary level, using the elements defined in the *FTA Condition Assessment Calculation* Guidebook:

- Substructure
- Shell
- Interiors
- Conveyance
- Plumbing
- HVAC

- Fire Protection
- Electrical
- Equipment/Fare Collection
- Site

Many of the elements identified above have a lower life expectancy than the life of the facility, and projects to replace major components in any of these elements will be considered as facility overhaul projects (e.g., replacing major components for the HVAC system).

Table 9: Evaluation Criteria for Facilities

Evaluation Criteria	
Safety Risk to Customers (Passenger and Parking Facilities)	Does the condition of this facility pose a safety risk to customers who interface with this facility? Does the condition of this facility affect the ability to maintain the safe operation of customer-facing assets (e.g., vehicles)?
Safety Risk to Staff (Administrative and Maintenance Facilities)	Does the condition of this facility pose a safety risk to staff who use this facility?
Impact to Service and Operations	Does the facility impact revenue service? This factor prioritizes activities on passenger facilities versus administrative facilities.
Maintenance	What is the level of maintenance and inspection required to keep the facility or its major components in working condition?
Age	Is the facility element (or a major component of the element) beyond its planned useful life?
Condition Score	What is the element's condition score (based on the physical condition assessment)?

Consistent with current practices, operators will use TDA or other non-TCP funds for scheduled maintenance activities, and use TCP funds and other sources for capital activities (overhauls and replacements).

6.5 TERM Lite Analysis

In addition to the approach described above, MTC conducted a Transit Economic Requirement Model (TERM) Lite analysis to determine the backlog of state of good repair needs over the next 4, 10 and 20 years. TERM Lite is a tool provided by the FTA to help agencies assess their state of good repair backlog. This analysis was conducted to help inform the gap between the total forecasted needs and the total amount of money that is currently programmed in the Transportation Improvement Program, the region's comprehensive four-year spending plan (as required by federal law), for the Tier II operators.

This analysis assumes an unconstrained scenario where assets are replaced at the end of their useful life. There is no inflation included in the costs; all values are presented in 2018 dollars. Every need that is identified by the model is assumed to be met and therefore prioritization does not apply to this scenario.

The results of the TERM Lite analysis are described in more detail in the next section.

6.5.1 Estimated Investment Needs

Based on the TERM Lite analysis described above, Table 10 identifies the needs for the 4-, 10-, and 20-year horizons while Figure 12 identifies the forecasted needs over a 20-year horizon for each asset category.

Over the 4-year TAM plan horizon, needs are estimated to total over $481.3 million, as compared to the $262.6 million programmed in the TIP for 2018 to 2021 (see Section, 7.1 Investment Prioritization for more details).

Over the 10-year horizon, the total forecasted needs will total over $861.9 million. Vehicles comprise the bulk of the investment need, followed by facilities.

Over the 20-year horizon, the total forecasted needs will total over $2.68 billion. Again, Vehicles comprise the bulk of the investment need from year to year, followed by facilities. Needs peak at 2018 ($222.7 million), 2034 ($166.4 million), and 2043 ($184.1 million).

Table 10: Estimated Investment Needs During 4- 10- and 20-Year Horizons (in Millions)

Asset Category	4 Years	10 Years	20 Years
Facilities	$111.1	$166.2	$496.1
Guideway Elements	$5.2	$16.4	$47.2
Stations	$38.8	$90.5	$301.8
Systems	$58.1	$80.1	$224.8
Vehicles	$268.1	$508.7	$1,612.5
Total	**$481.3**	**$861.9**	**$2,682.42**

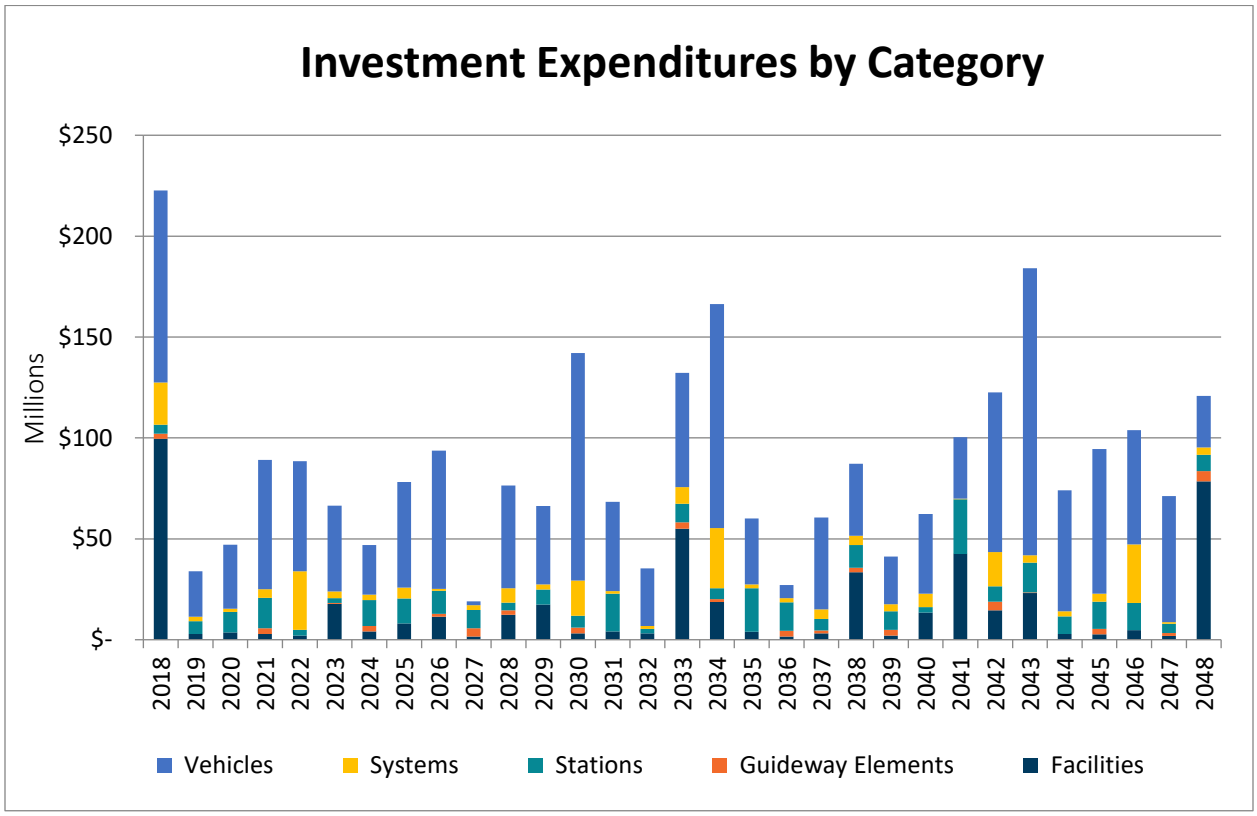


Figure 12: Estimated SGR Investment Needs (Unconstrained)

7 Investment Prioritization

7.1 Investment Priorities

Table 11 identifies selected projects based on the Transit Capital Priorities process. These projects have been programmed in the 2017 regional Transportation Improvement Program (TIP) following the current TCP prioritization process (described in Section 6.2, MTC Transit Capital Priorities*).* Funds have not yet been apportioned for 2022, however projects from 2017 have been included since funds can be used within four years of the year that they were apportioned. The next TAM plan update will include projects that are prioritized using the framework described in Section 6.4, TAM Investment Prioritization Approach.

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Table 11: Investment Priorities (Programmed in TIP)

Agency	Project Type	Project Name	Project Description	2017	2018	2019	2020	2021	Total Cost
CCCTA	Vehicle	Replace 3 Gasoline 7-Year Paratransit Vans	Replace paratransit vehicles that have reached the end of their useful life		$159,000				$159,000
CCCTA	Vehicle	Replace 42 Ford Cutaways – 22-foot	42 Ford cutaways – 22-foot: Replace vehicles		$5,381,250				$5,381,250
CCCTA	Facility	Access Improvements Implementation	Various bus stops system-wide: Implement bicycle and pedestrian access improvements identified in County Connection's Access Improvement Study	$251,159					$251,159
CCCTA	ADA	ADA Paratransit Assistance	ADA Paratransit Assistance to transit agency	$1,509,778	$2,464,944	$2,515,816	$2,567,768		$9,058,306
CCCTA	Vehicle	Replace 18 30-foot Buses	Replace 13 35-foot heavy duty diesel buses that have reached the end of their useful life	$3,355,389					$3,355,389
CCCTA	Vehicle	Replace 3 Paratransit Vans	Replace 18 30-foot heavy duty diesel buses that have reached the end of their useful life; four (4) of the diesel buses will be replaced with four (4) electric buses	$369,000					$369,000
CCCTA	IT	REMIX Software Implementation Project	Systemwide: Integrate REMIX mapping software into County Connection's planning process	$20,117					$20,117
ECCTA	Vehicle	Non-ADA Paratransit to FR Incentive Program	Systemwide: Use outreach, travel training, and fare incentives to move non-ADA paratransit users to FR service		$1,021,621				$1,021,621
ECCTA	Vehicle	Transit Bus Replacements	Replace revenue vehicles and associated farebox equipment	$2,554,300	$719,263				$3,273,563
ECCTA	IT	Clipper 2 Digital Communication Equipment	System-wide: Procure and install Clipper II compatible communication equipment for entire MB fleet		$1,242,803				$1,242,803
ECCTA	ADA	ADA Operating Assistance	Systemwide: Operating assistance to fund ADA set-aside requirement	$1,082,048	$1,104,170	$1,126,958	$1,150,230		$4,463,406
FAST	Operations	City of Fairfield Operating Assistance	Transit operating assistance	$5,730,594	$5,081,130	$5,185,956	$5,293,002		$21,290,682
FAST	Facility	Fairfield Transportation Center - Phase 3	Fairfield Transportation Center: Construct second parking structure with approximately 600 automobile parking spaces and access improvements	$600,000				$6,935,000	$7,535,000
FAST	Facility	Fairfield/Vacaville Intermodal Rail Station	Capitol Corridor: Construct train station with passenger platforms, pedestrian undercrossing, highway overcrossing, park-and-ride lot, and bike and other station facilities. Project is phased	$1,557,857				$14,715,186	$16,273,043
FAST	Vehicle	Fairfield-Suisun Intercity/Local Bus Replacement	Systemwide: Replace local/intercity buses that have exceeded their expected useful life	$1,970,826	$4,640,142	$351,094	$358,538		$7,320,600
LAVTA	ADA	ADA Paratransit Operating Subsidy	ADA Paratransit Operating Subsidy		$435,859	$444,853	$454,038		$1,334,750
LAVTA	Vehicle	5 40-foot Hybrids	40-foot hybrids: Replace 5 2000 40-foot diesel vehicles with 5 40-foot hybrids	$3,884,750					$3,884,750
LAVTA	ADA	ADA Paratransit Operating Subsidy	ADA Paratransit Operating Subsidy	$1,025,440					$1,025,440
LAVTA	Vehicle	Bus Purchase - 7 Hybrids	35-foot hybrids: Replace 7 2003 diesel vehicles with 1 40-foot hybrid and 6 35-foot hybrids	$5,047,960					$5,047,960
LAVTA	Vehicle	Bus Purchase - Low Floor	40-foot hybrids: Replace 4 2002 low floor diesel vehicles with 4 40-foot hybrids	$2,860,000					$2,860,000
LAVTA	Vehicle	Bus Purchase - Over the Road	40-foot hybrids: Replace 4 2002 over the road diesel vehicles with 4 40-foot hybrids	$3,107,800					$3,107,800
LAVTA	Equipment	Farebox Replacement	New buses: Install farebox devices compliant with Clipper technology	$497,803					$497,803
LAVTA	Vehicle	Preventive Maintenance	Preventive Maintenance Program for agency fleet	$1,642,150					$1,642,150
LAVTA	Vehicle	Replace 11 40-foot Hybrid Buses	Purchase 11 40-foot hybrid buses to replace diesel buses that have exceeded their useful life	$8,693,025					$8,693,025

Agency	Project Type	Project Name	Project Description	2017	2018	2019	2020	2021	Total Cost
LAVTA	Vehicle	Replace 9 30-foot Hybrid Buses	Purchase 9 30-foot hybrid buses to replace diesel buses that have exceeded their useful life	$6,697,350					$6,697,350
LAVTA	Vehicle	Service Vehicles (2) Trucks	Purchase 2 service trucks for use in maintenance yard and along the Wheels bus lines	$102,000					$102,000
LAVTA	Vehicle	Service Vehicles (3) Road Supervisor	Purchase 3 vehicles for road supervisors' use when providing roadside assistance to the fixed-route fleet. These vehicles will be outfitted with tools and equipment necessary to perform	$153,000					$153,000
LAVTA	Vehicle	Service Vehicles (4) shift trade	Purchase 4 vehicles for road supervisors' use when providing roadside assistance to the fixed-route fleet. These vehicles will be outfitted with tools and equipment necessary to perform	$204,000					$204,000
Marin Transit	Vehicle	Low Income Youth Pass Program	Provide low-income youth free bus passes. Other local funds are made available for this project by applying STP/CMAQ funding available through the TPI program to MRN110040	$153,850					$153,850
Marin Transit	Facility	Relocate Transit Maintenance Facility	In Northeastern Marin County: Relocate contractor maintenance facilities in a centralized location, including bus parking and three maintenance bays	$5,652,811		$1,869,438			$7,522,249
Marin Transit	Vehicle	Replace 13 40-foot Buses	Replace 13 40-foot vehicles that are beyond their useful life	$9,634,000					$9,634,000
Marin Transit	Vehicle	Preventive Maintenance	Systemwide: bus transit preventative maintenance	$153,780			$86,000		$239,780
Marin Transit	Vehicle	Replace Shuttle Vehicles	12 shuttle buses: Purchase buses to replace ones that are beyond their useful life		$128,125		$1,190,025		$1,318,150
Marin Transit	ADA	ADA Paratransit Assistance	ADA Paratransit Assistance to transit agency	$876,545	$894,467	$912,927	$931,778		$3,615,717
Marin Transit	Vehicle	Replace Paratransit Vehicles	Replace 19 paratransit vehicles	$267,000					$267,000
Marin Transit	Vehicle	Replace Paratransit Vehicles with Vans	Replace two paratransit vehicles with vans and purchase a third vehicle as a non-revenue support vehicle	$143,530					$143,530
Marin Transit	Vehicle	Replace Articulated Vehicles	System-wide: Replace articulated vehicles			$8,940,000			$8,940,000
Marin Transit	Vehicle	Replace Rural Cutaway Vehicles	4 rural cutaway vehicles: Purchase replacement vehicles		$616,000				$616,000
Marin Transit	Vehicle	Replace diesel vehicles	2 2008 35-foot diesel vehicles: Replace vehicles				$850,000		$850,000
NVTA	Operations	Operating Assistance	Operating assistance to support transit routes and services	$4,168,668	$3,078,520	$3,175,320	$3,240,864		$13,663,372
NVTA	Equipment	Equipment Replacement and Upgrades	Napa Vine service area: Replacement and upgrades to transit equipment	$328,676	$230,643	$214,715	$219,269		$993,303
NVTA	Facility	Vine Transit Bus Maintenance Facility	At an 8-acre site in south Napa County: Construct a new transit maintenance facility for Vine Transit operations	$2,000,000				$18,000,000	$20,000,000
NVTA	ADA	ADA Operating Assistance	ADA operating assistance for paratransit service	$79,139	$128,988	$131,648	$134,366		$474,141
NVTA	Vehicle	Replace Rolling Stock	Replace rolling stock for fixed-route, paratransit, and community shuttle fleet		$3,092,250				$3,092,250
NVTA	Facility	Park-and-Ride Lots in Napa County	American Canyon, and Calistoga/St. Helena/Yountville; Construct park-and-ride lots. Various existing park-and-ride lots: Construct improvements		$707,131				$707,131
Petaluma Transit	Vehicle	AVL Equipment	Systemwide: Purchase AVL system equipment for fixed-route vehicle		$24,000				$24,000
Petaluma Transit	Vehicle	Purchase 1 Remanufactured Fixed Route Bus	1 bus: Purchase replacement remanufactured 40-foot fixed route bus		$226,667				$226,667
Petaluma Transit	Vehicle	Purchase Service Vehicle	Systemwide: Purchase replacement support car for use by staff in the field		$35,000				$35,000
Petaluma Transit	ADA	ADA Set-Aside	Annual ADA set-aside	$112,925	$115,031				$227,956

Agency	Project Type	Project Name	Project Description	2017	2018	2019	2020	2021	Total Cost
Petaluma Transit	IT	Transit Signal Priority System	Various intersections: Upgrade existing traffic signals to replace existing or install new Transit Signal Priority hardware on intersections within the City of Petaluma. Project is phased	$86,388					$86,388
Petaluma Transit	Vehicle	Replace 1 Paratransit Cutaway FY 2017	Replace 1 paratransit cutaway. Replace 2007 22-foot gas Starcraft with 2017 accessible minivan	$55,000					$55,000
Petaluma Transit	Vehicle	Replace 2 Paratransit Cutaways	Replace 2 paratransit vans		$180,000				$180,000
Petaluma Transit	Facility	Transit Yard and Facilities Improvements	Transit Yard and Facility: Improvements to enhance security and maintain a state of good repair, including pavement repair and upgrades, video surveillance system, office security, and yard lighting	$56,375	$57,250				$113,625
Santa Rosa CItyBus	Operations	Implementation of Reimagining CityBus	Systemwide: Operating assistance for implementing Reimagining CityBus		$605,787				$605,787
Santa Rosa CItyBus	Vehicle	Transit Enhancements	Various locations: Upgrade and improve transit facilities, including amenities, accessibility, ADA compliance, pedestrian and bicycle access, and technology upgrades, including transit system		$464,250				$464,250
Santa Rosa CItyBus	Operations	Operating Assistance	System-wide: Operating assistance to transit agency	$3,053,714	$3,229,740				$6,283,454
Santa Rosa CItyBus	Vehicle	Preventative Maintenance	Preventative maintenance program for agency fleet	$569,861	$666,207				$1,236,068
Santa Rosa CItyBus	Operations	Paratransit Operations	Provide operating assistance to Santa Rosa paratransit	$472,308	$481,964				$954,272
Santa Rosa CItyBus	Vehicle	Bus Replacement Purchase	40-foot fixed-route vehicle: Replace an aging 40-foot fixed-route diesel bus for operation purposes			$1,641,873			$1,641,873
SolTrans	ADA	ADA Paratransit Operating Subsidy	ADA paratransit operating subsidy	$768,153	$369,498	$377,120	$384,905		$1,899,676
SolTrans	Vehicle	Bus Replacement (Alternative Fuel)	Replace eight 45-foot MCI commuter coaches as they reach the end of their useful life	$3,170,175	$2,895,134	$465,777	$475,653		$7,006,739
SolTrans	Facility	Facilities and Amenities Improvements	Systemwide: Facility and passenger amenities improvements	$300,000					$300,000
SolTrans	Operations	Operating Assistance	System-wide: Operating assistance		$577,682	$4,305,128	$4,435,276		$9,318,086
SolTrans	Vehicle	Preventive Maintenance	Preventive maintenance of vehicles and equipment necessary for the maintenance of federally funded assets	$1,047,480	$1,000,000	$1,250,000	$1,250,000		$4,547,480
Sonoma County Transit	Vehicle	Preventive Maintenance Program	Preventive maintenance program for agency fleet	$1,600,000	$1,600,000	$1,600,000	$1,600,000		$6,400,000
Sonoma County Transit	Vehicle	Replace 2009 CNG Buses	3 40-foot CNG-fueled buses: Replace with similar buses			$637,000	$1,290,000		$1,927,000
Sonoma County Transit	Vehicle	Replace 2006 CNG Buses	Replace 5 40-foot CNG-fueled buses	$1,630,267	$754,604	$261,277			$2,646,148
Sonoma County Transit	Vehicle	Replace 2006 CNG Buses	Replace 5 40-foot CNG-fueled buses	$912,200					$912,200
Union City Transit	Vehicle	Paratransit Van Procurement	Replace 6 Union City paratransit vans	$1,032,000					$1,032,000
Union City Transit	Vehicle	Rehab 2 Transit Buses	Rehab 2 CNG buses from 2008 that are now at their mid-life service expectancy. The vehicles have the potential to serve the transit agency longer	$512,500					$512,500
Union City Transit	IT	Travel Time Improvements	South Alameda County Major Corridors: Travel time improvements, including Adaptive Traffic Control Systems, corridor-wide Transit Signal Priority, signal coordination, and relocation of key bus stops		$181,393				$181,393

Agency	Project Type	Project Name	Project Description	2017	2018	2019	2020	2021	Total Cost
Union City Transit	Vehicle	Replace Paratransit Sedan	Replace 1 Union City paratransit sedan with 1 van	$176,300					$176,300
Union City Transit	ADA	ADA Paratransit Operating Subsidy	ADA paratransit operating assistance	$167,825					$167,825
Vacaville City Coach	Vehicle	Transit Marketing and Public Outreach	Citywide: Marketing and public outreach of city coach transit benefits	$215,388					$215,388
Vacaville City Coach	Facility	Vacaville Intermodal Station - Phase 2	Construct 137-stall surface parking lot					$9,133,000	$9,133,000
Vacaville City Coach	Operations	Operating Assistance	System-wide: Operating assistance	$1,700,000	$1,860,000	$1,790,000	$1,790,000		$7,140,000
WestCAT	Vehicle	Purchase 2 Double-Decker Buses	Purchase 2 double-decker vehicles to expand service on the Lynx Transbay Service by adding additional capacity to trips	$2,000,000					$2,000,000
WestCAT	IT	AVL System with APC Element	Systemwide: Purchase and install a new AVL system, including automatic passenger counting (APC)	$394,513					$394,513
WestCAT	Vehicle	Replace 2 DAR Minivans	Replace 2 minivans (2007) with 2 cutaway DAR vehicles			$312,000			$312,000
WestCAT	Vehicle	Replace 6 2008 35-foot Revenue Vehicles	6 2008 revenue vehicles: Purchase replacement vehicles				$3,348,000		$3,348,000
WestCAT	Vehicle	Replace 5 35-foot and 4 40-foot Vehicles	5 2007 35-foot and 4 2002 40-foot revenue vehicles: purchase replacement vehicles			$5,096,632			$5,096,632
WestCAT	ADA	ADA Paratransit Operating Subsidy	ADA paratransit operating subsidy	$516,730	$527,296	$538,178	$549,292		$2,131,496
WestCAT	Equipment	Purchase 6 Electronic Fareboxes	Purchase 6 electronic fareboxes				$106,868		$106,868
WestCAT	Equipment	Purchase 9 Electronic Fareboxes	Purchase 9 electronic fareboxes			$160,302			$160,302
WestCAT	Equipment	Purchase 2 FastFare Electronic Fareboxes	Purchase and install 2 FastFare electronic fareboxes	$35,623					$35,623
WestCAT	Equipment	Purchase 2 Radio Systems	Radio systems: Purchase 2 radio systems for 2 cutaway vans			$2,000			$2,000
WestCAT	Vehicle	Replace 2 2002 40-foot Revenue Vehicles	Replace 2 2002 40-foot revenue vehicles with similar vehicles	$1,076,000					$1,076,000
WETA	Facility	Central Bay Operations and Maintenance Facility	Construct a central bay operations and maintenance facility.	$20,325,466					$20,325,466
WETA	Operations	Ferry Service - Berkeley/Albany	Berkeley/Albany: Provide ferry service from Berkeley/Albany to San Francisco			$5,032,346			$5,032,346
WETA	Operations	Richmond Ferry Service	Implement new ferry transit service between Richmond and San Francisco	$1,000,000					$1,000,000
WETA	Facility	SF Ferry Terminal/Berthing Facilities	San Francisco: At Ferry Terminal, construct additional ferry docking/berthing facilities in the South Basin to improve ferry access and support WETA berthing/maintenance operational needs	$4,907,654					$4,907,654
WETA	Facility	Ferry Channel and Berth Dredging	Various service areas: Dredge ferry channel, ferry basin, and berth		$3,100,000				$3,100,000
WETA	Vehicle	Ferry Major Component Rehab/Replacement	Fleetwide: Rehabilitate and/or replace major ferry components, including shafts, propellers, navigation systems, onboard monitoring and alarm systems, interior components, and boarding	$6,756,417	$18,060,000	$9,430,000	$4,453,000		$38,699,417
WETA	Vehicle	Ferry Propulsion System Replacement	Ongoing: A mid-life overhaul is scheduled when a ferry reaches approximately 12.5 years of service life. Equipment service hours and specific vessel needs may affect the timing of the projects						$0
WETA	Equipment	Fixed Guideway Connectors	Various locations: Replace/rehab fixed guideway connectors such as floats, floating barges, ramps, and gangways throughout the system	$3,600,000	$571,302		$7,500,000		$11,671,302

Agency	Project Type	Project Name	Project Description	2017	2018	2019	2020	2021	Total Cost
WETA	Operations	Redwood City Ferry Service	Redwood City: Environmental clearance and design of ferry transit service between Redwood City and San Francisco	$2,000,000				$6,000,000	$8,000,000
WETA	Vehicle	Replace Ferry Vessels	All existing ferry vessels for WETA: Replace vessels when they reach the end of their useful life of 25 years	$14,312,000	$18,586,073	$19,133,650			$52,031,723
			Grand Total	**$150,937,607**	**$87,295,184**	**$76,902,008**	**$43,658,872**	**$54,783,186**	**$413,576,857**

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Table 12 identifies additional projects that have been included in operators' capital improvement programs. Some projects that are in the TIP are also listed in the CIP, since these projects may have been funded with federal funds.

Table 12: Investment Priorities (Capital Improvement Program)

Agency	Project Type	Project Name	Project Description	Year	Cost
CCCTA	Operations	Route 8 and Weekend Route 111	Continuation of Lifeline Transit Programs with weekend bus service on CCCTA Route 111, and the Monument Community Shuttle Route 8 (annual operating costs).	FY 2017- FY 2024	$450,000
CCCTA	Facility	Facility Expansion	Expansion of CCCTA Administrative building and employee parking area	FY 2017- FY 2024	$5,000,000
CCCTA	Operations	Increase bus service frequency to BART stations (Lamorinda)	Upgrade existing bus stop shelters to include benches and real-time bus arrival displays within County Connection Service Area	FY 2017- FY 2024	$1,400,000
CCCTA	Facility	Bus Stop Access Improvements	Bus stop access improvements for the top 50 used stops. Includes new shelters with solar lighting, benches, sidewalk improvements and curb buts for better access and improved ADA compliance.	FY 2017- FY 2024	$3,425,000
CCCTA	Operations	Bus Rapid Transit Projects	Provide frequent, prioritized bus service in dense, congested corridors - potential corridors include Clayton Road, Treat Blvd, Ygnacio Valley Road, Contra Costa Blvd and I-680 Corridor south of Walnut Creek. Cost is for one demonstration corridor.	FY 2017- FY 2024	$90,000,000
CCCTA	Operations	Improved Service on Low Frequency Routes	Increased service on routes currently operating with low service frequencies. Includes many weekend routes and routes operating in southern service area to address rising congestion and population growth. Cost is for one year of service.	FY 2017- FY 2024	$4,500,000
Dixon Readi-Ride	Facility	Market Lane Park and Ride Lot,	Repave for maintenance	FY 2020	$25,000
ECCTA	Facility	Oakley Park and Ride	Not available.	TBD	$3,200,000

Agency	Project Type	Project Name	Project Description	Year	Cost
ECCTA	Facility	Antioch Park and Ride	Not available.	TBD	$3,200,000
ECCTA	Vehicles	Purchase two all electric buses	Not available.	FY 2020	$2,000,000
ECCTA	Facility	Parking lot repaving project	Not available.		$1,000,000-$3,400,000
ECCTA	Vehicles	Purchase support vehicle replacements (six cars)	Not available.	FY 2020	$150,000
ECCTA	Vehicles	Purchase support vehicle replacements (two vans)	Not available.	FY 2022	$50,000
ECCTA	Vehicles	Purchase support vehicle replacements (three trucks)	Not available.	FY 2021	$80,000
ECCTA	Vehicles	Purchase six med van replacements	Not available.	FY 2021	$378,000
FAST	Operations	Local/Paratransit/Admin Set Aside 20%TDA	Not available.	FY 2019-FY 2022	$3,218,195
FAST	Vehicles	Local Bus Replacement	Not available.	FY 2020-FY 2022	$13,095,817
FAST	Operations	Intercity Bus Set Aside 20% RDA Contribution	Not available.	FY 2019-FY 2022	$1,903,852
FAST	Vehicles	Intercity Bus Replacements	Not available.	FY 2018-FY 2019, FY 2022	$4,150,058
FAST	Vehicles	Intercity Bus Replacements	Not available.	FY 2018-FY 2019, FY 2022	$10,666,167
FAST	Vehicles	Intercity Bus Replacements	Not available.	FY 2019, FY 2022	$11,804,936
FAST	Vehicles	Purchase/Convert Paratransit Vehicles	Not available.	FY 2020	$309,000
FAST	Vehicles	Fleet Repower/Rehab/Engine Replacement	Not available.	FY 2018-FY 2021	$907,232
FAST	Equipment	Tools/Equipment/Extensive Bus Maintenance	Not available.	FY 2018-FY 2022	$1,061,827
FAST	Operations	Miscellaneous Small Capital	Not available.	FY 2018-FY 2022	$530,914
FAST	Equipment	Security Cameras-FTC Parking Garage	Not available.	FY 2020	$200,000
FAST	Facility	Bus Stop Improvements	Not available.	FY 2018-FY 2022	$418,281
FAST	Facility	NextBus Signage-FTC/FVTS Passenger Shelters	Not available.	FY 2019	$30,000

Agency	Project Type	Project Name	Project Description	Year	Cost
FAST	Equipment	Parking Program/Train Station Parking Kiosks	Not available.	FY 2019	$650,000
FAST	Facility	FTC/Train Stations Interior Improvements	Not available.	FY 2018-FY 2022	$400,000
FAST	IT	Data Management System	Not available.	FY 2019	$80,000
FAST	Equipment	Bus Washing System	Not available.	FY 2019	$300,000
FAST	Facility	Electric Charging System Infrastructure	Not available.	FY 2019-FY 2020	$5,107,880
LAVTA	Equipment	Bus Camera Replacements (FR) Para Cameras	Not available.	FY 2018	$230,000
LAVTA	Facility	Transit Center Upgrades and Improvements	Not available.	FY 2018	$567,520
LAVTA	Facility	Bus Shelters, Signs, and Stops	Not available.	FY 2018	$2,014,640
LAVTA	IT	IT Upgrades and Replacement	Not available.	FY 2018	$35,000
LAVTA	Equipment	Office and Facility Equipment	Not available.	FY 2018	$295,000
LAVTA	Operations	Transit Capital	Not available.	FY 2018	$100,000
LAVTA	Facility	Shop Repairs and Replacements	Not available.	FY 2018	$85,000
LAVTA	IT	TSP Upgrade	Not available.	FY 2018	$1,406,600
LAVTA	Facility	Doolan Tower Upgrade	Not available.	FY 2018	$10,000
LAVTA	Vehicles	Bus Wrap Refresh	Not available.	FY 2018	$100,000
LAVTA	Vehicles	Vehicle Repairs	Not available.	FY 2018	$1,150,000
LAVTA	IT	WiFi	Not available.	FY 2018	$36,696
LAVTA	Equipment	Farebox Upgrade	Not available.	FY 2018	$500,000
LAVTA	Vehicles	Non-Revenue Vehicle Replacement	Not available.	FY 2018	$567,200
LAVTA	Equipment	Security Upgrades	Not available.	FY 2018	$44,259
Marin County Transit	Vehicles	Fixed Route Vehicle Costs	Not available.	FY 2018-FY 2021	$21,993,069
Marin County Transit	Vehicles	Paratransit Replacement Vehicles	Not available.	FY 2018, FY 2020-FY 2021	$3,567,388
Marin County Transit	Vehicles	Non-Revenue Vehicles	Not available.	FY 2018, FY 2021	$86,614
Marin County Transit	Facility	Bus Stop Improvements	Not available.	FY 2018-FY 2022	$1,080,000

Agency	Project Type	Project Name	Project Description	Year	Cost
Marin County Transit	Facility	Downtown Novato – Construction	Not available.	FY 2018	$1,637,663
Marin County Transit	Facility	Muir Woods Infrastructure Improvements	Not available.	FY 2018	$512,729
Marin County Transit	Facility	San Rafael Transit Center	Not available.	FY 2018	$100,000
Marin County Transit	Facility	Paratransit and Fixed Route Maintenance Facility	Not available.	FY 2018, FY 2021	$25,602,881
Marin County Transit	Facility	Yellow Bus Parking Facility	Not available.	FY 2019	$3,000,000
Marin County Transit	Equipment	On Board Equipment (Security Cameras, AVL)	Not available.	FY 2018	$270,817
Marin County Transit	Equipment	Fare Collection (Fareboxes, Clipper)	Not available.	FY 2018-FY 2022	$942,884
Marin County Transit	IT	Radio Communications	Not available.	FY 2018-FY 2021	$464,000
Marin County Transit	IT	Mobility Management Technology Backbone	Not available.	FY 2018	$356,500
Marin County Transit	Operations	Golden Gate Capital Costs	Not available.	FY 2018-FY 2022	$123,141
Marin County Transit	Facility	Bus Stop Maintenance	Not available.	FY 2018-FY 2022	$500,000
Marin County Transit	Vehicles	Major Vehicle Repairs	Not available.	FY 2018-FY 2022	$1,530,301
Marin County Transit	Facility	Infrastructure Support	Not available.	FY 2018-FY 2022	$1,405,409
NVTA	Vehicles	Staff Car Replacement	Replace NVTA staff vehicle.	FY 2022*	$22,000
NVTA	Vehicles	Bus Replacement	Replace Medium & Heavy Duty Buses	FY 2022*	$7,800,000
NVTA	Vehicles	Paratransit Vehicles	Replace Paratransit Vehicles	FY 2022*	$1,975,000
NVTA	Vehicles	Express Bus Vehicles	Purchase Expansion Express Buses	FY 2022*	$14,000,000
NVTA	IT	Asset Management Database	Purchase Asset Management Software	FY 2022*	$50,000
NVTA	Equipment	Point of Sale System	Purchase Point of Sale System for ticket office.	FY 2022*	$70,000
NVTA	Vehicles	Bus Enhancements	Bus equipment purchases and replacements	FY 2022*	$2,000,000
NVTA	Facility	Transit Maintenance & Operations Facility	Build a new transit maintenance and operations facility.	FY 2022*	$32,000,000
NVTA	Facility	Park & Rides	Build and upgrade park & rides throughout Napa County	FY 2022*	$2,000,000

Agency	Project Type	Project Name	Project Description	Year	Cost
City of Petaluma	IT	Security System Upgrade	Upgrade existing audio-visual bus camera surveillance system to ensure full functionality and compatibility.	FY 2020	$25,000
City of Petaluma	IT	Paratransit Dispatching Software	Purchase new paratransit dispatching software to improve service delivery and efficiency.	FY 2020	$80,000
City of Petaluma	IT	AVL System Modem Upgrade	Upgrade modems associated with AVL system to ensure ongoing functionality	FY 2019	$80,000
City of Petaluma	Facility	Bus Stop Improvements	Ongoing improvements to bus stop to enhance safety and provide rider amenities.	FY 2019- FY 2022	$100,000
City of Petaluma	Vehicles	Replace Two (2) Paratransit Vehicles	Replace two paratransit vehicles which have exceeded their useful life.	FY 2021	$186,800
Santa Rosa CityBus	Vehicles	Fixed Route Bus Replacement	Not available.	FY 2018-FY 2022	$5,851,388
Santa Rosa CityBus	Vehicles	Paratransit Bus Replacement	Not available.	FY 2018-FY 2022	$1,052,000
Santa Rosa CityBus	Vehicles	Oakmont Bus Replacement	Not available.	FY 2018-FY 2022	$73,000
Santa Rosa CityBus	Vehicles	Non-Revenue Vehicle Replacement	Not available.	FY 2018-FY 2022	$111,213
Santa Rosa CityBus	Equipment	Miscellaneous Equipment	Not available.	FY 2018-FY 2022	$2,917,416
Santa Rosa CityBus	Vehicles	Engine Replacement	Not available.	FY 2018-FY 2022	$324,000
Santa Rosa CityBus	Vehicles	Major Bus Parts	Not available.	FY 2018-FY 2022	$783,000
Santa Rosa CityBus	Facility	Bus Stop Improvements	Not available.	FY 2018-FY 2022	$643,142
SolTrans	Equipment	Electrical infrastructure	Upgrade electric capacity in the maintenance yard to support chargers for 4 battery electric buses and future build out. A study is currently being conducted that will help inform a cost estimate for this project.	FY 2018-FY 2021	TBD
SolTrans	Vehicles	Replace 6 CNG Express Buses, 2 Electric Local Fixed Route Buses, and 2 Paratransit/Dial-a-Ride Vehicles	Not available.	FY 2019	$6,874,150

Agency	Project Type	Project Name	Project Description	Year	Cost
SolTrans	Vehicles	Replace 2 Paratransit/Dial-a-Ride Vehicles, 2 Support Vehicles, and 1 Maintenance Truck	Not available.	FY 2020	$505,000
SolTrans	Vehicles	Replace 2 Paratransit Vehicles and 3 Support Vehicles	Not available.	FY 2021	$540,000
Sonoma County Transit		Replace 3 40’ FNG Buses (Replaces 332, 333, 334)	Not available.	FY 2018	$1,763,346
Sonoma County Transit	Vehicles	Replace 1 32’ CNG Low-Floor Bus (Replaces 124)	Not available.	FY 2018	$549,235
Sonoma County Transit	Vehicles	Replace 4 25’ Paratransit Mini-Buses (Replaces 726, 727, 728,729)	Not available.	FY 2018	$341,517
Sonoma County Transit	Vehicles	Replace 4 Paratransit Mini-Vans (Replaces 801, 802, 803, 804)	Not available.	FY 2018	$184,480
Sonoma County Transit	Facility	Facility/Shop Improvements	Not available.	FY 2018	$1,500,000
Sonoma County Transit	Facility	Maintenance Facility	Not available.	FY 2018	$50,000
Sonoma County Transit	Operations	Route Improvements	Not available.	FY 2018	$50,000
Sonoma County Transit	Facility	Bus Stop Enhancements	Not available.	FY 2018	$142,654
Sonoma County Transit	Equipment	Office Equipment	Not available.	FY 2019	$25,000
Sonoma County Transit	Vehicles	Replace 2 40’ CNG Buses (Replaces 335, 336)	Not available.	FY 2019	$1,176,000
Sonoma County Transit	Vehicles	Replace 1 30' Electric Low-Floor Bus (Replaces 125)	Not available.	FY 2019	$48,000
Sonoma County Transit	Vehicles	Replace 1 28' Low-Floor Mini-Bus (Replaces 950)	Not available.	FY 2019	$180,000
Sonoma County Transit	Vehicles	Replace 6 Paratransit Sedans (Replaces 623 through 628)	Not available.	FY 2019	$150,000

Agency	Project Type	Project Name	Project Description	Year	Cost
Sonoma County Transit	Facility	Facility/Shop Improvements	Not available.	FY 2019	$40,000
Sonoma County Transit	Facility	Maintenance Facility	Not available.	FY 2019	$50,000
Sonoma County Transit	Operations	Route Improvements	Not available.	FY 2019	$60,000
Sonoma County Transit	Facility	Bus Stop Enhancements	Not available.	FY 2019	$75,000
Sonoma County Transit	Equipment	Office Equipment	Not available.	FY 2020	$25,000
Sonoma County Transit	Vehicles	Replace 3 40' CNG Buses (Replaces 337, 338, 339)	Not available.	FY 2020	$1,764,000
Sonoma County Transit	Vehicles	Replace 3 25' Paratransit Mini-Buses (Replaces 730, 731, 732)	Not available.	FY 2020	$270,000
Sonoma County Transit	Facility	Facility/Shop Improvements	Not available.	FY 2020	$50,000
Sonoma County Transit	Facility	Maintenance Facility	Not available.	FY 2020	$50,000
Sonoma County Transit	Operations	Route Improvements	Not available.	FY 2020	$75,000
Sonoma County Transit	Facility	Bus Stop Enhancements	Not available.	FY 2020	$100,000
Sonoma County Transit	Vehicles	Replace 3 40' CNG Coaches (New & Replaces 340, 341)	Not available.	FY 2021	$1,800,000
Sonoma County Transit	Vehicles	Replace 3 25' Paratransit Mini-Buses (Replaces 733, 734, 735)	Not available.	FY 2021	$270,000
Sonoma County Transit	Facility	Facility/Shop Improvements	Not available.	FY 2021	$45,000
Sonoma County Transit	Facility	Maintenance Facility	Not available.	FY 2021	$50,000
Sonoma County Transit	Operations	Route Improvements	Not available.	FY 2021	$80,000
Sonoma County Transit	Facility	Bus Stop Enhancements	Not available.	FY 2021	$145,000

Agency	Project Type	Project Name	Project Description	Year	Cost
Sonoma County Transit	Vehicles	Replace 3 40' CNG Coaches (Replaces 204, 205, 206)	Not available.	FY 2022	$1,860,000
Sonoma County Transit	Vehicles	Replace 25' Paratransit Mini-Buses (New & Replaces 736, 737	Not available.	FY 2022	$285,000
Sonoma County Transit	Facility	Facility/Shop Improvements	Not available.	FY 2022	$35,000
Sonoma County Transit	Facility	Maintenance Facility	Not available.	FY 2022	$40,000
Sonoma County Transit	Operations	Route Improvements	Not available.	FY 2022	$70,000
Sonoma County Transit	Facility	Bus Stop Enhancements	Not available.	FY 2022	$110,000
Union City Transit	Vehicles	Paratransit Van	Funds are associated with an FY16-17 project that was not implemented.	FY 2018-FY 2019	$150,000
Union City Transit	Vehicles	Staff Car	Funds in SRTP may have been used in FY15-16; these funds will be used for the next vehicle.	FY 2019-FY 2020	$24,000
Union City Transit	Facility	Bus Shelters	Cost is an ongoing amount that Union City budgets for that may or may not be used.	FY 2018	$36,000
Union City Transit	Equipment	Signal Priority Emitters	Installation is planned to begin in October 2018. $160,587 of the total cost has been identified so far.	FY 2018- FY 2019	$204,648
Union City Transit	Equipment	Solar Panels	Funds were programmed in FY 2015-FY 2016 but were never spent; funds are still planned to be used.	FY 2015- FY 2016	$150,000
Union City Transit	Vehicles	Paratransit Van Electrification	Not available.	N/A	$36,949
Union City Transit	Vehicles	Paratransit Van Electrification & EVSE	Not available.	FY 2017- FY 2018	$141,630
WestCAT	Equipment	Bus wash replacement	Not available.	FY 2019	$1,700,000
WestCAT	Facility	Land Purchase and Facility Expansion	Not available.	FY 2021	$4,000,000

Agency	Project Type	Project Name	Project Description	Year	Cost
WETA	Vehicles	Vessel rehabilitation	Includes projects to provide periodic rehabilitation and replacement of ferry components such as haul-outs, engines, generators, propulsion systems and other major components required to keep the vessels in service.	FY 2016-FY 2025	$132,298,600
WETA	Vehicles	Vessel replacement	WETA is currently in the process of replacing three vessels, the Encinal, Express II, and Vallejo. WETA anticipates replacement of three additional vessels over the next 10 years, including the Bay Breeze, Intintoli, and Mare Island.	FY 2016-FY 2025	$117,604,000
WETA	Vehicles	Vessel expansion	WETA's vessel fleet expansion program includes the purchase of up to four new ferry vessels to operate planned service.	FY 2016-FY 2025	$79,522,400
WETA	Facilit0079	Floats and gangways	Rehabilitation and/or replacement of passenger and mooring ferry docks/floats and gangway. Periodic haul-out. Inspection, and repair of existing floats.	FY 2016-FY 2025	$5,705,000
WETA	Facility	Dredging	The Vallejo ferry basin requires dredging approximately every three years to remove silt build-up that would otherwise prevent ferries from operating in this area. Dredge work is also planned for the South San Francisco.	FY 2016, FY 2020, FY 2023, FY 2024	$8,781,400
WETA	Facility	Terminal Maintenance	Rehabilitation and replacement work to support ongoing ferry operations.	FY 2016-FY 2025	$2,735,200
WETA	Facility	Downtown San Francisco Ferry Terminal Expansion Project	Includes construction of up to three new ferry gates and vessel berthing facilities that will support new ferry services from San Francisco to Richmond and Treasure Island, as well as other potential locations currently under study.	FY 2016-FY 2025	$76,310,400

Agency	Project Type	Project Name	Project Description	Year	Cost
WETA	Facility	Richmond Terminal	Construction of a ferry terminal facility on the Ford Peninsula in the City of Richmond. The project will replace an existing ferry facility consisting of a gangway, float, ramping system and piles.	FY 2016-FY 2025	$16,270,600
WETA	Facility	North Bay Operations and Maintenance Facility	The project includes both landside and waterside improvements undertaken in phases to ultimately provide administrative office space, maintenance and fueling facilities and berthing capacity for ferry vessel.	FY 2016	$13,103,300
WETA	Equipment	Capital equipment/other	Includes expenditures for capital equipment, none-revenue vehicles (work skiffs, boat trailers, shop vans, and utility carts), and miscellaneous terminal maintenance projects.	FY 2016-FY 2025	$1,131,300

**Planned project start date is before FY 2022, needs were identified in FY 2016 (as part of NVTA's Short-Range Transit Plan)*

8 Continuous Improvement

This section is not required for the Tier II operator group TAM plan, but has been included as best practice.

The Tier II operators are working on the following activities in conjunction with MTC to advance their asset management practices:

- Collect more granular facility condition data and store that data in the RTCI as the system of record
- Improve project prioritization for replacements (as outlined in Section 6.4, TAM Investment Prioritization Approach)
- Improve scenario analysis in TERM Lite to consider different funding sources
- Generate NTD reports using inventory data reported to the RTCI
- Maintain and update asset inventory using RTCI 2.0, which enables operators to make changes directly to the RTCI using a web-based browser

The Tier II operators will review this TAM plan and revise it at a minimum, every four years, while the inventory will be updated annually to align to annual NTD reporting. MTC and the Tier II operators may decide to update this TAM plan more frequently than every four years if there are significant and unexpected changes to its asset inventory, asset condition, funding levels, or policies that may reshape investment prioritization.

The Tier II operators will strive to influence better asset performance, risk reduction, and agency cost savings with each revision of the TAM plan accordingly.

Appendix A: U.S. 49 CFR Requirements

Table AA-1 below demonstrates how this group TAM plan is compliant with the requirements set forth in U.S. 49 CFR.

Table AA-1: TAM Plan - U.S. 49 CFR Requirements

Ref #:	U.S.49CFR625 Reference:	Requirement	Group TAM Plan Section for Compliance
A TAM plan for Tier II operators must include the following elements:			
1	49 CFR § 625.25 (b)(1)	Inventory of the number and type of all capital assets a provider owns, except equipment with an acquisition value under $50,000 that is not a service vehicle	*Section 3 Capital Asset Inventory*
2	49 CFR § 625.25 (b)(1)	An inventory must also include third-party owned or jointly-procured exclusive-use maintenance facilities, passenger station facilities, administrative facilities, rolling stock, and guideway infrastructure used by a provider in the provision of public transportation	*Section 3 Capital Asset Inventory*
3	49 CFR § 625.25 (b)(2)	Condition assessment of those inventoried assets for which a provider has direct capital responsibility and to level of detail to monitor, predict performance of assets, and inform investment prioritization	*Section 4 Performance and Condition*

Ref #:	U.S.49CFR625 Reference:	Requirement	Group TAM Plan Section for Compliance
4	49 CFR § 625.25 (b)(3)	Description of analytical processes or decision-support tools to estimate capital investment needs over time and develop its investment prioritization	*Section 6 Decision Support*
5	49 CFR § 625.25 (b)(4)	Project-based prioritization of investments	*Section 7 Investment Prioritization*
The following elements are required for Tier I operators but optional for Tier II operators:			
6	49 CFR § 625.25 (b)(5)	Provider's TAM and SGR policy	N/A
7	49 CFR § 625.25 (b)(6)	Provider's TAM plan implementation strategy	N/A
8	49 CFR § 625.25 (b)(7)	A description of key TAM activities that a provider intends to engage in over the TAM plan horizon period	N/A
9	49 CFR § 625.25 (b)(8)	A summary or list of the resources, including personnel, that a provider needs to develop and carry out the TAM plan	N/A
10	49 CFR § 625.25 (b)(9)	An outline of how a provider will monitor, update, and evaluate, as needed, its TAM plan and related business practices to ensure the continuous improvement of its TAM practices	N/A
When developing its investment prioritization, providers must:			

Ref #:	U.S.49CFR625 Reference:	Requirement	Group TAM Plan Section for Compliance
11	49 CFR § 625.33 (a)	Include an investment prioritization that identifies a provider's program and projects to improve or manage the SGR of capital assets for which the provider has direct capital responsibility over the TAM plan horizon period	Prioritization of investments by year are presented in *Section 7 Investment Prioritization* in the TAM plan
12	49 CFR § 625.33 (b)	Rank projects to improve or manage the SGR of capital assets in order of priority and anticipated project year	Prioritization of investments by year are presented in *Section 7 Investment Prioritization* in the TAM plan
13	49 CFR § 625.33 (c)	Ensure provider's project rankings are consistent with its TAM policy and strategies	Prioritization of investments by year are presented in *Section 7 Investment Prioritization* in the TAM plan. Tier II operators are not required to have a TAM policy and strategy in place.
14	49 CFR § 625.33 (d)	Give due consideration to those state of good repair projects to improve that pose an identified unacceptable safety risk	Safety has been included as a prioritization criterion in the investment prioritization approach for each asset class in *Section 6 Decision Support*.
15	49 CFR § 625.33 (e)	Take into consideration its estimation of funding levels from all available sources that it reasonably expects will be available in each fiscal year during the TAM plan horizon period	Prioritization of investments by year are presented in *Section 7 Investment Prioritization* in the TAM plan. The list of investments considers available funding and funding constraints.

Ref #:	U.S.49CFR625 Reference:	Requirement	Group TAM Plan Section for Compliance
16	49 CFR § 625.33 (f)	Take into consideration requirements under 49 CFR 37.161 and 37.163 concerning maintenance of accessible features and the requirements under 49 CFR 37.43 concerning alteration of transportation facilities	Prioritization of investments by year are presented in *Section 7 Investment Prioritization* in the TAM plan. Investments consider accessibility and ADA compliance.

Appendix B: Key Terms and Definitions

Accountable Executive

Defined by 49 U.S.C. Chapter 53 as a "single, identifiable person who has ultimate responsibility for carrying out the safety management systems of a public transportation agency; responsibility for carrying out transit asset management practices; and control or direction over the human and capital resources needed to develop and maintain both the agency's public transportation agency safety plan, in accordance with 49 U.S.C. 5329(d), and the agency's transit asset management plan in accordance with 49 U.S.C. 5326."

Asset

An asset is defined as a tangible entity (or system of entities) that is either owned, leased, or maintained by the Tier II operators and is:

- Repairable and/or replaceable
- Has an expected useful life of more than one year
- Requires intervention/activities to reduce risk of failure
- One or more of the following apply:
    - Requires a preventive maintenance schedule
    - Needs to be inspected
    - Needs to be calibrated
    - Needs to be tracked

This definition applies to discrete physical properties that are considered part of and enable the safe operation of transit in the San Francisco Bay Area region by the Tier II operators.

Lifecycle

The time interval that begins with the acquisition of a Transit Asset or Land Asset, and ends with the disposal of the Transit Asset or Land Asset. Lifecycle phases may include planning, design, procurement, construction, operations, maintenance, rehabilitation, and asset replacement/disposal.

State of Good Repair (SGR)

Defined by 49 U.S.C. Chapter 53 as the "condition in which a [transit asset or] capital asset is able to [safely] operate at a full level of performance." The State of Good Repair is further defined by an asset's Useful Life Benchmark (for rolling stock and equipment) or physical condition (for facilities). Assets are considered in a State of Good Repair when they do not meet or exceed their ULB (revenue vehicles and equipment/non-revenue service vehicles) or physical condition (facilities) threshold. Vehicle and equipment assets, for example, are considered in a State of Good Repair when they meet the ULB identified for each vehicle type. Facilities are considered in a State of Good Repair when they are rated as a 3 or above on FTA's TERM scale. *Also, see definition for Useful Life Benchmark.*

State of Good Repair (SGR) Backlog

The cumulative dollar value of deferred capital maintenance and replacement needs.

TERM Scale

The five-category rating system used in the FTA's Transit Economic Requirement Model (TERM) to describe the condition of an asset, where 5 is excellent condition and 1 is poor condition.

TERM Lite

An MS Access-based decision tool provided by the FTA for estimating SGR Backlog, annual capital investment needs, current and future asset conditions, and capital investment priorities over a 10- to 20-year time horizon.

Tier I Operator

An entity that receives federal financial assistance under 49 U.S.C. Chapter 53, either directly from FTA or as a subrecipient, that owns, operates, or manages either (1) one hundred and one (101) or more vehicles in revenue service during peak regular service across all fixed route modes or in any one non-fixed route mode, or (2) rail transit.

Tier II Operator

An entity that receives federal financial assistance under 49 U.S.C. Chapter 53, either directly from FTA or as a subrecipient that owns, operates, or manages (1) one hundred (100) or fewer vehicles in revenue service during peak regular service across all non-rail fixed route modes or in any one non-fixed route mode, (2) a subrecipient under the 5311 Rural Area Formula Program, (3) or any American Indian tribe.

Transit Asset Management (TAM)

Defined by 49 U.S.C. Chapter 53 as "the strategic and systematic practice of procuring, operating, inspecting, maintaining, rehabilitating, and replacing transit capital assets to manage their performance, risks, and costs over their lifecycles, for the purpose of providing safe, cost-effective, and reliable public transportation."

Transit Asset Management Plan (TAM Plan)

This document, which describes the capital asset inventory, the condition of inventoried assets, TAM performance measures and targets, the investment prioritization approach, and includes a list of investment priorities.

Useful Life

Defined by 49 U.S.C. Chapter 53 as "either the expected lifecycle of a capital asset or the acceptable period of use in service determined by FTA." It generally defines the minimum eligibility for retirement, replacement, or disposal of an asset.

Useful Life Benchmark (ULB)

Defined by 49 U.S.C. Chapter 53 as "the expected lifecycle or the acceptable period of use in service for a capital asset, as determined by a transit provider, or the default benchmark provided by FTA." The ULB is the realistic expectation for when an asset would be disposed of or replaced based on operating environment and procurement timelines. It is not the same as "Useful Life" in FTA grant programs, is reported by age (in years), and usually only pertains to rolling stock or equipment. It is a single number shared for or within specified asset classes, although may vary across different asset classes and providers.

Appendix C: Asset Inventory by Agency

Table AC-1 below summarizes each operator's revenue vehicle inventory, by vehicle type.

Table AC-1: Revenue Vehicle Inventory by Agency

Agency	AB - Articulated Bus	AO - Automobile	BR - Over-the-Road Bus	BU - Bus	CU - Cutaway Bus	FB - Ferryboat	VN - Van
Central Contra Costa Transit Authority				128	63		
City of Dixon Readi-Ride					8		2
ECCTA Eastern Contra Costa Transit Authority			1	60			38
City of Fairfield - Fairfield and Suisun Transit			19	29	12		1
Livermore / Amador Valley Transit Authority				60			
Marin Transit	10			42	54		4
Napa Valley Transportation Agency				36	29		
City of Petaluma				11	9		
City of Rio Transit Services					4		1
City of Santa Rosa				32			14
Solano County Transit			21	23	12		
Sonoma County Transit		6		45	22		2
Union City Transit		1		19			5
City of Vacaville				18	7		
Western Contra Costa Transit Authority		2	9	38			10
San Francisco Bay Area Water Emergency Transportation Authority						14	
Total	**10**	**9**	**50**	**545**	**216**	**14**	**77**

Table AC-2 below summarizes each operator's non-revenue vehicle inventory, by vehicle type.

Table AC-2: Non-Revenue Vehicle Inventory by Agency

Agency	AO - Automobile	Trucks and other rubber-tired vehicles	FB - Ferryboat
Central Contra Costa Transit Authority	16		
City of Dixon Readi-Ride			
ECCTA Eastern Contra Costa Transit Authority	10	4	
City of Fairfield - Fairfield and Suisun Transit	1	5	
Livermore / Amador Valley Transit Authority	4	4	
Marin Transit	1	2	
Napa Valley Transportation Agency	2		
City of Petaluma	1	1	
City of Rio Transit Services			
City of Santa Rosa	1	5	
Solano County Transit	2	11	
Sonoma County Transit	2	5	
Union City Transit	1		
City of Vacaville			
Western Contra Costa Transit Authority		5	
San Francisco Bay Area Water Emergency Transportation Authority		3	1
Total	**41**	**45**	**1**

Table AC-3 below summarizes each operator's equipment, by equipment type.

Table AC-3: Equipment (>$50,000) Inventory by Agency

Agency	Communications	Information Technology	Revenue Collection	Vehicle Equipment	Office Equipment	Misc Equipment
Central Contra Costa Transit Authority	1	1	3	9	4	
City of Dixon Readi-Ride						
ECCTA Eastern Contra Costa Transit Authority				1	1	
City of Fairfield - Fairfield and Suisun Transit	2		1	1		
Livermore / Amador Valley Transit Authority	7	142	2	10	1	5
Marin Transit		59	1		1	
Napa Valley Transportation Agency	1	2		1		
City of Petaluma		11		1		
City of Rio Transit Services				3		
City of Santa Rosa		1		2		
Solano County Transit		1		5		2
Sonoma County Transit	1			9		3
Union City Transit						
City of Vacaville	1			3	2	
Western Contra Costa Transit Authority		2	1	5	1	4
San Francisco Bay Area Water Emergency Transportation Authority	1					1
Total	14	219	8	50	10	15

Table AC-4 below summarizes each operator's facility inventory, by facility type.

Table AC-4: Facility Inventory by Agency

Agency	Administrative and Maintenance	Passenger and Parking
Central Contra Costa Transit Authority	4	
City of Dixon Readi-Ride	1	1
ECCTA Eastern Contra Costa Transit Authority	1	
City of Fairfield - Fairfield and Suisun Transit	2	5
Livermore / Amador Valley Transit Authority	2	1
Marin Transit		
Napa Valley Transportation Agency	1	2
City of Petaluma	1	
City of Rio Transit Services		
City of Santa Rosa	1	2
Solano County Transit	2	3
Sonoma County Transit	1	14
Union City Transit	1	1
City of Vacaville	2	3
Western Contra Costa Transit Authority	1	
San Francisco Bay Area Water Emergency Transportation Authority	1	6
Total	**21**	**38**

Table AC-5 below summarizes each operator's guideway (non-track) inventory.

Table AC-5: Guideway (Non-Track) Inventory by Agency

Agency	Dredging	Security Gate	Turnaround
Central Contra Costa Transit Authority			
City of Dixon Readi-Ride			
ECCTA Eastern Contra Costa Transit Authority			
City of Fairfield - Fairfield and Suisun Transit			
Livermore / Amador Valley Transit Authority			
Marin Transit			
Napa Valley Transportation Agency			
City of Petaluma			
City of Rio Transit Services			
City of Santa Rosa			1
Solano County Transit			
Sonoma County Transit			
Union City Transit			
City of Vacaville			
Western Contra Costa Transit Authority			
San Francisco Bay Area Water Emergency Transportation Authority	4	5	
Total	4	5	1

Appendix D: Useful Life Benchmarks

Table AD-1 below identifies the useful life benchmarks that were used to calculate the operators' performance measures for revenue vehicles.

Table AD-1: Agency ULBs for Revenue Vehicles

Agency	Articulated Bus (AB)	Automobile (AO)	Over-the- Road Bus (BR)	Bus (BU)	Cutaway Bus (CU)	Ferryboat (FB)	Van (VN)
CCCTA	--	--	--	12	7	--	--
City of Dixon	--	--	--	--	7	--	8
ECCTA	--	--	12	12	--	--	4/5
FAST	--	--	14	12	7	--	5
LAVTA	--	--	--	14	--	--	--
Marin County Transit	14	--	--	7/14	5/8/10	--	5
NVTA	--	--	--	15	10	--	--
Petaluma Transit	--	--	--	14	7	--	--
Rio Vista Delta Breeze	--	--	--	7	--	--	6
Santa Rosa CityBus	--	--	--	15	--	--	6
SolTrans	--	--	14	12	7	--	--
Sonoma County Transit	--	7	--	12	7	--	4
Union City Transit	--	4	--	12	--	--	7
Vacaville City Coach	--	--	--	15	10	--	--
WestCAT	--	4	16	12	---	--	7
WETA	--	--	--	--	--	25	--
FTA Default ULB	**14**	**8**	**14**	**14**	**10**	**42**	**8**
FTA Grant Minimum Life	**12**	**4**	**12**	**12**	**4, 5, or 7 years depending on type**	**25**	**4, 5, or 7 years depending on type**
TCP ULB	**12**	**N/A**	**14**	**12**	**4, 5, or 7 years depending on type**	**25**	**4, 5, or 7 years depending on type**

**If a value is not provided, the vehicle type is not applicable to the agency.*

Table AD-2 below identifies the useful life benchmarks that were used to calculate the operators' performance measures for non-revenue vehicles.

Table AD-2: Agency ULBs for Equipment (Non-Revenue Service) Vehicles

Agency	Automobile (AO)	Other rubber-tired vehicles	Ferryboat (FB)
CCCTA	7	--	--
City of Dixon	--	--	--
ECCTA	5	5	--
FAST	10	10	--
LAVTA	10/16	14/15	--
Marin County Transit	8	8/15	--
NVTA	20	--	--
Petaluma Transit	10	10	--
Rio Vista Delta Breeze	--	--	--
Santa Rosa CityBus	11	12/20	--
SolTrans	7	5/6/7	--
Sonoma County Transit	10/15	12/15	--
Union City Transit	4	--	--
Vacaville City Coach	--	--	--
WestCAT	--	8/10	--
WETA	--	10/20	20
FTA Default ULB	**8**	**14**	**42**
FTA Grant Minimum Life	**4**	**4**	**25**
TCP ULB	**7**	**7**	**25**

**If a value is not provided, the vehicle type is not applicable to the agency*

Appendix E: Transit Capital Priorities Scoring

Table AE-1 below identifies projects and scores that the TCP uses to determine which projects will receive funding.

Table AE-1: TCP Project Categories and Scores

Project Category/Description	Project Score
Debt Service	**17**
Repayment of financing issued against future FTA revenues. Debt service, including principal and interest payments, for any financing required to advance future FTA or STP revenues to fund annual TCP or Core Capacity Challenge Grant Program (CCCGP) programs of projects will be treated as score 17.	
Revenue Vehicle Replacement	**16**
Replacement of a revenue vehicle at the end of its useful life (see Asset Useful Life in the TCP). Vehicles previously purchased with revenue sources other than federal funds are eligible for FTA formula funding as long as vehicles meet the replacement age. Vehicles are to be replaced with vehicles of similar size (up to 5-foot size differential) and seating capacity (e.g., a 40-foot coach replaced with a 40-foot coach and not an articulated vehicle). If an operator is electing to purchase smaller or larger buses (above or below a 5-foot size differential), or do a sub-fleet reconfiguration, the replacement sub-fleet will have a comparable number of seats as the vehicles being replaced. Paratransit vehicles can be replaced with the next larger vehicle providing the existing vehicle is operated for the useful life period of the vehicle that it is being upgraded to. Any other significant upgrade in size will be considered as vehicle expansion and not vehicle replacement. For urgent replacements not the result of deferred maintenance and replacement of assets 20% older than the usual replacement cycle (e.g., 12 or 16 years for buses depending on type of bus), a project may receive an additional point.	
Revenue Vehicle Rehabilitation	**16**
Major maintenance designed to extend the useful life of a revenue vehicle (+5 years for buses, +20 years for railcars, +20 years for locomotives, +20 years for heavy hull ferries). Rehabilitation of historic railcars, which have, by definition, extended useful lives, is included in this category.	
Core Capacity Challenge Grant (CCCGP) Program Projects	**16**
Projects proposed for TCP funding in the CCCGP (MTC Resolution No. 4123) that are not otherwise a Score 16.	
Used Vehicle Replacement	**16**
Replacement of a vehicle purchased used (applicable to buses, ferries, and rail cars) is eligible for federal, state, and local funding that MTC administers. Funds in this category include FTA Section 5307, STP, CMAQ, STIP, and Net Toll Revenues. However, funding for replacement of the used vehicle will be limited to a proportionate share of the total project cost, equal to the number of years the used vehicle is operated beyond its standard useful life divided by its standard useful life (e.g., if a transit property retained and operated a used transit bus for 5 years, it is eligible to receive 5/12th of the allowable programming for the project).	
Fixed Guideway Replacement/Rehabilitation	**16**

Project Category/Description	Project Score
Projects replacing or rehabilitating fixed guideway equipment at the end of its useful life, including rail, guideway, bridges, traction power systems, wayside train control systems, overhead wires, cable car infrastructure, and computer/ communications systems with a primary purpose of communicating with or controlling fixed guideway equipment. Projects in this category are subject to fixed guideway project caps.	
Ferry Propulsion Systems	16
Projects defined as the mid-life replacement and rehabilitation of ferry propulsion systems in order that vessels are able to reach their 25-year useful life. Projects in this category are subject to fixed guideway project caps.	
Ferry Major Component	16
Projects associated with propulsion system, inspection, and navigational equipment required to reach the full economic life of a ferry vessel. Projects in this category are subject to fixed guideway project caps.	
Ferry Fixed Guideway Connectors	16
Floats, gangways, and ramps associated with the safe moorage and boarding of passengers to/from ferry vessels. Projects in this category are subject to fixed guideway project caps.	
Revenue Vehicle Communication Equipment	16
Includes on-board radios, radio base stations, and computer/communications systems with a primary purpose of communicating with and/or location/navigation of revenue vehicles, such as GPS/AVL systems.	
Non-Clipper® Fare Collection/Fareboxes	16
Revenue vehicle and wayside fare equipment are eligible for replacement as score 16. The maximum programming allowance for revenue vehicle fare equipment purchased separately from revenue vehicles is outlined in Section III, Project Funding Caps in the TCP, providing the fare equipment is not replaced prior to the 12-year replacement cycle for buses. Fare equipment must be compatible with the Clipper® fare collection system.	
Clipper®	16
Replacement of Clipper® fare collection equipment and systems.	
Bus Diesel Emission Reduction Devices	16
Bus diesel emission reduction devices or device components required to meet or exceed California Air Resources Board requirements, including first-time retrofits, upgrades, replacements, and spares. Devices or components must be installed on buses that will remain in service for at least 5 years following year programming in order to be treated as Score 16. Only spares up to 10% of the operator's current device inventory will be treated as Score 16. Bus diesel emission device projects treated as Score 16 require a 50% local match. Devices or components installed on buses scheduled to be replaced within 5 years of programming, and spares in excess of 10% of the operator's inventory, will be treated as Preventive Maintenance (Score 9). See Section V. Programming Policies, Bus Diesel Emission Reduction Device Funding Program in the TCP.	
Vanpool Support Program	16
Turnkey vanpool services contracted by MTC. This program will have eligibility beginning FY 2019-2020 and is subject to funding cap at levels no greater than the projected apportionments generated by vanpool reporting in the urbanized area.	
Safety	15

Project Category/Description	Project Score
Projects addressing potential threats to life and/or property. The project may be maintenance of existing equipment or new safety capital investments. Includes computer/ communications systems with a primary purpose of communicating with/controlling safety systems, including ventilation fans, fire suppression, fire alarm, intruder detection, CCTV cameras, and emergency "blue light" phones. Adequate justification that the proposed project will address safety and/or security issues must be provided. The TFWG will be provided an opportunity to review proposed projects before a project is programmed funds in a final program. Projects that contribute to a 1% security requirement will be considered Score 16.	
ADA/Non-Vehicle Access Improvement	14
Capital projects needed for ADA compliance. Does not cover routine replacement of ADA-related capital items. Project sponsor must provide detailed justification that the project is proposed to comply with ADA. Subject to TFWG review.	
Fixed/Heavy Equipment, Maintenance/Operating Facilities	13
Replacement/rehabilitation of major maintenance equipment, generally with a unit value over $10,000; replacement/rehabilitation of facilities on a schedule based upon the useful life of the components.	
Station/Intermodal Stations/Parking Rehabilitation	12
Replacement/rehabilitation of passenger facilities. Includes computer/communications systems with a primary purpose of communicating with/controlling escalators or elevators, and public address or platform display systems at stations or platforms.	
Service Vehicles	11
Replacement/rehabilitation of non-revenue and service vehicles based on useful life schedules.	
Tools and Equipment	10
Maintenance tools and equipment, generally with a unit value below $10,000.	
Administrative Computer Systems and Office Equipment	9
Computers, copiers, fax machines, etc. Includes administrative—MIS, financial, HR, scheduling, transit asset management, and maintenance management systems.	
Preventive Maintenance	9
Ongoing maintenance expenses (including labor and capital costs) of revenue and non-revenue vehicles that do not extend the life of the vehicle. This includes mid-life change-out of tires, tubes, engines, and transmissions that do not extend the life of the vehicle beyond the 12-year life cycle. Preventive maintenance may be treated as Score 16 under certain circumstances.	
Improvements/Enhancements	8
Any project proposed to improve and/or enhance the efficiency of a transit facility.	
Operations	8
Costs associated with transit operations, such as the ongoing maintenance of transit vehicles, including the cost of salaries. See Section V, Limited Use of FTA Funds for Operating Purposes of the TCP.	
Expansion	8
Any project needed to support expanded service levels.	

Source: San Francisco Bay Area Transit Capital Priorities Process Criteria for FY2016-17 through FY2019-20

Appendix F: Investment Prioritization Templates

Vehicles

Agency Name	
Project Name	*Example: Replace hybrid fleet*
Project Description	*Example: The fleet of hybrid buses are nearing their planned useful life and need to be replaced in the next 2 years. The buses are still running but there are some periodic issues that arise.*
Asset Class	Vehicles
Estimated Cost	

Evaluation Criteria		Comments/Notes
Safety	Does operating the vehicle pose a safety risk to the traveling public or others that cannot be easily mitigated through routine maintenance/service to the vehicle?	*Example: No, there have been no major safety incidents reported on the vehicle since it was put into service.*
Impact to Service and Operations	Is the vehicle reliably providing service to the public?	*Example: No, some vehicles in the fleet have broken down during revenue service, which has affected reliability targets. This breakdowns are anticipated to become more frequent if the fleet is not replaced soon.*
Maintenance	Does the vehicle require any major parts/components or major overhaul activities?	*Example: The shells of the vehicles are starting to show some signs of wear and deterioration; we do not conduct overhauls on our vehicles.*
Age	Is the vehicle beyond its planned useful life? If yes, how many years is it beyond its planned useful life?	*Example: No, the fleet is right at its planned useful life. We anticipate the fleet will be able to run for two more years before it must be retired.*
Condition/Usage	Is the vehicle in good condition/is the usage infrequent?	*Example: No, the vehicles are in fair/poor condition.*
Recommendation		
Example: The fleet needs to be retired in two years. Given the two-year procurement period, we recommend funding the replacement so that a new fleet of vehicles can be put in service when the current fleet is retired.		

Equipment

Agency Name	
Project Name	*Example: Replace Mobile Column Lift*
Project Description	*Example: The first mobile column lift that was purchased is starting to show signs of age and needs to be replaced.*
Asset Class	Equipment
Estimated Cost	

Evaluation Criteria		Comments/Notes
Safety Risk to Staff	Does the condition of this equipment pose a safety risk to staff who use the equipment?	*Example: No, its condition does not pose a safety risk to staff. The bus lift is intended to remove safety risk from the inspection process.*
Safety Risk to Customers	Does the condition of this equipment affect the ability to maintain the safe operation of customer facing assets (e.g., vehicles)?	*Example: Yes, although there are two other mobile column lifts available for use.*
Impact to Service and Operations	Does the condition of this equipment impact the ability to provide revenue service and meet existing levels of service?	*Example: Mostly no, except during the downtime for repairs to take place.*
Maintenance	What is the level of maintenance and inspection required to keep the equipment in working condition?	*Example: Planned maintenance is mostly sufficient but some additional corrective maintenance is required to deal with specific issues that arise.*
Age	Is the equipment beyond its planned useful life? If yes, how many years is it beyond its planned useful life?	*Example: No, the mobile column lift is not beyond its useful life.*
Condition	What is the equipment's condition? The condition may be based on a visual inspection, review of maintenance records, and any other tests that may have been performed on it.	*Example: The condition is fair and there have not been any significant repairs that have been needed in the past two years.*
Recommendation		
Example: We do not believe this is an urgent request and given the number of other pressing equipment needs (and the two other mobile column lifts that are still in working condition), we recommend deferring this project and re-evaluating the need again next year.		

Facilities

Agency Name	
Project Name	*Example: Escalator Replacement at Intermodal Station*
Project Description	*Example: The pair of escalators at the Intermodal Station entrance require frequent repairs and the contractor is recommending replacement.*
Asset Class	Facilities
Estimated Cost	

Evaluation Criteria		Comments/Notes
Safety Risk to Customers (Passenger and Parking Facilities)	Does the condition of this facility pose a safety risk to customers who interface with this facility? Does the condition of this facility affect the ability to maintain the safe operation of customer facing assets (e.g., vehicles)?	*Example: While the current condition of the escalators does not pose an immediate safety risk to customers, this could become a safety risk if current issues persist.*
Safety Risk to Staff (Administrative and Maintenance Facilities)	Does the condition of this facility pose a safety risk to staff who use this facility?	*Example: N/A, this is a passenger and parking facility.*
Impact to Service and Operations	Does the facility impact revenue service? This factor prioritizes activities on passenger facilities versus administrative facilities.	*Example: While the escalators do not directly impact revenue service, they do affect the customer experience and could impact whether customers choose to use the station. The current alternative for customers is to take the elevator or the stairs.*
Maintenance	What is the level of maintenance and inspection required to keep the facility or its major components in working condition?	*Example: The escalators require frequent corrective maintenance to main service quality.*
Age	Is the facility element (or a major component of the element) beyond its planned useful life?	*Example: No, the escalators are not beyond its useful life (currently 15 years). However, they are experiencing frequent issues that are disproportionate to their age.*
Condition Score	What is the element's condition score (based on the physical condition assessment)?	*Example: The escalator condition score is a 2 (from 2017).*
Recommendation		
Example: We recommend funding elevator replacement in the next year.		