# MTC 2022 Regional Transit Asset Management Group Plan

*Sponsored and prepared by:*

METROPOLITAN TRANSPORTATION COMMISSION

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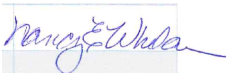
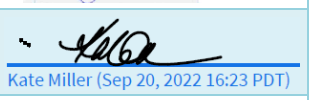
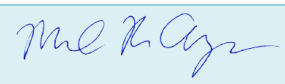
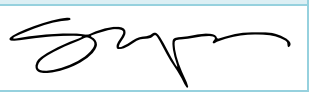
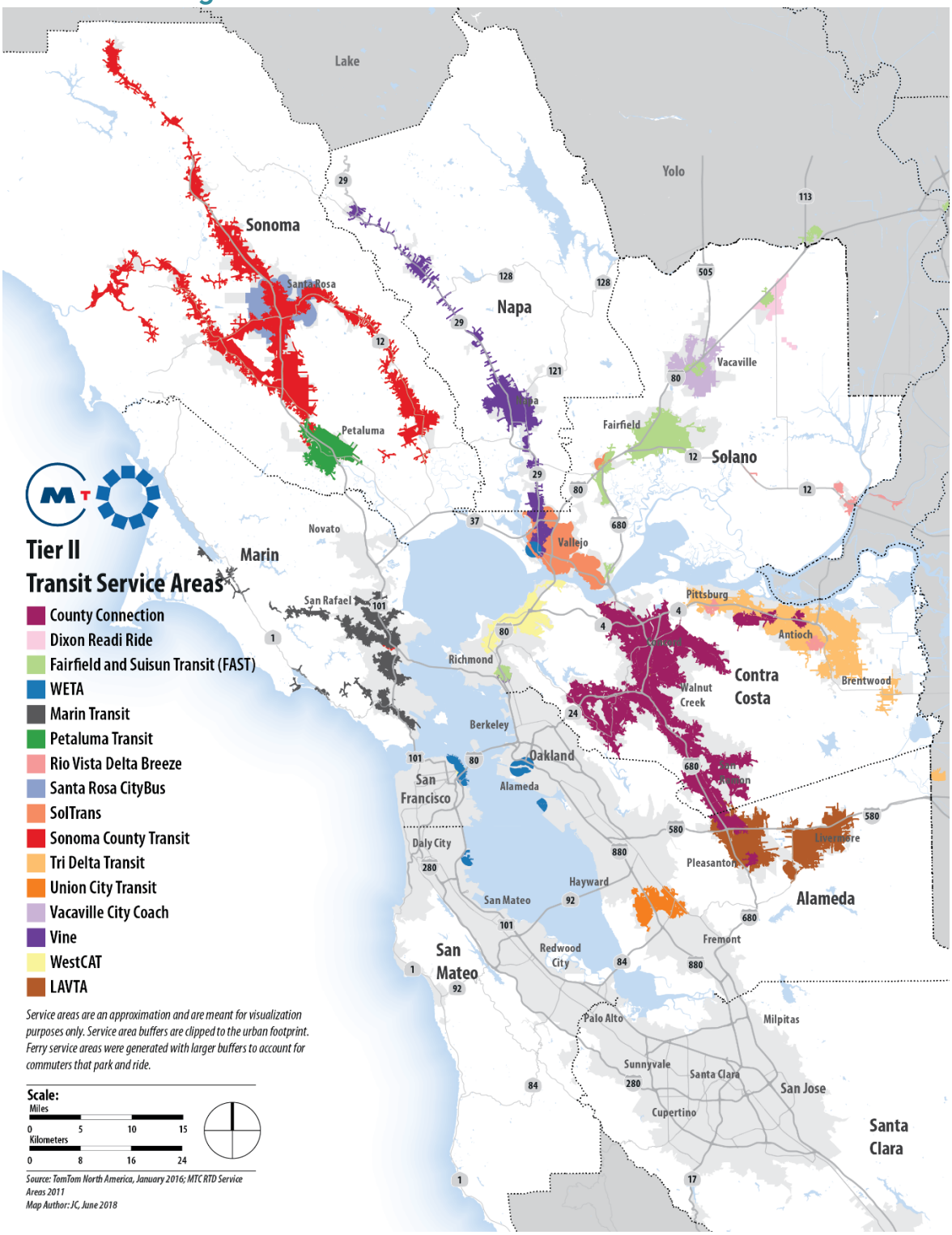
# 1. Accountable Executives Statement

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.

| Operator | Accountable Executive | Title | Signature |
|---|---|---|---|
| Central Contra Costa Transit Authority (CCCTA) | William Churchill | General Manager |  |
| Dixon Readi-Ride | Jim Lindley | City Manager |  |
| Eastern Contra Costa Transit Authority (Tri Delta) | Rashidi Barnes | CEO | R. Barnes |
| Fairfield and Suisun Transit | David Gassaway | City Manager (Interim) |  |
| Livermore Amador Valley Transit Authority (LAVTA) | Tamara Edwards | Executive Director (Interim) |  |
| Marin County Transit | Nancy Whelan | General Manager |  |
| Napa Valley Transportation Authority (NVTA) | Kate Miller | Executive Director |  Kate Miller (Sep 20, 2022 16:23 PDT) |
| Petaluma Transit | Jared Hall | Transit Manager |  |
| Rio Vista Delta Breeze | Brandon Thomson | Transit Manager | Brandon Thomson |
| Santa Rosa CityBus | Joe Schiavone | Director, Transportation and Public Works | Joe Schiavone<br>Joe Schiavone (Sep 13, 2022 15:07 PDT) |
| Solano County Transit (SolTrans) | Beth Kranda | Executive Director |  |
| Sonoma County Transit | Bryan Albee | Transit Systems Manager |  |
| Union City Transit | Marilou Ayupan | Public Works Director |  |
| Vacaville City Coach | Brian McLean | Public Works Director (Interim) | Brian McLean |
| Western Contra Costa Transit Authority (WestCAT) | Robert Thompson | General Manager |  |
| Water Emergency Transportation Authority | Seamus Murphy | Executive Director |  |

# 2. Plan Coverage Area



# 3. Introduction

## 3.1 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.
- Decision Support describes the investment prioritization approach the operators are using to estimate capital investment needs over time and develop their list of priorities.

[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)."

- Investment Prioritization lists the projects to improve and manage the state of good repair of capital assets.

## 3.2 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).

| 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 |
| 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 |
| 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. |

## 3.3 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)."

### 3.3.1 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:

- Rolling Stock: percentage of revenue vehicles within a particular asset class that have met or exceeded their useful life benchmark
- Equipment: percentage of non-revenue vehicles that have met or exceeded their useful life benchmark
- Facilities: percentage of facilities with a condition rating below "3" on the TERM scale (scale of 1 to 5, with 5 being a facility in excellent condition)

### 3.3.2 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 below:

| Element | Description | Tiers Required |
|---|---|---|
| Inventory of Capital Assets | A register of capital assets and information about those assets. | Tier I and Tier II |
| Condition Assessment | A rating of the assets' physical state; to be completed for assets an agency has direct capital responsibility for; should be at a level of detail sufficient to monitor and predict performance of inventoried assets | Tier I and Tier II |
| Decision Support Tools | An analytic process or tool that (1) assists in capital asset investment prioritization and/or (2) estimates capital needs over time | Tier I and Tier II |
| Investment Prioritization | A prioritized list of projects or programs to manage or improve the SGR of capital assets | Tier I and Tier II |

| | | |
|---|---|---|
| TAM and SGR Policy | A TAM policy is the executive-level direction regarding expectations for transit asset management; a TAM strategy consists of the actions that support the implementation of the TAM policy | Tier I |
| Implementation Strategy | The operational actions that a transit provider decides to conduct, in order to achieve its TAM goals and policies | Tier I |
| List of Key Annual Activities | The actions needed to implement a TAM plan for each year of the plan's horizon | Tier I |
| Identification of Resources | A summary or list of the resources, including personnel, that a provider needs to develop and carry out the TAM plan | Tier I |
| Evaluation Plan | 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 | Tier I |

### 3.3.3 Reporting Requirements

The initial TAM plan was completed by October 1, 2018, and the TAM plan must be updated at least once every four years. All agencies must complete a compliant second version of their TAM plans by October 2022. 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.

MTC has coordinated annual submission of a regional A-90 form and Narrative report to NTD since the completion of the 2018 plan. Operators continue to submit data reports to NTD as usual, except for the regional SGR performance targets and narrative report.

# 4 TAM Plan Guiding Principles

The Tier II operators have identified a set of guiding principles that set the direction for this TAM plan:

1. Maintain, update, and enhance the region's asset inventory to better invest in a state of good repair.
2. Monitor and improve the condition of the system by setting annual performance measures and targets and documenting the progress towards those targets.
3. Invest in a state of good repair based on a structured decision support framework to ensure available funds are spend where they are needed most
4. Maintain a list of investment priorities that considers safety, accessibility, and available funding.

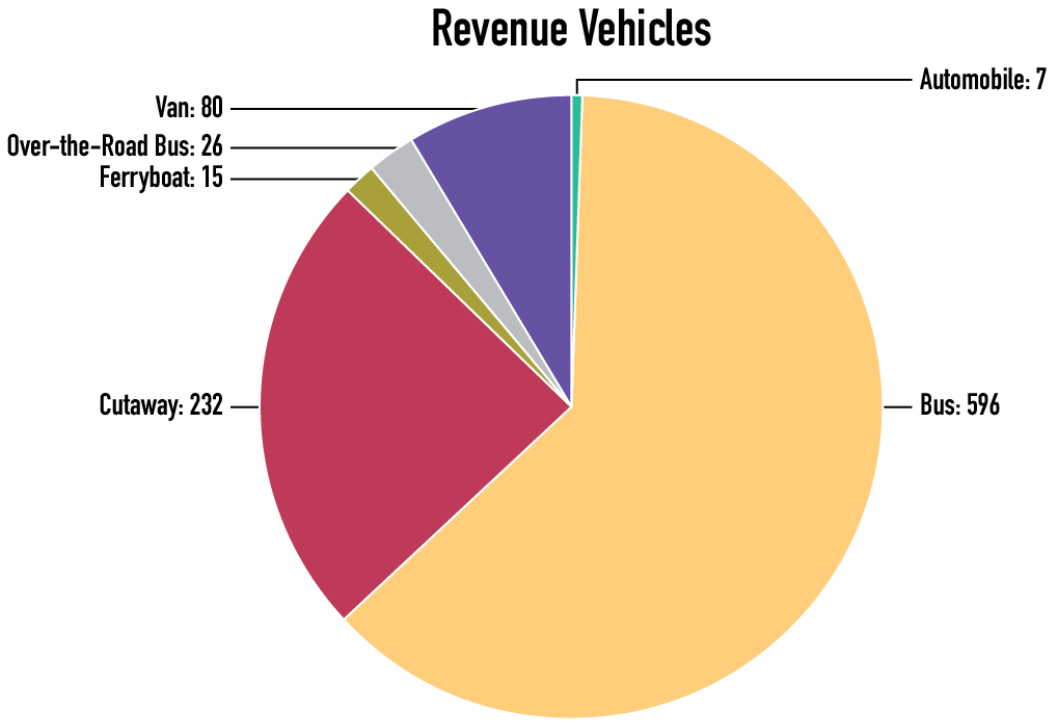
## 4.1 Transit Asset Management Approach and Vision

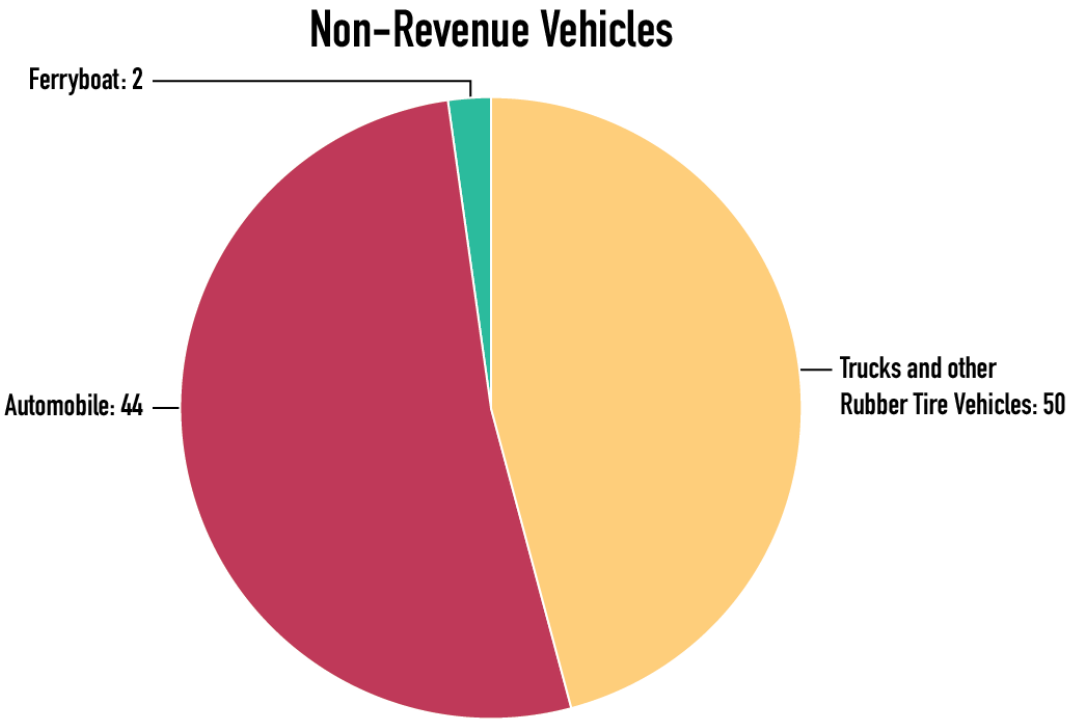
The operators' first and foremost priority is to provide safe, reliable, and cost-effective service to its customers. To do this, they will ensure assets are kept in a state of good repair and improve short- and long-term planning to maximize the return on investment and get the most value out of their 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.

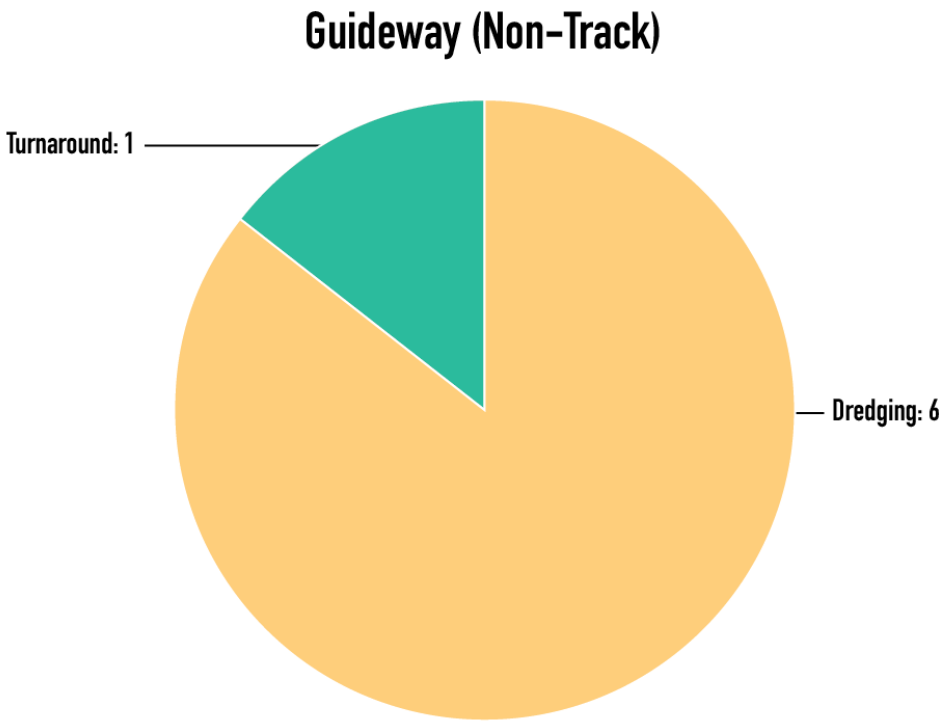
# 5 Capital Asset Inventory

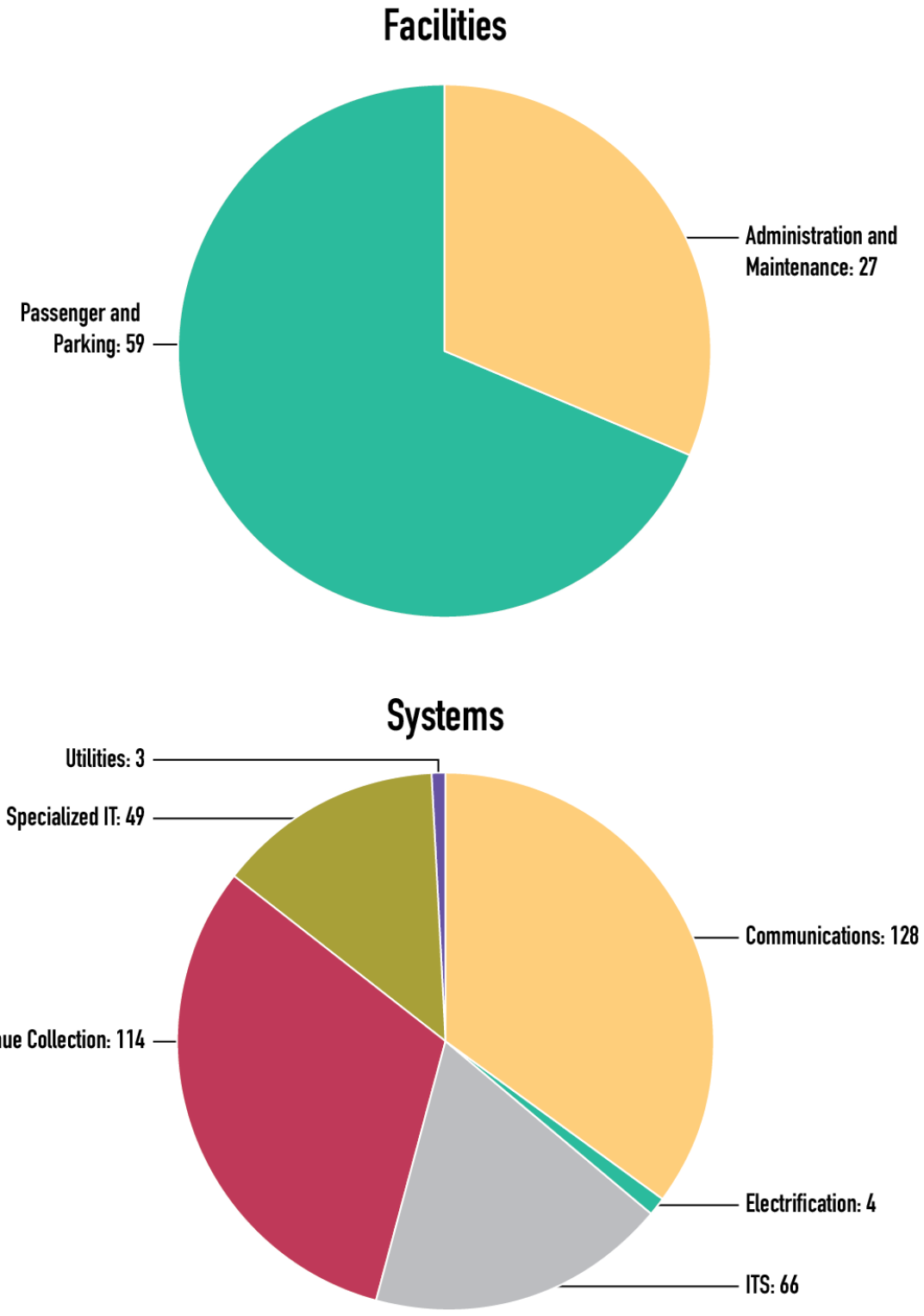
MTC maintains a comprehensive regional database of transit assets owned by all Bay Area transit operators (including both Tier I and Tier II operators). The operators report their inventory data on an annual basis to MTC for updates to this database, commonly known as the Regional Transit Capital Inventory (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.

The collective asset inventory of the Tier II operators is summarized below. 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.




Non-Revenue Vehicles
Ferryboat: 2
Automobile: 44
Trucks and other
Rubber Tire Vehicles: 50


Guideway (Non-Track)
Turnaround: 1
Dredging: 6


Facilities
Administration and Maintenance: 27
Passenger and Parking: 59
Systems
Utilities: 3
Specialized IT: 49
Communications: 128
Revenue Collection: 114
Electrification: 4
ITS: 66

## 5.1 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. The table below summarizes maintenance and operations responsibility at each agency.

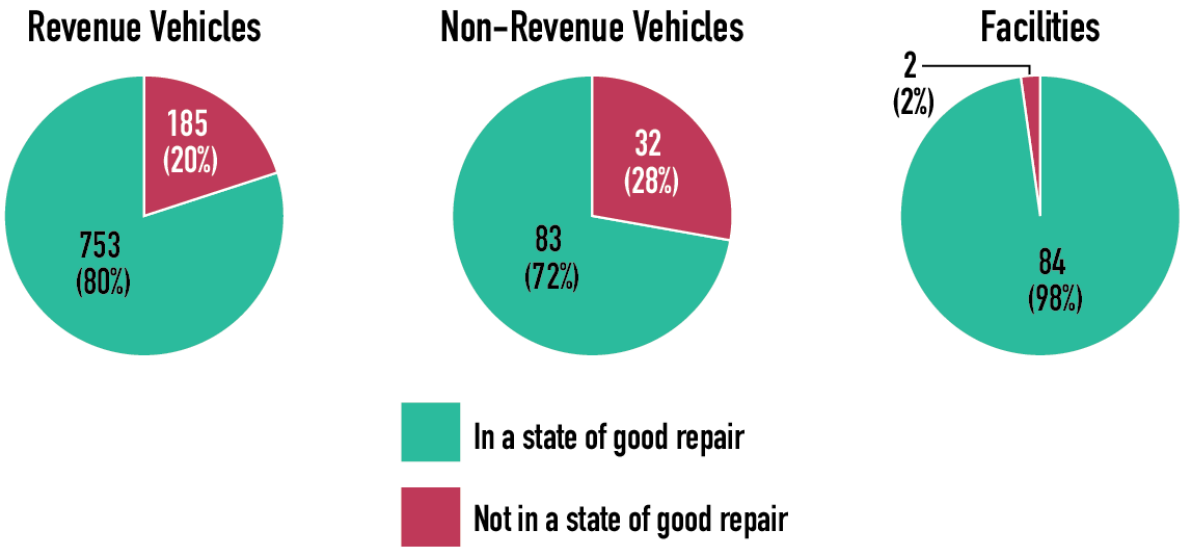
| Agency | Operations and Maintenance Responsibility |
|---|---|
| Central Contra Costa Transit Authority (CCCTA) | Operations and maintenance of vehicles are performed by agency staff. |
| Dixon Readi-Ride | Approximately 98% of all maintenance work (for revenue vehicles, equipment, and facilities) 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 some of its fixed route service and they contract with Marin Transit for the provision of demand response. Maintenance work on facilities is contracted out to a vendor. |
| 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. |
| 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 IT, Facility, and Fleet Manager. |
| Water Emergency Transportation Authority (WETA) | All maintenance work (for revenue and non-revenue vehicles, equipment, and facilities) is contracted to a vendor. |

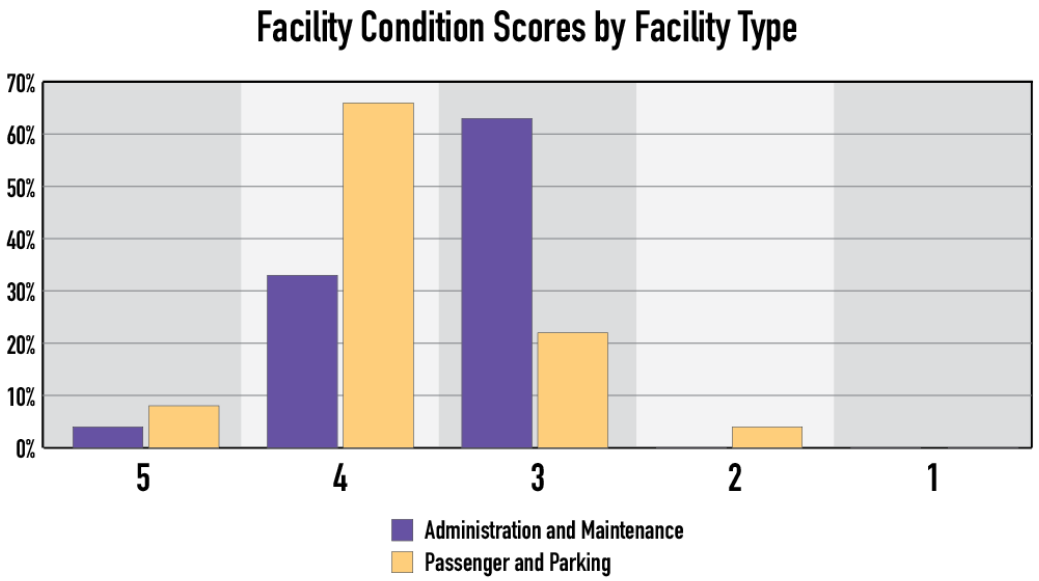
## 5.2 Performance and Condition

### 5.2.1 State of Good Repair Summary

The figures below summarize the overall state of good repair of rolling stock, non-revenue vehicles, and facilities, using the performance measures and targets discussed in Section 5.2.2, Performance Measures and Targets.




Around eighty percent of revenue vehicles are in a state of good repair, while over seventy percent of non-revenue vehicles are in a state of good repair, and over 98 percent of facilities are in a state of good repair. Facility state of good repair is based on a facility condition score, a score of 1 to 5 indicating the overall condition of a facility. The figure below shows the number of facilities that fall into each score.



### 5.2.2 Performance Measures and Targets

The condition of the Tier II operators' assets is calculated based on age (revenue vehicles, non-revenue 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) 2022. The target setting process for FY 2023 is currently underway; and those performance targets will be submitted to NTD. The performance measures and targets are summarized in the table below. 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.

| **Revenue Vehicles** | | |
|---|---|---|
| **Vehicle Type** | 2021 Performance (%) | 2022 Target (%) |
| **AO - Automobile** | 100 | 100 |
| **BR - Over-the-road Bus** | 27.27 | 40 |
| **BU - Bus** | 20.21 | 14.54 |
| **CU - Cutaway** | 16.78 | 12.13 |
| **DB - Double Decker Bus** | 0 | 0 |
| **FB - Ferryboat** | 6.67 | 7 |
| **MV - Minivan** | 18.18 | 0 |
| **VN - Van** | 8.33 | 11 |
| | | |
| **Non-revenue vehicles** | | |
| **Vehicle Type** | 2021 Performance (%) | 2022 Target (%) |
| **Automobiles** | 50 | 30.31 |
| **Trucks and other Rubber Tire Vehicles** | 33.85 | 25.16 |
| | | |
| **Facilities** | | |
| **Facility Type** | 2021 Performance (%) | 2022 Target (%) |
| **Passenger / Parking Facilities** | 4 | 12.15 |
| **Administrative / Maintenance Facilities** | 0 | 12.36 |

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 the most recent physical condition assessments conducted by Tier II operators on all the facilities for which operators have direct capital responsibility. Facility condition assessments are conducted every four years at a minimum. 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 2021. 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.

### 5.2.3 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 the table below. 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.

| Equipment Type | Quantity | ULB | # of Equipment that Meet or Exceed ULB | % of Equipment that Meet or Exceed ULB |
|---|---|---|---|---|
| Communications | 31 | 5, 10, 12, 15, 20, 25 | 15 | 48% |
| Information Technology | 33 | 3, 5, 6, 7, 10, 12, 15, 20 | 16 | 48% |
| Misc Equipment | 27 | 5, 10, 12, 30 | 14 | 52% |

| | | | | |
|---|---|---|---|---|
| Revenue Collection | 39 | 5, 10, 15, 20, 25, 30, 40, 50 | 18 | 46% |
| Vehicle Equipment | 9 | 5, 15, 25 | 4 | 44% |

# 6 Asset Lifecycle Strategies

This section is not required for the Tier II operator group TAM plan but had 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.

## 6.1 Lifecycle Management Strategies

### 6.1.1 Bus Asset Lifecycle Strategies

Most operators are retiring their buses at the end of their useful life (per the minimum useful life requirements outlined in the TCP process, which are applicable to both Tier I and Tier II operators in the Bay Area). The table below contains the TCP policy minimum useful lives for 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 above (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:

- *CCCTA Fleet Maintenance Plan* (December 2020)
- *Dixon Readi-Ride Maintenance Plan* (April, 2021)
- *ECCTA Vehicle Maintenance Plan*, (February 2021)
- *FAST Fleet Management Plan,* (February 2019)
- *LAVTA Vehicle Maintenance Plan,* (February 2021)
- *NVTA Fleet Maintenance Action Plan* (2018)
- *Santa Rosa CityBus Vehicle Maintenance Plan* (2022)
- *Union City Transit Maintenance Plan* (July 2021)

All operators place an emphasis on regular inspections of all vehicles and performing preventative maintenance at regular intervals to maximize the performance, availability, and longevity of their fleets. Safety is also a key part of all operators' lifecycle strategies, and operators take immediate necessary steps to ensure that fleet vehicles are safe to operate in revenue service. 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). However, some operators may perform major overhauls as needed, where vehicles have deteriorated to a point where replacement of a few components is not sufficient to restore reliable service or appearance.

### 6.1.2 Ferry Lifecycle Strategies

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.

All ferries will always be maintained and kept in compliance with United States Coast Guard (USCG) regulations. USCG vessel inspection criteria will be used to inspect all vessel equipment and operating status and will be conducted on an annual basis. Dry-dock inspections will be conducted on a biennial basis per USCG regulations. All OEM scheduled service will be completed within 10% of the manufacturer's recommended intervals. It is the intent to include all the equipment manufactures recommended services. Exceptions can be approved in times of vessels offline, in drydock, or out of service as these may result in gaps in the PMP reporting features.

For more information, refer to WETA's *Preventive Maintenance Plan* (August 2021).

### 6.1.3 Facility Lifecycle Strategies

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 in the following operators' plans:

- *Central Contra Costa Transit Authority Facility Maintenance Plan* (January 2022)
- *Eastern Contra Costa Transit Authority Facility Maintenance Plan* (June 2021)
- *Napa Valley Transportation Authority Soscol Gateway Transit Center Facilities Maintenance Plan* (July 2019)
- *Santa Rosa CityBus Transit Facilities Maintenance Plan* (2022)
- *Sonoma County Transit Maintenance Plan* (November 2020)
- *Vacaville City Coach Facilities, Vehicles and Equipment Maintenance Plan* (May 2022)
- *WETA Preventive Maintenance Plan* (August 2021)

Operators emphasize the importance of regular inspections and preventative maintenance in order to maintain and improve the condition of their facilities and ensure that facilities can continue to serve their passengers, as well as continue to support fleet maintenance and administration of the agency. Much of the major work conducted on facilities is based on discussions with agency staff and contractor's hands-on knowledge of their assets.

# 7 Innovative Clean Transit Regulation Impact on Transit Asset Management

## 7.1 Overview

The California Air Resources Board (CARB) Innovative Clean Transit (ICT) regulation requires all public transit agencies to gradually transition to a 100-percent zero-emission bus (ZEB) fleet. Beginning in 2029, 100% of new purchases by transit agencies must be ZEBs, with a goal for full transition by 2040.

The ICT regulation includes the following elements:

- A ZEB Rollout Plan required from each transit agency, approved by its Board, to show how it is planning to achieve a full transition to zero-emission technologies by 2040. Small transit agencies, including all agencies in this TAM plan, must submit their rollout plan by July 1, 2023;
- ZEB purchases with various exemptions and compliance options to provide safeguards and flexibility to transit agencies;
- Low NOx engine purchases, unless the transit buses are dispatched from NOx Exempt areas;
- Use of renewable diesel or renewable natural gas for large transit agencies, and
- Reporting and record keeping requirements.

The schedule for compliance is below:

| Year | ZEB Percentage of Total New Bus Purchases |
|---|---|
| **2026** | 25% |
| **2027** | 25% |
| **2028** | 25% |
| **2029** | 100% |

This regulation will have a major impact on all transit operators' procurement schedules. Although small transit operators, such as those participating in this TAM plan, are not required to have a ZEB Rollout plan until 2023, many operators already have this regulation on their radar and have significant concerns about the financial impact and changes to transit capital planning it will cause.

## 7.2 Infrastructure Needs

The transition to ZEBs will come with major changes to facilities and related infrastructure. While today many operators have fueling facilities, these facilities will be phased out in favor of electric charging facilities in most cases, and alternative fueling infrastructure in some cases, to support the new fleets. This transition will come with a significant change to their capital asset inventory.

## 7.3 Infrastructure Sharing

The sixteen operators in this TAM plan cover a large area across the Bay Area region, but many of these operators serve similar areas, especially in the North Bay and East Bay. This could provide an opportunity for these operators to share ZEB infrastructure between themselves, hence decreasing capital costs.

## 7.4 Impact on Transit Asset Management Schedules

With the transition to ZEBs, there is potential for Transit Asset Management schedules to be impacted as procurements of ZEBs are currently substantially more expensive than diesel or diesel hybrid buses, new ZEB and ZEB infrastructure assets have different maintenance needs, existing service levels may require different fleet compositions, among other reasons.

## 7.5 Zero Emissions Ferries Transition

Over the last 10 years, ferries have become an increasingly critical part of the Bay Area's overburdened transportation system. The Water Emergency Transportation Authority (WETA), which operates the San Francisco Bay Ferry, is committed to operating the cleanest vessels possible and has developed a plan to shift 50% of the vessel fleet to zero emissions by 2035. The cost of these improvements is currently being evaluated through the Zero Emissions Study. Aside from the cost of the vessels themselves, significant investment will be needed to equip ferry terminals with shoreside charging infrastructure to support a high-volume, high-frequency system.

In the spring of 2021, WETA launched its Zero-Emission Study to inform development of a plan to transition ferry operations on San Francisco Bay to zero-emission vessels. The study will emphasize use of electric propulsion systems and resolving the technical and regulatory barriers to implementation. This effort is supported by a grant funding from the California Energy Commission (CEC). The Study will follow CEC guidance to develop a “blueprint” of actions and milestones needed for implementation of a zero-emission fleet and related electric charging and/or hydrogen refueling infrastructure.

# 8 Decision Support

## 8.1 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 other 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.

## 8.2 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, 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. Bolded operators in the table below only receive funding from that Urbanized Area.

| Urbanized Area | Eligible Transit Operators |
|---|---|
| San Francisco–Oakland | AC Transit, ACE, BART, Caltrain, GGBHTD, Marin County Transit, SFMTA, SamTrans, SMART, 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, SMART |
| 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 |

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 (UZAs). It then apportions projects to UZAs in the following order:

1. Fund operators that are the exclusive claimant in a single UZA (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

[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.

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 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: Santa Rosa CityBus, Sonoma County Transit and Sonoma-Marin Area Rail Transit District (SMART) apportion Santa Rosa urbanized area funding in accordance with an agreement first in effect for FY2020 funds. The portion of FTA 5307 funds within the Santa Rosa urbanized area to be divided by the City and the County is the prior year's subtotal apportioned to those two operators, modified by the same rate as the modification to the FTA 5307 funds nationwide (e.g., a 2% increase). That modified amount is divided between the two operators per the agreement in effect starting in FY2014 (58% Santa Rosa City Bus and 42% Sonoma County). The portion of the appropriated funds not divided by Santa Rosa and Sonoma County is distributed to SMART.

Several operators 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). 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.

[3] Vehicle rehabilitation is considered a score 16 only if it extends the useful life of the vehicle.

## 8.3TAM 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 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

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. 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.

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.

### 8.3.1 Vehicles

The following table identifies the evaluation criteria that Tier II operators will use to evaluate and prioritize vehicle replacement projects.

| 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? |

### 8.3.2 Equipment

The following table identifies the evaluation criteria that Tier II operators will use to evaluate and prioritize equipment replacement projects.

| 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. |

### 8.3.3 Facilities

The following table 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).

| 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).

## 8.4TERM Lite Analysis

In addition to the approach described above, MTC conducted a Transit Economic Requirement Model (TERM) Lite analysis to determine the need for transit capital asset funding 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 spending plan (as required by federal law), for the Tier II operators.

This analysis uses two scenarios:

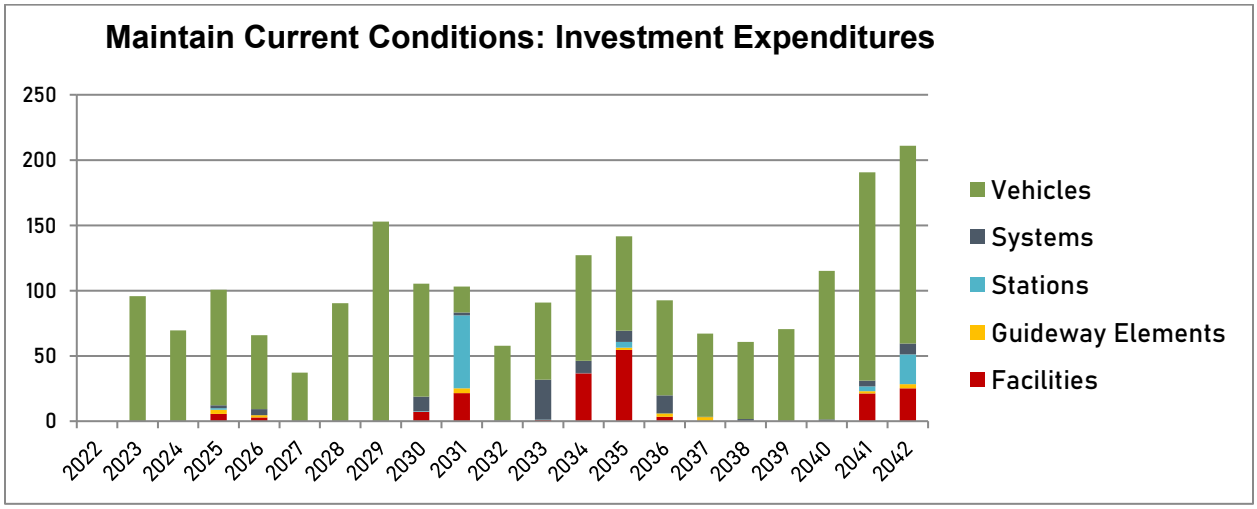
1. **State of Good Repair**, which assumes that assets are replaced at the end of their useful life. In this analysis, a 10-year period is assumed for eliminating the state of good repair backlog and then maintaining that over the remainder of the model period.
2. **Maintain Current Conditions**, which assumes that the state of good repair backlog will remain stable over the model period.

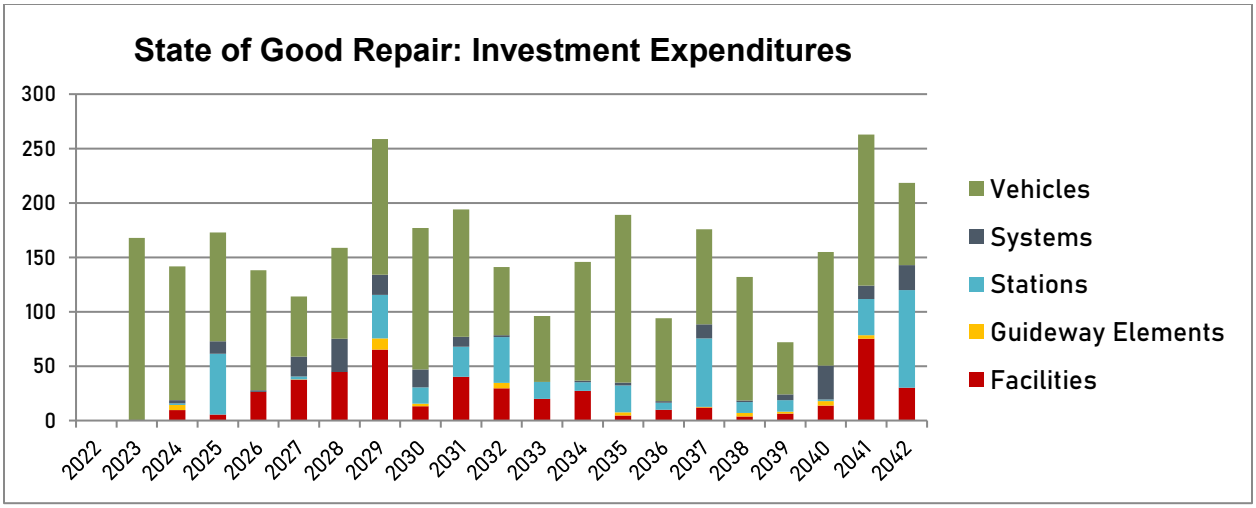
### 8.4.1 Estimated Investment Needs

Based on the TERM Lite analysis described above, the table below identifies the needs for the 4-, 10-, and 20-year horizons while the two graphs show the forecasted needs over a 20-year horizon for each asset category.

| | 4 years | 10 years | 20 years |
|---|---|---|---|
| Maintain Current Conditions | $ 331.71 | $ 878.26 | $ 2,045.58 |
| State of Good Repair | $ 620.64 | $ 1,664.19 | $ 3,204.73 |

The amounts above are presented in millions of 2022 dollars.






Vehicles comprise the largest share of need in both scenarios, followed by facilities. The tables below break down the need by category:

**Maintain Current Conditions**

| *Category* | *4 Year Need* | *10 Year Need* | *20 Year Need* |
|---|---|---|---|
| Facilities | $ 8.37 | $ 37.29 | $ 179.26 |
| Guideway Elements | $ 4.95 | $ 8.64 | $ 20.95 |
| Stations | $ 1.33 | $ 57.80 | $ 89.36 |
| Systems | $ 6.61 | $ 19.97 | $ 98.20 |
| Vehicles | $ 310.45 | $ 754.56 | $ 1,657.81 |

**State of Good Repair**

| *Category* | *4 Year Need* | *10 Year Need* | *20 Year Need* |
|---|---|---|---|
| Facilities | $ 41.44 | $ 271.68 | $ 474.26 |
| Guideway Elements | $ 4.95 | $ 23.16 | $ 39.17 |
| Stations | $ 57.29 | $ 184.80 | $ 447.76 |
| Systems | $ 15.60 | $ 110.42 | $ 202.32 |
| Vehicles | $ 501.36 | $ 1,074.13 | $ 2,041.22 |

# 9 Investment Prioritization

The table below identifies selected projects based on the Transit Capital Priorities process. These projects have been programmed in the regional Transportation Improvement Program (TIP) following the current Transit Capital Priorities prioritization process.

| Sponsor | Project Name | Project Descripion | 2021 | 2022 | 2023 | 2024 | Total |
|---|---|---|---|---|---|---|---|
| CCCTA | CCCTA ADA Paratransit Assistance | ADA Paratransit Assistance | | $2,279,688 | $2,327,535 | $2,388,586 | $6,995,809 |
| CCCTA | CCCTA: ADA Paratransit Assistance | CCCTA: Systemwide: ADA Paratransit Assistance to transit agency. | $1,760,334 | | | | $1,760,334 |
| CCCTA | CCCTA: COVID-19 Emergency Transit Operations | Systemwide: Capital, planning and operating assistance related to the coronavirus public health emergency including administrative leave removal of health and safety hazards | $4,745,001 | $10,341,637 | | | $15,086,638 |
| CCCTA | Lifeline Service Preservation | Continue service to Communities of Concern in the Central portions of Contra Costa County, including routes 11, 14 ,16 ,18 ,19, 311, 314, and 316. | $167,570 | | | | $167,570 |
| Dixon | City of Dixon Capital Expenses | Capital Expenses | | $184,426 | $55,958 | | $240,384 |
| Dixon | City of Dixon Operating Assistance | Operating Assistance | | $542,250 | $542,250 | | $1,084,500 |
| Dixon | Dixon: COVID-19 Emergency Transit Operations | Systemwide: Capital, planning and operating assistance related to the coronavirus public health emergency including administrative leave removal of health and safety hazards | $84,971 | | | | $84,971 |
| LAVTA | LAVTA ADA Paratransit Operating Subsidy | ADA Paratransit Operating Subsidy | $527,895 | $683,730 | $698,079 | $716,389 | $2,626,093 |

| | | | | | | |
|---|---|---|---|---|---|---|
| LAVTA | LAVTA Passenger Facilities Enhancements | LAVTA: At three high-ridership stops in the Rapid network (East Dublin/Pleasanton BART, Las Positas College, and Lawrence Livermore/Sandia National Labs): Improve passenger amenities including | | | $2,863,000 | $2,863,000 |
| LAVTA | LAVTA: COVID-19 Emergency Transit Operations | LAVTA: Systemwide: Capital, planning and operating assistance related to the coronavirus public health emergency including administrative leave removal of health and safety hazards, such as | $3,317,752 | $10,085,445 | | $13,403,197 |
| LAVTA | Route 14 Operating Assistance | Wheels' Route 14 provides service between the North Livermore Low Income Community and a variety of essential destinations including shopping, employment, healthcare, and direct regional rail connections via the Livermore Transit Center/ACE station and Dublin/Pleasanton BART station. Funding would support the project's continued operation from 7/1/2020 through 6/30/2022. | $188,366 | | | $188,366 |
| LAVTA | LAVTA Operating Assistance-Rural Alameda County | Operating Assistance-Rural Alameda County | $83,649 | $108,744 | $110,919 | $303,312 |
| NVTA | NVTA: Replace Rolling Stock | NVTA: Fleetwide: Replace rolling stock for fixed-route, paratransit, and community shuttle fleet. | | | $10,569,820 | $10,569,820 |
| NVTA | NVTA- Vine Transit Bus Maintenance Facility | NVTA's transit services arm- Vine Transit has a need for a new transit maintenance yard. The present facility at 720 Jackson Street just north of downtown has an inadequate number of bus | $9,632,711 | $4,702,468 | | $14,335,179 |
| NVTA | Imola Park n Ride and Express Bus Stop Improvement | Napa County: At the Caltrans owned and operated park and ride at SR 29 and Imola Avenue: Make improvements including in-line passenger loading and alighting at the Imola Ave on/off ramps, | $1,793,231 | | | $1,793,231 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| NVTA | Riverside Pathway Connection to Downtown/Transit | The Napa Riverside Pedestrian Pathway will provide a direct, ADA compliant multiuse path along the Napa River connecting the bus stop location on Lincoln Avenue (Hwy 29) to the restrooms (in Fire Station), public parking lot, and Post Office to the east. The project will benefit residents as well as visitors and transit riders. | $78,321 | | | | $78,321 |
| NVTA | Pope St. Pedestrian Crossing Improvement | The project includes the design and installation of a rectangular rapid flashing beacon system (or equivalent) on Pope Street at College Avenue; four ADA compliant curb ramps, and continental crosswalk markings on Pope St. at College Ave. Enhancing the crossing at Pope St. and College will improve access and safety for the transit stops serving both schools and for nearby seniors accessing those stops. | $117,500 | | | | $117,500 |
| NVTA | NVTA ADA Operating Assistance | ADA Operating Assistance | $112,460 | $553,251 | $564,863 | $579,678 | $1,810,252 |
| NVTA | NVTA: COVID-19 Emergency Transit Operations | NVTA: Systemwide: Capital, planning and operating assistance related to the coronavirus public health emergency including administrative leave removal of health and safety hazards, such as | $3,215,281 | $4,084,768 | | | $7,300,049 |
| NVTA | NVTA Operating Assistance | Operating Assistance | $410,368 | $533,516 | $544,188 | | $1,488,072 |
| Petaluma Transit | Petaluma AVL Equipment | Petaluma: Systemwide: Purchase and maintain AVL system equipment for fixed route vehicle. | | | $925,000 | | $925,000 |
| Petaluma Transit | Petaluma: Purchase 2 Replacement Fixed Route Buses | Petaluma: (2) 35' Battery Electric Buses: Purchase 2 Battery Electric 35' vehicles to replace (2) 35' 2007 Fixed Route Diesel buses that have expended their useful life. VIN # 15GGB271971077482 | | $1,824,000 | | | $1,824,000 |
| Petaluma Transit | Petaluma Transit ADA Set-Aside | ADA Set-Aside | $99,726 | $129,199 | $131,910 | $135,370 | $496,205 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Petaluma Transit | Petaluma: COVID-19 Emergency Transit Operations | Petaluma: Systemwide: Capital, planning and operating assistance related to the coronavirus public health emergency including administrative leave  removal of health and safety hazards, such as | $562,604 | $1,606,616 | | | $2,169,220 |
| Petaluma Transit | Petaluma Transit Weekend Service | Petaluma Transit seeks funding to continue providing fixed route bus and paratransit service on Saturday and Sunday for one year, in order to meet the needs of riders who have employment and other weekend travel needs. | $109,578 | | | | $109,578 |
| Rio Vista Delta Breeze | Rio Vista Delta Breeze Capital Expenses | Capital Expenses | | | $84,715 | | $84,715 |
| Rio Vista Delta Breeze | Rio Vista: COVID-19 Emergency Transit Operations | Rio Vista: Systemwide: Capital, planning and operating assistance related to the coronavirus public health emergency including administrative leave  removal of health and safety hazards, such as | $38,512 | | | | $38,512 |
| Rio Vista Delta Breeze | Rio Vista Delta Breeze Operating Assistance | Operating Assistance | | $180,750 | $271,125 | | $451,875 |
| Santa Rosa City Bus | Santa Rosa City Bus ADA Operating Assistance | ADA Operating Assistance | $304,604 | $391,643 | $399,476 | $407,465 | $1,503,188 |
| Santa Rosa City Bus | Santa Rosa CityBus: Electric Bus Replacement | Santa Rosa CityBus: Replace diesel powered local transit buses with electric and purchase/install supporting charging infrastructure.FY17 and FY18 awards will each support the replacement of 2 | | $5,360,375 | | | $5,360,375 |
| Santa Rosa City Bus | Santa Rosa Transit Mall Roadbed Rehabilitation | Santa Rosa: At the Transit Mall (2nd St between Santa Rosa Ave and B St): Rehabilitate the 500ft, two-lane roadbed in the multi-transit operator (Santa Rosa CityBus, Sonoma County Transit, Golden | | $990,000 | | | $990,000 |
| Santa Rosa City Bus | Santa Rosa CityBus: ZEB Replacement | Santa Rosa CityBus: Replace two local transit clean-diesel buses with two electric buses | | $2,218,002 | | | $2,218,002 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Santa Rosa City Bus | Santa Rosa City Bus Preventive Maintenance | Preventive Maintenance | $822,432 | $431,943 | $1,300,606 | $892,349 | $3,447,330 |
| Santa Rosa City Bus | SR CityBus: COVID-19 Emergency Transit Operations | Santa Rosa: Systemwide: Capital, planning and operating assistance related to the coronavirus public health emergency including administrative leave  removal of health and safety hazards, such as | $3,513,012 | $5,691,470 | | | $9,204,482 |
| Santa Rosa City Bus | Continuing Lifeline Route Operations | Funding for this project will provide continued operations of the City of Santa Rosa's CityBus Lifeline Routes (Routes 2, 2B, 3, and 12) that service the Roseland Community of Concern area in the City of Santa Rosa. | $407,564 | | | | $407,564 |
| SolTrans | SolTrans: Bus Replacement (Alternative Fuel) | SolTrans: Eight 45' MCI commuter coaches: Replace vehicles as they reach their useful life. | | $3,327,000 | $2,260,000 | $4,604,000 | $10,191,000 |
| SolTrans | SolTrans: Data Management Technology | SolTrans: Systemwide: Procure data management systems/software for fuel, assets, vehicle maintenance, facility maintenance, accounting, and data warehousing | $625,000 | | | | $625,000 |
| SolTrans | SolTrans Electric Bus Charging Infrastructure | SolTrans: Systemwide: Implement core infrastructure improvements to support the charging of a 100% Zero Emissions Bus fleet. The project funding will meet an unmet need for capital investment | $4,438,069 | | | | $4,438,069 |
| SolTrans | SolTrans Preventive Maintenance | Preventive Maintenance | $1,250,000 | $1,250,000 | $1,251,459 | $1,356,488 | $5,107,946 |
| SolTrans | SolTrans ADA Paratransit Operating Subsidy | ADA Paratransit Operating Subsidy | $458,403 | $594,106 | $606,575 | $622,484 | $2,281,568 |
| SolTrans | SolTrans: COVID-19 Emergency Transit Operations | SolTrans: Systemwide: Capital, planning and operating assistance related to the coronavirus public health emergency including administrative leave  removal of health and safety hazards, such as | $4,633,323 | $2,400,000 | | | $7,033,323 |

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| SolTrans | SolTrans Route 7-Maintain Lifeline Fixed Route Service | This Operating Assistance request is for maintaining SolTrans Route 7 (formerly Route 2) which operates seven days a week and provides service from Vallejo Transit Center to Northeast Vallejo and Solano Community College for low-income and transit-dependent populations. | $626,902 | | | | $626,902 |
| Sonoma County Transit | Sonoma County Transit: Replace 2009 CNG Buses | Sonoma County Transit: Six 40-foot CNG-Fueled Buses: Replace six 40-foot CNG buses with six new 40-foot battery electric buses. | $1,292,375 | $1,205,291 | $234,000 | | $2,731,666 |
| Sonoma County Transit | Sonoma County Transit Bus Purchase | Sonoma County Transit is requesting $166,459 in JARC Lifeline funding to assist with the purchase of one transit coach. The new bus will be deployed on intercity routes serving the Healdsburg, Lower Russian River and Sonoma Springs CBTP areas. The timely replacement of Sonoma County Transit's buses ensures comfortable and reliable public transit service throughout the fixed-route system. | $208,074 | | | | $208,074 |
| Sonoma County Transit | Sonoma County Transit Preventive Maintenance | Preventive Maintenance | $1,600,000 | $1,600,000 | $1,600,000 | $1,600,000 | $6,400,000 |
| Sonoma County Transit | Sonoma County Transit Replacement Vehicle Purchase | Replacement Vehicle Purchase | $1,050,000 | $1,025,000 | $1,076,250 | | $3,151,250 |
| Sonoma County Transit | Sonoma Co Transit: COVID-19 Emergency Transit Ops | Sonoma County Transit: Systemwide: Capital, planning and operating assistance related to the coronavirus public health emergency including administrative leave removal of health and safety | $4,196,959 | $6,398,269 | | | $10,595,228 |
| Union City Transit | Union City Transit ADA Set-Aside | ADA Set-Aside | $182,455 | $236,281 | $241,241 | $247,569 | $907,546 |
| Union City Transit | Union City Transit Electric Bus Procurement | Union City Transit: Fleet: Replace existing buses with zero-emission battery-electric buses. Union City Transit (UCT) has eight (8) compressed natural gas (CNG) heavy-duty transit buses that are | $7,194,282 | $1,192,000 | | | $8,386,282 |

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| Union City Transit | Union City Transit: COVID-19 Emergency Transit Ops | Union City Transit: Systemwide: Capital, planning and operating assistance related to the coronavirus public health emergency including administrative leave  removal of health and safety hazards, | $1,538,128 | $797,763 | | | $2,335,891 |
| Vacaville | Vacaville: COVID-19 Emergency Transit Operations | Vacaville: Systemwide: Capital, planning and operating assistance related to the coronavirus public health emergency including administrative leave  removal of health and safety hazards, such as | $1,301,228 | | | | $1,301,228 |
| Vacaville | Partial Restoration of Local and Commuter Saturday Service | This project will help offset expenses to reinstate Saturday service on Fairfield and Suisun Transit (FAST) local routes and the Solano Express Blue Line eliminated due to a significant drop off in ridership and fare revenue during the COVID-19 pandemic. | $213,858 | | | | $213,858 |
| WestCAT | WestCAT Preventive Maintenance | Preventive Maintenance | | $242,000 | | | $242,000 |
| WestCAT | WestCAT ADA Paratransit Operating Subsidy | ADA Paratransit Operating Subsidy | $346,665 | $448,935 | $458,358 | $470,381 | $1,724,339 |
| WestCAT | WestCAT: Paratransit Revenue Vehicle Replacement | WestCAT: Fleet: Replace 10 paratransit vehicles that are at or beyond there useful life and are due to be replaced | $1,140,000 | | | | $1,140,000 |
| WestCAT | WestCat 45-foot Over the Road Coach Replacement | WestCAT: 45-foot over the road coach subfleet: Replace two vehicles past their useful life | | | | $1,394,000 | $1,394,000 |
| WestCAT | WestCAT Purchase Double Decker Vehicles | WestCAT: Fleet: Purchase two double decker buses to replace vehicles past their useful life expanding service on the Lynx Transbay Service by adding additional capacity | | $2,098,000 | | | $2,098,000 |

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| WestCAT | Purchase and install new AVL/CAD/APC System | This funding will support the purchase and installation of a complete AVL/APC system on all fixed-route vehicles within WCCTA's fleet. Once installed and activated, this system will allow WCCTA to improve its real-time information system to give riders better customer information about bus arrivals and departures. | $31,639 | | | | $31,639 |
| WestCAT | WCCTA: COVID-19 Emergency Transit Operations | WCCTA: Systemwide: Capital, planning and operating assistance related to the coronavirus public health emergency including administrative leave removal of health and safety hazards, such as | $3,062,933 | $5,098,601 | | | $8,161,534 |
| WETA | Ferry Service - Berkeley | WETA: Includes development of new ferry service, the acquisition of vehicles and the development and construction of a new terminal in the Berkeley area of Alameda County. | | $6,319,664 | | | $6,319,664 |
| WETA | WETA: Ferry Channel and Berth Dredging | WETA: Various service areas: Regularly scheduled dredging to remove silt build-up that would otherwise keep ferries from operating from Vallejo ferry basin, Harbor Bay Channel and other WETA | $3,498,100 | $3,057,400 | | $3,256,875 | $9,812,375 |
| WETA | WETA: Ferry Major Component Rehab/Replacement | WETA: Fleetwide: Rehabilitate and/or replacement major ferry components including shafts, propellers, navigation systems, onboard monitoring and alarm systems, interior components, boarding | | $7,500,700 | $9,964,000 | $15,267,750 | $32,732,450 |
| WETA | WETA: Fixed Guideway Connectors | WETA: This project includes rehabilitating and replacing the floats and gangway systems that allow the passengers to get from the vessels to the terminals (extension of the fixed guideway in the | $5,570,000 | $1,362,000 | | $2,583,750 | $9,515,750 |
| WETA | WETA: Replace Ferry Vessels | WETA: All existing ferry vessels for WETA: Replace vessels when they reach the end of their useful life of 25 years | $27,623,543 | $29,244,678 | | | $56,868,221 |
| WETA | WETA: Electric Vessels and Related Infrastructure | WETA: Fleetwide: Support the purchase/construction of all-electric vessels and related charging infrastructure. This project supports medium sized routes using all-electric battery powered vessels. | | $12,500,000 | | | $12,500,000 |

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| WETA | WETA: COVID-19 Emergency Transit Operations | WETA: Systemwide: Capital, planning and operating assistance related to the coronavirus public health emergency including administrative leave removal of health and safety hazards, such as | $24,581,383 | $24,804,728 | $49,386,111 |

The following table 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.

| Agency | Project Type | Project Name | Project Description | Year | Cost |
|---|---|---|---|---|---|
| CCCTA | Facility | Facility Upgrades and Improvements | Replace 2 each 25,000-gallon single walled Fuel tanks with double walled Fuel tanks | FY 2022-25 | TBD |
| CCCTA | Facility | Facility Upgrades and Improvements | Purchase a new hydraulic lift for busses to replace the parallelogram | FY 2022-25 | TBD |
| CCCTA | Facility | Facility Upgrades and Improvements | Do concrete replacement contract to replace damages areas of our concrete on bus pad | FY 2022-25 | TBD |
| CCCTA | Facility | Facility Upgrades and Improvements | Replace fencing along back of property | FY 2022-25 | TBD |
| CCCTA | Facility | Facility Upgrades and Improvements | Replace bus wash | FY 2022-25 | TBD |
| CCCTA | Facility | Facility Upgrades and Improvements | Resurface all building roofs with new polymer covering | FY 2022-25 | TBD |
| CCCTA | Facility | Facility Upgrades and Improvements | Replace back up power generator with new generator | FY 2022-25 | TBD |
| ECCTA | Facility | Antioch Park and Ride | Construct Park and Ride Lot at the southeast corner of Auto Center Drive and W 6th Street in Antioch | FY 2023 | $6,400,000 |
| ECCTA | Facility | Parking Lot Repaving Project | Resurfacing parking lot at the ECCTA Maintenance Facility | FY 2023 | $2,400,000 |
| ECCTA | Facility | Electrical Infrastructure | Electrical Infrastructure required to support the Hydrogen Fueling Station and the inductive charging system | FY 2023 | $1,100,000 |
| ECCTA | Facility | Hydrogen Fueling Station | Construct a Hydrogen Fueling Station at ECCTAs Maintenance Facility | FY 2025 | $6,500,000 |

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| ECCTA | Facility | Inductive Charging Infrastructure | Install the infrastrucutre for an inductive charging system at ECCTAs Maintenance Facility | FY 2025 | $3,812,990 |
| ECCTA | Vehicles | Support Van Replacements | Purchase two vans to replace support vehicles | FY 2023 | $50,000 |
| ECCTA | Vehicles | Support Truck Replacements | Purchase Three Trucks to replace support vehicles | FY 2023 | $120,000 |
| FAST | Facility | Miscellaneous Small Capital | Assumes 3% increase per year. | FY 2022-25 | $430,914 |
| FAST | Facility | Bus Stop Improvements | Budget $50K every year for ongoing bus stop improvements. Unspent funds will be added to the next year's budget | FY 2022-25 | $210,000 |
| FAST | Facility | Realtime Arrive Signage | Replace eTIDS at FTC. Replacment of 10 realtime arrival signs at FTC bus bays. | FY 2022-23 | $60,000 |
| FAST | Facility | FTC/Train Station Interior/Exterior Improvements | Various ongoing captial improvements | FY 2022-25 | $750,000 |
| FAST | Facility | Bus Washing System | New bus washing system that will be built during infrastructure upgrades to the Corp yard for electrification. | FY 2023-24 | $600,000 |
| FAST | Facility | Electric Charging System Infrastructure | Upgrades to the Corporation Yard for transit electrification including chargers, infrastructure, and maintenance facility upgrades/expansion. | FY 2023-24 | $4,833,000 |
| FAST | Vehicles | Local Bus Replacement | Replace diesel and diesel hybrid buses with battery electric buses for local transit service | FY 2023-25 | $5,267,480 |
| FAST | Vehicles | Purchase/Convert Paratransit Vehicles | Purchase paratransit vehicles | FY 2022-24 | $1,865,200 |

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| FAST | Vehicles | Fleet Repower/Rehab/Engine Replacement | Engine Replacements/Rebuilds and battery refreshes for hybrids. | FY 2022-23 | $860,000 |
| FAST | Vehicles | Tools/Equipment/Extensive Bus Maintenance | Inlcude for new/rebuilt transmissions | FY 2022-25 | $962,234 |
| FAST | Vehicles | Replacement of Administration/Support Vehicles | Replace aging vehicle support vehicles | FY 2022-24 | $285,000 |
| LAVTA | Equipment | AVL | Additional Components for Bus Purchases | FY 2022-23 | $937,776 |
| LAVTA | Equipment | Fareboxes | Additional Components for Bus Purchases | FY 2022-23 | $588,504 |
| LAVTA | Equipment | Radios | Additional Components for Bus Purchases | FY 2022-23 | $113,200 |
| LAVTA | Facility | Administration, Operations | N/A | FY 2022-25 | $930,000 |
| LAVTA | Facility | Maintenance Facility | N/A | FY 2022-25 | $679,800 |
| LAVTA | Facility | Transit Center | N/A | FY 2023 | $570,000 |
| LAVTA | Facility | Atlantis | N/A | FY 2022-25 | $52,111,863 |
| LAVTA | Facility | Miscellaneous Facility/Office Equipment | N/A | FY 2022-25 | $24,000 |
| LAVTA | Facility | Other Facility Needs | N/A | FY 2022-25 | $40,000 |
| LAVTA | Facility | Mobility Hubs (2) | N/A | FY 2023 | $1,550,000 |
| LAVTA | Facility | SAV Mobility Hubs | N/A | FY 2023 | $1,275,000 |
| LAVTA | Facility | Traffic Signal Communications (3) | N/A | FY 2023 | $225,000 |
| LAVTA | Facility | Bike/Scooter Program | N/A | FY 2024 | $250,000 |
| LAVTA | Facility | Computers | N/A | FY 2022-25 | $64,638 |
| LAVTA | Facility | Servers, Server Software | N/A | FY 2022-23 | $105,000 |
| LAVTA | Facility | Windows and Office Upgrade | N/A | FY 2024 | $10,000 |
| LAVTA | Facility | Server Operating System Upgrade | N/A | FY 2022 | $15,000 |
| LAVTA | Facility | VM Host upgrade | N/A | FY 2023 | $40,000 |
| LAVTA | Facility | Atlantis Network upgrade | N/A | FY 2024 | $150,000 |
| LAVTA | Facility | Switch, router, network upgrades | N/A | FY 2023 | $50,000 |
| LAVTA | Facility | SQL Software Upgrade | N/A | FY 2023 | $20,000 |

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| LAVTA | Facility | Secure facility access | N/A | FY 2023 | $100,000 |
| LAVTA | Facility | Bus Stop Improvements | N/A | FY 2022-25 | $3,125,000 |
| LAVTA | Vehicles | 40 ft standard hybrid coaches | Replace 2007 Gillig Coaches (29 ft) | FY 2022 | $1,694,000 |
| LAVTA | Vehicles | 40 ft standard hybrid coaches | Replace 2009 Gillig Rapid Coaches (29 & 40 ft) | FY 2022 | $11,858,000 |
| LAVTA | Vehicles | 40 ft standard Zero Emission coaches | Replace 2011 Gillig Hybrid Coaches (29') | FY 2023 | $5,056,000 |
| LAVTA | Vehicles | 40 ft standard Zero Emission coaches | Replace 2011 Gillig Hybrid Coaches previously deferred | FY 2023 | $10,112,000 |
| LAVTA | Vehicles | Shared Autonomous Vehicle Procurement | Establish a fleet of Shared Autonomous Vehicles to provide “last mile” service | FY 2024 | $3,000,000 |
| LAVTA | Vehicles | 2015 Dodge Ram | Non-revenue vehicle replacement | FY 2025 | $100,000 |
| LAVTA | Vehicles | 2003 Ford F 550 | Non-revenue vehicle replacement | FY 2023 | $50,000 |
| LAVTA | Vehicles | 2008 3500 HD | Non-revenue vehicle replacement | FY 2024 | $50,000 |
| LAVTA | Vehicles | Additional vehicle for increase service | Non-revenue vehicle replacement | FY 2025 | $82,583 |
| LAVTA | Vehicles | 2008 Town and Country | Non-revenue vehicle replacement | FY 2025 | $35,000 |
| LAVTA | Vehicles | 2005 Prius Hybrid (6420) | Non-revenue vehicle replacement | FY 2024 | $35,000 |
| LAVTA | Vehicles | Trapeze Upgrade | N/A | FY 2022-25 | $1,846,320 |
| LAVTA | Vehicles | 2009 Gillig BRT Coaches Engine Repower | N/A | FY 2022-24 | $477,498 |
| LAVTA | Vehicles | Battery Refresh | 2009 40' Fleet [8] done in conjunction with repower | FY 2022-24 | $573,053 |
| LAVTA | Vehicles | 2016 Mid-life rebuild | N/A | FY 2022-25 | $329,649 |
| LAVTA | Vehicles | 2017 Mid-life rebuild | N/A | FY 2023-25 | $250,854 |
| LAVTA | Vehicles | Transmissions - Alison | N/A | FY 2022-25 | $387,822 |
| LAVTA | Vehicles | Transmissions - BAE | N/A | FY 2022-25 | $215,456 |
| LAVTA | Vehicles | Batteries for Hybrids - Allison | N/A | FY 2022-25 | $387,822 |

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| LAVTA | Vehicles | Batteries for Hybrids - BAE | N/A | FY 2022-25 | $689,461 |
| LAVTA | Vehicles | Engine, transmission for Service Vehicles - Cars | N/A | FY 2022-25 | $68,946 |
| LAVTA | Vehicles | Engine, transmission for Service Vehicles - Trucks | N/A | FY 2022-25 | $43,091 |
| Marin Transit | Facility | Bus Stop Improvements | Shelters, ADA access, Signage | FY 2022-25 | $2,000,000 |
| Marin Transit | Facility | Fixed Route Facility -ROW | Maintenance and Electric Vehicle Charging Facility | FY 2024 | $20,000,000 |
| Marin Transit | Facility | Fixed Route Facility - Construction | Maintenance and Electric Vehicle Charging Facility | FY 2025 | $24,313,000 |
| Marin Transit | Facility | Parking Facility | ROW | FY 2022 | $3,650,000 |
| Marin Transit | Facility | Facility Improvements | Lighting, Fencing | FY 2023 | $2,800,000 |
| Marin Transit | Vehicles | Non-Revenue Vehicles | | FY 2022-23 | $49,000 |
| Marin Transit | Vehicles | Five Paratransit Replacement Vans | Vehicles - Paratransit | FY 2023 | $505,000 |
| Marin Transit | Vehicles | Five Paratransit Replacements | Vehicles - Paratransit | FY 2023 | $515,000 |
| Marin Transit | Vehicles | Hybrid Mid Life Battery Replacement | Vehicles - Fixed Route | FY 2023 | $300,500 |
| Marin Transit | Vehicles | Electric Paratransit Vehicle and Charging | Vehicles - Paratransit | FY 2023 | $677,205 |
| Marin Transit | Vehicles | Seven Paratransit Replacement Vans | Vehicles - Paratransit | FY 2024 | $735,000 |
| Marin Transit | Vehicles | Five Paratransit Replacements | Vehicles - Paratransit | FY 2025 | $535,000 |
| Marin Transit | Vehicles | Two 30ft Transit Bus Replacements (Rural) | Vehicles - Fixed Route | FY 2023 | $1,086,000 |
| Marin Transit | Vehicles | Seven 35ft Hybrid Replacements | Vehicles - Fixed Route | FY 2023 | $6,069,000 |
| Marin Transit | Vehicles | One Shuttle Vehicle | Vehicles - Fixed Route | FY 2023 | $118,000 |
| NVTA | Equipment | Transit Equipment Enhancements and Upgrades | Various Equipment Upgrades for Transit Related Assets such as Bus Shelters, Bus Stops, Signs, and Transit Signal Priority | FY 2023 | $400,000 |

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| NVTA | Equipment | Wayfinding Signage | Wayfinding Signage throughout Napa County | FY 2023 | $300,000 |
| NVTA | Equipment | Transit Equipment Enhancements and Upgrades | Various Equipment Upgrades for Transit Assets | FY 2024 | $400,000 |
| NVTA | Equipment | Point of Sale System | Purchase Point of Sale System for ticket office. | FY 2023 | $70,000 |
| NVTA | Facility | Transit Maintenance & Operations Facility | Build a new transit maintenance and operations facility. | FY 2022-24 | $35,747,200 |
| NVTA | Facility | Park & Rides | Imola Park and Ride Project | FY 2022-23 | $4,000,000 |
| NVTA | Facility | Park & Rides | Build and upgrade park & rides throughout Napa County | FY 2023-24 | $4,000,000 |
| NVTA | Vehicles | Staff Car Replacement | Replace NVTA staff vehicle. | FY 2023 | $25,000 |
| NVTA | Vehicles | Truck Replacement | Replace maintenace staff truck | FY 2023 | TBD |
| NVTA | Vehicles | Bus Replacement | Replace Small and Medium Duty Buses | FY 2023-24 | $7,800,000 |
| NVTA | Vehicles | Paratransit Vehicles | Replace Paratransit Vehicles | FY 2023-24 | $1,975,000 |
| NVTA | Vehicles | Regional/Express Bus Vehicles | Purchase Expansion Express Buses | FY 2023-24 | $10,600,000 |
| NVTA | Vehicles | Bus Enhancements | Bus equipment purchases and replacements | FY 2023-24 | $800,000 |
| Santa Rosa | Equipment | Clipper Vending Machine | Install a Clipper media machine at the Downtown Transit Mall | FY 2023-25 | $135,547 |
| Santa Rosa | Equipment | Fixed Route Fleet ITS (AVL/CAD/APC) | Upgrade/replace ITS system in fixed-route fleet | FY 2023-24 | $525,000 |
| Santa Rosa | Equipment | MSC Charger Phase 1B | Install two additional charging systems in existing three charger system infrastructure (5 charger systems total) to support the initial 10 electric buses | FY 2023 | $250,000 |

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| Santa Rosa | Equipment | MSC Charger Phase 2 | Expand bus charging infrastructure into a second area of the corporation yard to support an additional ten electric buses | FY 2024-26 | $1,700,000 |
| Santa Rosa | Equipment | Transit Mall Real-Time Signs | Upgrade/replace real-time signs at Downtown Transit Mall | FY 2023 | $63,000 |
| Santa Rosa | Facilities | Transit Mall Amenities and Upgrades | Upgrade/replace various amenities at the Downtown Transit Mall (including customer service kiosk rehabilitation, seats, signage, etc.) | FY 2024-26 | $1,150,000 |
| Santa Rosa | Facility | Transit Mall Roadbed Rehabilitation | Rehabilitate 500' two-lane roadbed at Downtown Transit Mall | FY 2023-26 | $990,000 |
| Santa Rosa | Vehicles | Fixed Route Bus Replacements (w/ Battery Electric) | Replace existing diesel buses with battery electric buses | FY 2024-26 | $10,000,000 |
| Santa Rosa | Vehicles | Major Bus Maintenance | Perform major service on existing fixed-route diesel fleet (engine, transmission replacements, etc.) | FY 2023-26 | $160,000 |
| Santa Rosa | Vehicles | Non-Revenue Vehicle Replacements | Replace existing gas staff support vehicles (possibly with electric) | FY 2023-26 | $500,000 |
| Santa Rosa | Vehicles | Oakmont Bus Replacement | Replace existing gas bus (possibly with battery electric) | FY 2023-24 | $150,000 |
| Santa Rosa | Vehicles | Paratransit Bus Replacements | Replace existing gas cutaway buses (possibly with battery electric) | FY 2024-26 | $1,000,000 |
| SCT | Facility | Facility/Shop Improvements (Ph. II Yard Charging Stations) | N/A | FY 2022 | $325,645 |
| SCT | Facility | Maintenance Facility | N/A | FY 2022 | $100,000 |
| SCT | Facility | Remote Charging Stations | N/A | FY 2022 | $550,000 |
| SCT | Facility | Bus Stop Enhancements | N/A | FY 2022 | $160,000 |

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| SCT | Facility | Facility/Shop Improvements (Roof Rehabiliation) | N/A | FY 2023 | $100,000 |
| SCT | Facility | Maintenance Facility | N/A | FY 2023 | $75,000 |
| SCT | Facility | Remote Charging Stations | N/A | FY 2023 | $250,000 |
| SCT | Facility | Bus Stop Enhancements | N/A | FY 2023 | $100,000 |
| SCT | Facility | Facility/Shop Improvements (Admin. Facility Remodel) | N/A | FY 2024 | $100,000 |
| SCT | Facility | Maintenance Facility (Phase III Yard Charging Stations) | N/A | FY 2024 | $150,000 |
| SCT | Facility | Bus Stop Enhancements | N/A | FY 2024 | $75,000 |
| SCT | Facility | Facility/Shop Improvements | N/A | FY 2025 | $50,000 |
| SCT | Facility | Maintenance Facility | N/A | FY 2025 | $75,000 |
| SCT | Facility | Bus Stop Enhancements | N/A | FY 2025 | $50,000 |
| SCT | Vehicles | 3 - 30' Electric Buses (Replaces 124 thru 126) | N/A | FY 2022 | $2,107,532 |
| SCT | Vehicles | 3 - 35' Electric Buses (Replaces 335 thru 337) | N/A | FY 2022 | $2,962,500 |
| SCT | Vehicles | 4 - Paratransit Mini-Buses (736 thru 739) | N/A | FY 2022 | $444,115 |
| SCT | Vehicles | 2 - Shuttle Transit-Vans (Replaces 616 & 623) | N/A | FY 2022 | $111,708 |
| SCT | Vehicles | 2 - Shuttle Mini-Vans (Replaces 620 & 621) | N/A | FY 2022 | $125,000 |
| SCT | Vehicles | 1 - Road Supervisor Mini-Van (Replaces 110) | N/A | FY 2022 | $52,814 |
| SCT | Vehicles | 3 - 40' Electric Buses (Replaces 338 thru 340) | N/A | FY 2023 | $2,166,000 |
| SCT | Vehicles | 2 - 25' Cut-Away Buses (Replaces 127 & 128) | N/A | FY 2023 | $432,552 |
| SCT | Vehicles | 2 - Paratransit Mini-Buses (Replaces 740 & 741) | N/A | FY 2023 | $503,467 |
| SCT | Vehicles | 2 - Paratransit Transit-Vans (Replaces 850 & 851) | N/A | FY 2023 | $115,244 |
| SCT | Vehicles | 1 - Shuttle Mini-Van (Replaces 618) | N/A | FY 2023 | $57,622 |
| SCT | Vehicles | 2 - 40' Electric Buses (Replaces 341 & 204) | N/A | FY 2024 | $1,650,000 |

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| SCT | Vehicles | 5 - Paratransit Sedans (Replaces 624 thru 628) | N/A | FY 2024 | $175,000 |
| SCT | Vehicles | 3 - 40' Electric Buses (Replaces 205 thru 207) | N/A | FY 2025 | $2,200,000 |
| SCT | Vehicles | 4 - Paratransit Mini-Buses (Replaces 742 through 745) | N/A | FY 2025 | $500,000 |
| SCT | Vehicles | 3 - Shuttle/Admin. Sedans (Replaces 904 through 906) | N/A | FY 2025 | $105,000 |
| SCT | Vehicles | 1 - Maintenance Pick-Up Truck (Replaces 842) | N/A | FY 2025 | $40,000 |
| SolTrans | Equipment | Battery Electric Bus Chargers/ Bus Yard | Procure four 150Kw Plug-in-Chargers | FY2022-23 | $350,000 |
| SolTrans | Facilities | Electric Charging Infrastructure/ Bus Yard | Completed design and issue bid for construction June 2022. Construction to begin September 2022 with Completion October 2023 | FY 2022-23 | $12,000,000 |
| SolTrans | Facilities | HVAC | Replace boiler HVAC sytem with energy efficient Mini-Split | FY 2022-23 | $200,000 |
| SolTrans | Facilities | North County Maintenance and Operations Site | Procure a 5 acre site in Northern Solano County to support Soltrans's Solano Express Routes - Blue Line | FY 2023-24 | TBD |
| SolTrans | Facilities | Electric Service Resiliency | Install Back-up Generator at Vallejo Transit Center | FY 2023-24 | $150,000 |
| SolTrans | Facilities | Access Security System upgrade- Operations & Maintenance Facility | Replace current system with a more efficient and less costly one | FY 2023-24 | $60,000 |
| SolTrans | Facilities | Induction Charging Infrastructure- Curtola Park and Ride Hub | Install 1 300kW charger and 1 150kW charger | FY 2023-24 | $500,000 |
| SolTrans | Facilities | Induction Chargers - Vallejo Transit Center | Install 2 300kW wireless induction chargers | FY 2024-25 | $1,400,000 |
| SolTrans | Vehicles | Transit Bus Procurement for Route Expansion - Blue Line | Procure 1 BEB Motor Coach; 5 CNG Motor coaches; | FY 2022-23 | $5,500,000 |

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|---|---|---|---|---|---|
| SolTrans | Vehicles | Support Vehicle Replacement | Replace 1 Maintenance Shop Truck; Replace 2 Supervisor Vans | FY 2022-23 | $175,000 |
| SolTrans | Vehicles | Zero Emission Bus Procurement | Replace 7 Diesel-Hybrid buses with BEBs | FY 2023-24 | $7,000,000 |
| SolTrans | Vehicles | Revenue Vehicle Replacment | Replace 3 Paratransit Vehicles | FY 2023-24 | $350,000 |
| SolTrans | Vehicles | Support Vehicle Replacement | Replace 2 Supervisor Vans | FY 2023-24 | $100,000 |
| SolTrans | Vehicles | Zero Emission Bus Procurement | Replace 7 Diesel-Hybrid buses with BEBs | FY 2024-25 | $7,000,000 |
| SolTrans | Vehicles | Support Vehicle Replacement | Replace 2 maintenance shop Trucks | FY 2024-25 | $150,000 |
| Vacaville | Facility | Bus Stop Improvements | N/A | FY 2022-24 | $350,000 |
| Vacaville | Facility | Digital Signage at Transit Hubs | N/A | FY 2023-24 | $800,000 |
| Vacaville | Facility | Transit Garage Repairs/Upgrades | N/A | FY 2023-25 | $500,000 |
| Vacaville | Operations | CAD/AVL Upgrade | N/A | FY 2022-24 | $700,000 |
| Vacaville | Vehicles | Paratransit and Demand Response Vehicle Replacement/Procurement | N/A | FY 2022-23 | $893,717 |
| Vacaville | Vehicles | Vehicle Bus Wraps | N/A | FY 2022-24 | $200,000 |
| Vacaville | Vehicles | CNG Fleet Upgrades | N/A | FY 2022-24 | $600,000 |
| WestCAT | Equipment | Bus Wash Replacement | Completion of the Replacement of 1991 Bus wash with new facility | FY2022 | $2,500,000 |
| WestCAT | Facility | Facility Expansion | Expansion of Maintenance and Bus storage facility | FY2024 | $5,000,000 |
| WestCAT | Facility | Facility Upgrades and Improvements | Infrastructure requirements to convert Maintenance facility and Bus Storage facility in compliance with CA Clean Air Vehicle Mandate | FY2024 | TBD |

| | | | | | |
|---|---|---|---|---|---|
| WestCAT | Vehicles | Vehicle Capacity Expansion | Purchase of 5 Double Decker Vehicles to operate Express Service | FY2024 | $5,000,000 |
| WestCAT | Vehicles | Replacement of Shop Truck | Purchase of Replacement Shop truck in compliance with CARB restrictions | FY2023 | $150,000 |

# 10 Continuous Improvement

This section is not required for the Tier II operator group TAM plan but had 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 improved transit capital asset data and store that data in the existing Regional Transit Capital Inventory (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

| 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* |
| 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: | | | |
| 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. |
| **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

## Revenue Vehicles

| Agency | Auto (AO) | Over-the-Road Bus (BR) | Bus (BU) | Double-Decked Bus (DB) | Ferry Boat (FB) | Cutaway (CU)/Van (VN) |
|---|---|---|---|---|---|---|
| Central Contra Costa Transit Authority | | | 125 | | | 63 |
| Dixon Readi-Ride | | | | | | 10 |
| Tri Delta Transit | | | 62 | | | 42 |
| Fairfield and Suisun Transit | | 14 | 29 | | | 13 |
| Livermore Amador Valley Transit Authority | | | 65 | | | |
| Marin County Transit | | | 76 | | | 36 |
| Napa Valley Transportation Authority | | | 30 | | | 27 |
| Petaluma Transit | | | 11 | | | 10 |
| Rio Vista Delta Breeze | | | 4 | | | 1 |
| Santa Rosa CityBus | | | 29 | | | 17 |
| Solano County Transit (SolTrans) | | 16 | 25 | | | 11 |
| Sonoma County Transit | 5 | | 46 | | | 31 |
| Union City Transit | | | 18 | | | 14 |
| Vacaville City Coach | | | 18 | | | 11 |
| WestCAT | 2 | 9 | 38 | 3 | | 10 |
| San Francisco Bay Ferry | | | | | 15 | |

## Non-Revenue Vehicles

| Agency | Automobile | Trucks and other Rubber Tire Vehicles | Ferryboat |
|---|---|---|---|
| Central Contra Costa Transit Authority (CCCTA) | 10 | 7 | |
| Dixon Readi-Ride | | | |
| Tri Delta Transit | 6 | 5 | |
| Fairfield and Suisun Transit | 6 | 4 | |
| Livermore Amador Valley Transit Authority (LAVTA) | 4 | 8 | |
| Marin County Transit | 1 | | |
| Napa Valley Transportation Authority | 1 | 1 | |
| Petaluma Transit | 1 | 1 | |
| Rio Vista Delta Breeze | | | |
| Santa Rosa CityBus | 1 | 6 | |
| Solano County Transit (SolTrans) | 1 | 3 | |
| Sonoma County Transit | 7 | 6 | |
| Union City Transit | 1 | | |
| Vacaville City Coach | 4 | | |
| WestCAT | | 1 | |
| San Francisco Bay Ferry | 1 | 8 | 2 |

## Equipment

| Agency | Comms | IT | Revenue Collection | Vehicle Equipment | Misc Equipment |
|---|---|---|---|---|---|
| Central Contra Costa Transit Authority (CCCTA) | 1 | 1 | 2 | 3 | 5 |
| Dixon Readi-Ride | | | | | |
| Tri Delta Transit | | | 1 | 1 | 1 |
| Fairfield and Suisun Transit | 2 | 3 | 2 | 1 | |
| Livermore Amador Valley Transit Authority (LAVTA) | 12 | 13 | 3 | 5 | 1 |
| Marin County Transit | | 5 | 2 | | 1 |
| Napa Valley Transportation Authority | 3 | 2 | 3 | 3 | |
| Petaluma Transit | 2 | | | 1 | |
| Rio Vista Delta Breeze | | | | 2 | |
| Santa Rosa CityBus | | 1 | | 2 | |
| Solano County Transit (SolTrans) | 3 | 3 | 1 | 5 | |
| Sonoma County Transit | 3 | 2 | 1 | 5 | |
| Union City Transit | 2 | | 1 | | |
| Vacaville City Coach | 2 | 1 | 1 | 2 | |
| WestCAT | | 2 | 1 | 7 | 1 |
| San Francisco Bay Ferry | 1 | | | 2 | |

## Facilities

| Agency | Maintenance and Administration Facilities | Passenger and Parking Facilities |
|---|---|---|
| Central Contra Costa Transit Authority | 4 | |
| Dixon Readi-Ride | 1 | |
| Tri Delta Transit | 3 | |
| Fairfield and Suisun Transit | 1 | 4 |
| Livermore Amador Valley Transit Authority | 2 | 5 |
| Marin County Transit | 1 | 1 |
| Napa Valley Transportation Authority | | 3 |
| Petaluma Transit | 2 | |
| Rio Vista Delta Breeze | 1 | |
| Santa Rosa CityBus | 2 | 2 |
| Solano County Transit (SolTrans) | 2 | 3 |
| Sonoma County Transit | 3 | 15 |
| Union City Transit | | 1 |
| Vacaville City Coach | 2 | 2 |
| WestCAT | 1 | 2 |
| San Francisco Bay Ferry | 2 | 19 |

## Guideway (non-track)

| Agency | Dredging | Bus Turnaround |
|---|---|---|
| Central Contra Costa Transit Authority (CCCTA) | | |
| Dixon Readi-Ride | | |
| Tri Delta Transit | | |
| Fairfield and Suisun Transit | | |
| Livermore Amador Valley Transit Authority (LAVTA) | | |
| Marin County Transit | | |
| Napa Valley Transportation Authority | | |
| Petaluma Transit | | |
| Rio Vista Delta Breeze | | |
| Santa Rosa CityBus | | 1 |
| Solano County Transit (SolTrans) | | |
| Sonoma County Transit | | |
| Union City Transit | | |
| Vacaville City Coach | | |
| WestCAT | | |
| San Francisco Bay Ferry | 6 | |

# Appendix D: Useful Life Benchmarks

## Revenue Vehicles

| Agency | Auto (AO) | Over-the-Road Bus (BR) | Bus (BU) | Double-Decked Bus (DB) | Ferry Boat (FB) | Cutaway (CU)/Van (VN) |
|---|---|---|---|---|---|---|
| Central Contra Costa Transit Authority | | | 12 | | | 5/7 |
| Dixon Readi-Ride | | | | | | 6/7/8 |
| Tri Delta Transit | | | 12 | | | 5 |
| Fairfield and Suisun Transit | | 12/14 | 12 | | | 5/7/8 |
| Livermore Amador Valley Transit Authority | | 12/14 | | | | |
| Marin County Transit | | | 7/10/12/14 | | | 7/8 |
| Napa Valley Transportation Authority | | | 12/14 | | | 5/7 |
| Petaluma Transit | | | 14 | | | 7 |
| Rio Vista Delta Breeze | | | 7 | | | 6 |
| Santa Rosa CityBus | | | 14 | | | 8/10 |
| Solano County Transit (SolTrans) | | 14 | 12/15 | | | 5/7/10 |
| Sonoma County Transit | 7 | | 12 | | | 7 |
| Union City Transit | | | 12 | | | 4/5/7 |
| Vacaville City Coach | | | 15 | | | 7/10 |
| WestCAT | 4 | 12/16 | 12 | 14 | | 5/7 |
| San Francisco Bay Ferry | | | | | 25 | |

## Non-Revenue Vehicles

| Agency | Automobile | Trucks and other Rubber Tire Vehicles | Ferryboat |
|---|---|---|---|
| Central Contra Costa Transit Authority | 7 | | |
| Dixon Readi-Ride | | | |
| Tri Delta Transit | 5 | 5 | |
| Fairfield and Suisun Transit | 10 | 10 | |
| Livermore Amador Valley Transit Authority | 10/16 | 14/15 | |
| Marin County Transit | 8 | 8/15 | |
| Napa Valley Transportation Authority | 20 | | |
| Petaluma Transit | 10 | 10 | |
| Rio Vista Delta Breeze | | | |
| Santa Rosa CityBus | 11 | 12/20 | |
| Solano County Transit (SolTrans) | 7 | 5/6/7 | |
| Sonoma County Transit | 10/15 | 12/15 | |
| Union City Transit | 10 | | |
| Vacaville City Coach | | | |
| WestCAT | | 8/10 | |
| San Francisco Bay Ferry | | 10/20 | 20 |

# Appendix E: Transit Capital Priorities Scoring

| 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.<br>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 |
| 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 |
| 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. | |

# 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.* |
| 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.*** | | |