# Transit Asset Management Plan


San Joaquin Regional Transit District

September 2022

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| Recurring Action Items | Responsibility | Frequency |
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| 1. Review and modify the TAM plan as needed to maintain compliance with appropriate laws, regulations, or other requirements | Chief Operating Officer | Every Four Years |

**Approval Signature**

Chief Executive Officer (CEO) — Date: 12/28/22

# Transit Asset Management Plan
# San Joaquin Regional Transit District

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# Chapter 1: Introduction

## Overview of RTD

Established in 1963, the San Joaquin Regional Transit District (RTD) provides regional public transit services for the Stockton Metropolitan Area (SMA) and San Joaquin County as a whole. The services include Intercity, Interregional, Paratransit, and Rural Transit. A five-member Board of Directors and the Chief Executive Officer oversees RTD and nearly 200 staff are responsible for the operations and management of RTD's services.

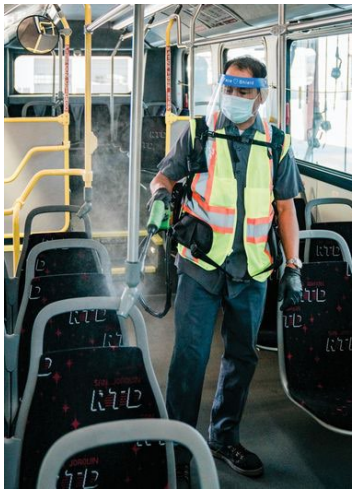

RTD and the other partner agencies coordinate all planning and programming with San Joaquin Council of Governments (SJCOG), the Metropolitan Planning Organization (MPO) for the region. Incorporated into its annual work program, SJCOG acknowledges the federal requirements of maintaining transit equipment and infrastructure in a State of Good Repair (SGR) and highlights its intentions of coordinating with the transit providers and incorporating their Transit Asset Management (TAM) plans into the Region Transportation Plan (RTP). The primary ways this shall be accomplished is through close interaction and coordination with SJCOG and active participation at the Interagency Transit Committee. Example of the Interagency Transit Committee's planning and programming efforts included ongoing review of RTD's Short Range Transit Plan and management and submittal of RTD's capital needs into the Regional Transportation Plan (RTP).

Since adoption of its initial TAM Plan (2018-2022), RTD has continued to maintain all of its capital assets in a state of good repair in compliance with the TAM legislation and used the 2018 Board-adopted TAM Plan as their template for exceptional stewardship of the legislation. This includes continuing asset maintenance and end of life replacement; following its own capital planning priorities; and continual application of TAM assessment criteria. In addition, RTD acquired a new asset management software system to replace the old system and updated it with TAM adherence in mind.

RTD's 2022-2026 update of its TAM Plan was reformatted from the original Plan. This new format maintains all the required TAM elements but now means the FTA's 'TAMPLATE', as presented in TAMPLATE User Manual.

TAM practices between the initial TAM plan adoption and this update occurred during the COVID-19 pandemic. Despite service reductions and a commensurate reduction in service and revenue vehicle need, RTD continued its fleet and facility maintenance practices and standards.

**Impact of the COVID-19 Pandemic**



RTD has managed its transit operations, passenger safety, and employee safety throughout the pandemic by reducing service, temporarily suspending fare collection, and modifying equipment and facilities. Throughout the pandemic, RTD staff continued its fleet and facility maintenance practices and adherence to the 2018-2022 TAM Plan.

Based on fleet size and planned expansion in 2018, RTD was designated as a Tier I agency — which is defined as "a transit agency that "owns, operates, or manages either (1) one hundred and one (101) or more vehicles in revenue service during peak regular service or in any one non-fixed route mode, or (2) rail transit."

However, the resultant loss of ridership during the pandemic and RTD's current attempts to restore service to pre-COVID levels, has led the agency to conduct a systemwide planning exercise to determine how best to provide service. The results of and RTD's subsequent actions from the study will impact operations and possibly revenue vehicle fleet need during the 2022-26 TAM Plan period. The TAM goals, policy, and practice will not change; however, RTD may consider changing its TAM participant designation from Tier One to Tier Two if revenue vehicle usage falls below 101 vehicles.

**Annual Performance Measures and Targets**

As part of this Plan, RTD will maintain its previously established SGR performance measures for vehicles and annual performance targets, which are found below.

RTD Revenue and Service Vehicles Performance Measures and Targets

| Asset Class | Performance Measure | Definition | Annual Target |
|---|---|---|---|
| **Revenue vehicles** | Age | % Of RTD's revenue vehicles that have met or exceeded Useful Life Benchmark (ULB) | No more than 10% of revenue vehicle fleet shall exceed ULB |
| **Service vehicles** | Age | % Of RTD's service vehicles that have met or exceeded ULB | No more than 20% of service vehicle fleet shall exceed ULB |

The table below presents RTD's adopted SGR performance measures and annual performance target to be applied to all RTD facilities.

RTD Facility Performance Measures and Targets

| Asset Class | Performance Measure | Definition | Annual Target |
|---|---|---|---|
| **All buildings or structures** | Condition | % Of RTD facilities with a condition rating below 3.0 on TERM Scale | No facility shall fall below a TERM score of 3.0 |

**TAM Goals**

RTD is committed to the safe operations and maintenance of the physical assets used for its programs and services. In support of the National Transit Asset Management System Final Rule regulatory requirement for all agencies receiving federal financial assistance under 49 U.S.C. Chapter 53 who own, operate, or manage capital assets use in the provision of public transportation, RTD created its 2018-2022 TAM Plan.

In the development of this updated TAM Plan for the next time horizon (2022-2026), RTD has reviewed the process from the previous cycle and applied lessons learned into its operations and maintenance practices. In addition, RTD strives for inter-departmental coordination and communication with planning, grants, and financial staff to accurately forecast state of good repair and prepare for agency needs. Because asset management is an important component of effective performance, RTD's TAM plan uses condition of assets to guide the optimal prioritization of funding in order to keep assets in a state of good repair, enhance safety, reduce maintenance cost, increase reliability, and improve performance. More specifically, RTD aims to accomplish the following with its TAM Plan:

1. RTD will maintain all its capital assets in a state of good repair per federal requirements.
2. Ensure that its asset management vision and direction is in line with existing policies and strategic planning process.
3. Place RTD in the best position to develop future policies and procedures to further support its TAM efforts.
4. Link RTD's main business processes (including performance management, risk management, and budget processes) with asset management strategies and its performance objectives and goals.
5. Coordinate across departments to better work toward a common goal.
6. Provide specific accountabilities regarding scope and timing for implementation activities.
7. Advance maturity of asset management practices.
8. Establish asset management strategies that help to focus management and business

processes on RTD's vision and mission.

9. Properly plan, salvage, and replace required capital assets during and after the identified useful life of the assets, in accordance with industry, Original Equipment Manufacturer, and regulatory requirements

RTD's TAM Plan level of compliance includes the following elements:

1. **Asset Inventory**: the existing asset inventory of vehicles and facilities
2. **Condition Assessment**: the base condition assessment of the vehicles and facilities, including the annual performance measures and targets.
3. **Decision Support Tools**: description of decision support tool(s) assisting in prioritization of capital investments
4. **Investment Prioritization**: prioritized list of investments
5. **TAM and SGR Policy**: As adopted by the RTD Board in 2018
6. **Implementation Strategy**: Outlines guiding principles related to maintenance, overhaul, disposal, and acquisition & renewal to ensure the TAM Plan is implemented properly
7. **List of Annual Activities**: List of key annual activities to be undertaken during plan horizon period.
8. **Identification of Resources**: Personnel resources identifying roles and responsibilities as it relates to the TAM Plan
9. **Evaluation Plan** that outlines how the TAM Plan will be monitored, updated, and evaluated for continuous asset management improvement.

This includes strict adherence to the transit industry's best practices and compliance with all local, state, and federal requirements. In keeping with the Federal Transit Administration (FTA) directives of maintaining all transit assets in a state of good repair (SGR) and the supporting TAM legislation that requires agencies to establish asset management performance measures and targets and develop a TAM Plan, this effort will also complement RTD's existing 5-year Regional Transportation Plan capital needs assessment with the intention of highlighting new, replacement, and specific RTD TAM capital projects (Appendix J).

**TAM Policy & Evaluation**

*(Element 5. TAM & SGR Policy)*

The RTD Board of Directors adopted TAM and SGR policies and RTD's first TAM Plan on September 18, 2018. Since that time, RTD has continued to adhere to the policy, proceed as prescribed in the TAM Plan, and maintain its capital assets in a State of Good Repair.

**TRANSIT ASSET MANAGEMENT AND STATE OF GOOD REPAIR POLICY**
**SAN JOAQUIN REGIONAL TRANSIT DISTRICT**

San Joaquin Regional Transit District (RTD) aims to provide a safe, reliable, and efficient transportation system for the region. In order to fulfill its vision to be the transportation service of choice for the residents it serves, RTD is establishing the Transit Asset Management (TAM) and State of Good Repair (SGR) Policy to guide its resource allocation.

Not only is RTD committed to a responsive approach to asset management, but it is also committed to continuously improving the process by developing a proactive approach to managing its assets. Through its procurement, management, and maintenance policies and practices, RTD approaches TAM and SGR as a responsible transit provider, maintaining compliance with existing regulations and requirements while pursuing increased efficiency and innovation. As RTD implements strategies to become a better asset manager, it aims to coordinate across departments to better work toward common goals.

**A. Policy Goals**

RTD aims to manage its assets strategically by using integrated and systematic data collection, storage, analysis, and reporting standards so that it can make asset management decisions which emphasize cost-effectively maintaining and, when possible, extending the useful life of equipment, fleet, and facilities. In addition, RTD will follow transit industry maintenance best practice standards in the preventative and ongoing maintenance of its capital assets.

- RTD is committed to asset management and will facilitate the establishment of a culture that values asset management and makes it a priority.
- As asset management practices mature, RTD plans to embed asset management responsibilities and accountabilities into its strategic planning activities
- RTD's executive leadership will provide direction in building a culture favorable to embedding asset management into ongoing capital planning, operations, and maintenance activities.
- RTD is committed to making decisions according to criteria established by the agency and borne out in data.

**B. Accountability/Responsibility**

RTD has developed and will maintain an internal, cross-functional staff-led TAM Team with representatives from RTD's procurement, finance, grants and capital planning, IT, maintenance, and facilities departments. The TAM Team will participate in the following:

- Comprehensive capital planning efforts.
- NTD data gathering and presentation of TAM-related data.
- TAM project and management efforts.
- RTD's annual budget preparation.

**C. RTD's TAM Policy**

RTD's staff-led TAM Team will work across departments to ensure that TAM policy is integrated into RTD's capital asset decision-making and actions, including the following:

- RTD staff will bring the final 2018–2022 TAM Plan before the RTD Board of Directors; future TAM-related items will also be brought before the Board for approval.
- TAM Team Leads will coordinate closely with the San Joaquin Council of Governments (SJCOG), specifically with regards to the ongoing regional capital planning efforts, to ensure that TAM-related capital projects and corresponding TAM prioritization are so noted in future 10-year capital plans.
- Based on findings from last year's NTD A-15 form, RTD will include facility components (and subcomponents within the structure), even when the replacement costs of such components/subcomponents are below $50,000 in value (FTA guidance suggests $50,000 and



Board Approved *September 18, 2018 Resolution No. 5823*

above).
- RTD and its staff will adhere to its TAM Plan and the provisions set forth, including future revisions and modifications.
- RTD, having established this initial TAM policy, intends on revisiting and modifying the policy on an on-going basis.

The FTA TAM Rule specifies standards for measuring the condition of capital assets and SGR performance measures for those assets, which RTD is committing to follow as set forth in this TAM Policy. The requirements for an asset to be considered able to operate at a full level of performance include:

- The asset must be able to perform its designed function
- The use of the asset does not pose an identified unacceptable safety risk
- The lifecycle investment needs of the asset have been met or recovered, including all scheduled maintenance, rehabilitation, and replacements.

**D. RTD's SGR policy**

RTD's TAM Team, especially those department representatives assigned to maintaining capital assets in a state of good repair, will work agencywide to ensure that SGR policy is integrated into RTD's on-going and preventative maintenance practices including the following:

- RTD's Maintenance Department will modify its Vehicle Maintenance Plan to include reference to the TAM Plan and revisit it as changes related to TAM occur. This plan is updated regularly and approved by the CEO or designee.
- RTD's Facilities Department will modify its Facilities Maintenance Plan to include reference to the TAM Plan and revisit it as changes related to TAM occur. This plan is updated regularly and approved by the CEO or designee.
- RTD's maintenance records, vehicles, and terminals (maintenance facilities) will remain in compliance with all federal, state, and local safety standards and be subject to annual audit by the California Highway Patrol.
- RTD facilities will remain in compliance with all federal, state, and local safety standards and be subject to State of California, regional, and local annual safety and compliance audits.
- Facilities staff, including superintendent, supervisors, and technicians, will continue to participate in the San Joaquin County sponsored annual safety certification program.
- RTD will maintain and monitor the annual performance measure targets for vehicles and facilities established in this TAM Plan. Should these performance measure targets change, staff will maintain any new/revised targets.
- RTD's Safety Team Committee will continue to meet quarterly and include discussion items related to maintaining transit assets in an SGR for the safety of the general public and RTD employees.
- RTD and its staff will adhere to its TAM Plan and the provisions related to SGR policy set forth, including future revisions and modifications.
- RTD, having established this initial SGR policy, intends on revisiting and modifying the policy on an on-going basis.

*(Element 9. TAM Evaluation Plan)*

Provided below is an outline of how RTD intends on monitoring and evaluating how the Plan will support the ongoing successful maintenance of RTD's transit assets:

1. The Maintenance Superintendent will continue to review and update RTD's Vehicle Maintenance Plan, including the new TAM provisions annually.
2. The Facilities Superintendent will continue to review and update RTD's Facility Maintenance Plan, including the new TAM provisions annually.
3. Grants and Capital Planning will continue to coordinate with the San Joaquin Council of Governments (SJCOG) on capital needs, TAM implementation, and TAM project prioritization annually.
4. The TAM Team presents TAM projects and prioritization to RTD Project Management meetings with the Executive Team monthly.
5. TAM Team coordinates with NTD staff on TAM data as part of NTD submittal annually.
6. TAM Team Leaders annually coordinate with Finance staff on the capital planning portions of RTD's budget preparations.
7. Input gathered from RTD's ongoing proposed key annual activities listed in Chapter 5 will be reviewed for future modifications of the TAM Plan.

This plan, established by a cross-functional team of managers, will continue to be updated once every four years (or more frequently as needed). The activities above will provide valuable information in the update of this document. It will also include input from leaders from all affected departments and is approved based on the established accountability structures.

**TAM Roles & Responsibilities**

*(Element 8. Identification of Resources)*

The TAM Team will consist of the listed staff members responsible for the following:

- **Ciro Aguirre** (Chief Operating Officer): Supervises and approves TAM and SGR related activities performed by both operating departments, Facilities and Maintenance.
- **Brad Menil** (Maintenance Superintendent): Responsible for RTD fleet maintenance and maintenance programs, including ongoing preventative maintenance and adherence to TAM and SGR policy and practice.
- **John Van Camp** (Assistant Maintenance Superintendent): Supervise and monitor staff maintenance practices and condition assessment.
- **John Coose** (Facilities Superintendent): Responsible for maintenance and SGR at all RTD facilities and its components and subcomponents, including ongoing preventative maintenance and adherence to TAM and SGR policy and practice.
- **Jennie Felix** (Operations Specialist) Responsible for TAM adherence monitoring, data collection, and data input associated with TAM Plan for Operation Departments.

- **Edith Ramirez** (Facilities Analyst): Assist in TAM data collection and reporting associated with the TAM Plan.

In addition to the TAM Team, the following staff also contribute to the TAM Plan:

- **Virginia Alcayde** (Director of Financial Planning): Assembles the Coordinated RTIP Capital Plan for SJCOG.
- **Ravi Sharma** (Finance Manager): Responsible for NTD data and reporting.
- **Eric Williams** (Grants Manager): Identify local, state, federal, and other resources for asset management.

# Chapter 2: Capital Asset Inventory

## Inventory

*(Element 1. Asset Inventory)*

### RTD Facilities

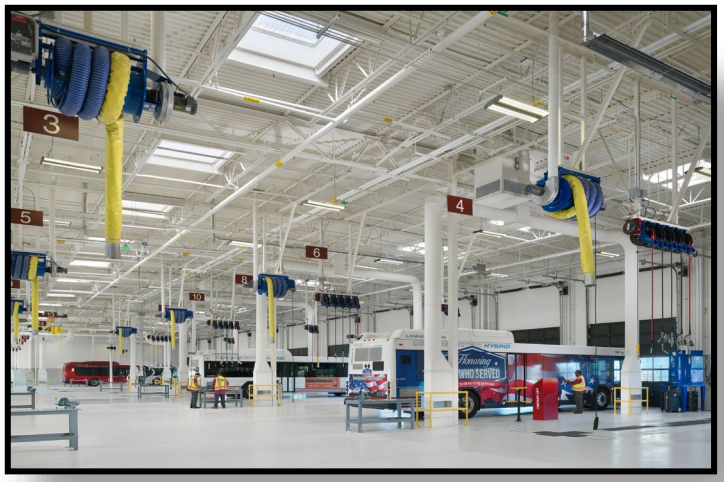
The NTD Form A-15 lists RTD-owned facilities (Appendix A) that are used for the administration, operations, and maintenance of its services as well as its bus transfer centers. Below is a brief description of RTD's facilities:

- The oldest of RTD's facilities is the **County Transportation Center** (CTC) and currently accommodates full dispatch functionality for a portion of RTD's services. RTD consolidated its contracted transit services and maintenance into its in-house transit service operation during COVID. The 68,000-square foot facility is designed with a phone reservation center, dispatch control center, meeting and training rooms, and administrative office space. In addition, the CTC has a maintenance area that includes nine bus bays, a parts room, a storeroom, storage for up to 70 vehicles, and employee parking.

- The **Downtown Transit Center** (DTC) is a 34,000-square foot facility that is used as an administrative facility housing the majority of RTD's executive management, finance, human resources, planning, marketing, customer service, and procurement staff. The DTC also serves as the largest bus transfer center in RTD's system. Subcomponents of the DTC include a passenger concourse, a lobby with public restrooms, an information center, fare vending machines, electronic route arrival/departure displays, 20 bus bays, a satellite police station, a driver break room, and RTD's boardroom.

- The **Hammer Transfer Station** (HTS) is a 7,900-square foot bus transfer center that serves as a central hub for the northern Stockton Metropolitan Area (SMA), providing connection between local and regional routes. The HTS subcomponents include a covered passenger waiting area, five boarding locations throughout the station, and a small driver break area with restrooms. The HTS also includes an onsite police substation for added security.


- RTD's **Regional Transportation Center** (RTC) is RTD's main operations and maintenance facility, with approximately 134,000 square feet to accommodate the full operation, dispatch, service development, and maintenance of its services. This includes a full driver break room, training facilities, meeting space, and administrative office space. The maintenance area consists of a wash rack, onsite fueling, a parts room, storage space, and 21 various-sized maintenance bays to accommodate all vehicle types (e.g., cutaways, articulated vehicles, service vehicles, etc.). The RTC is designed to store a maximum fleet of over 250 vehicles and includes paved parking for service vehicles and employee parking.




During the 2018-22 TAM Plan, RTD, as part of its ongoing vehicle emission reduction efforts, added 13 electric vehicle depot charging stations with photovoltaic parking canopies. In addition, four 16' ceiling mounted shop fans were installed to improve air circulation throughout the maintenance area for employee safety.

- The **Union Transfer Station** (UTS) is the newest of RTD's facilities, which began operating in 2019. Located on Union Street between First and Second Streets near the San Joaquin County Fairgrounds, the nearly two-acre UTS serves as RTD's south Stockton transfer point and provides another central location for the community to access RTD routes. The UTS serves two intersecting BRT routes and residents of South Stockton. Passenger amenities include sheltered benches, fare vending machines, and an onsite police substation for added security. In addition, the UTS is equipped with electric vehicle charging infrastructure and a Battery Energy Storage System (BESS) with back-up generator capability to charge buses in the event of a power loss.


## RTD Fleet Equipment

The NTD forms A-30 and A-35 (Appendix B & C) lists RTD's service and revenue service equipment. Below are summaries of this equipment.

**Service Vehicles**

| | VEHICLE NUMBER | YEAR | MAKE/MODEL |
|---|---|---|---|
| 1 | M101 | 2003 | FORD F550 2003 |
| 2 | F104 | 2005 | FORD F350 TRUCK |
| 3 | A8 | 2006 | DODGE RAM TRUCK FLEET |
| 4 | F07101 | 2007 | CHRYSLER SEBRING |
| 5 | F105 | 2008 | FORD F550 REG CAB |
| 6 | F106 | 2011 | FORD F350 TRUCK |
| 7 | F13103 | 2013 | FORD F150 |
| 8 | F13104 | 2013 | FORD F150 |
| 9 | F13105 | 2013 | FORD TRANSIT CONNECT |
| 10 | F13101 | 2014 | FORD F250 |
| 11 | F13102 | 2014 | FORD F250 |
| 12 | T-14101 | 2014 | FORD C-MAX |
| 13 | T-14103 | 2014 | FORD C-MAX |
| 14 | T-14104 | 2014 | FORD C-MAX |
| 15 | A14101 | 2014 | FORD C-MAX |
| 16 | A14103 | 2014 | FORD C-MAX |

| | | | |
|---|---|---|---|
| 17 | A14104 | 2014 | FORD C-MAX |
| 18 | A14105 | 2014 | FORD C-MAX |
| 19 | M14102 | 2014 | HYBRID NISSAN PATHFINDER |
| 20 | T-14102 | 2014 | HYBRID NISSAN PATHFINDER |
| 21 | A1401 | 2014 | HYBRID NISSAN PATHFINDER |
| 22 | A17101 | 2017 | DODGE CARAVAN |
| 23 | T17101 | 2017 | Ford Transit 350 |
| 24 | T17102 | 2017 | FORD FOCUS |
| 25 | A17103 | 2017 | FORD FOCUS |
| 26 | A17203 | 2017 | FORD ESCAPE SE 4WD SUV |
| 27 | A17102 | 2017 | FORD ESCAPE SE 4WD |
| 28 | A17104 | 2017 | FORD FOCUS |
| 29 | T17201 | 2017 | FORD FOCUS |
| 30 | F17101 | 2017 | FORD FOCUS |
| 31 | T17202 | 2017 | FORD FOCUS |
| 32 | A2105 | 2021 | FORD TRANSIT CONNECT |
| 33 | F2101 | 2021 | FORD TRANSIT CONNECT |
| 34 | M2102 | 2021 | FORD TRANSIT CONNECT |
| 35 | M2103 | 2021 | FORD TRANSIT CONNECT |
| 36 | M2104 | 2021 | FORD TRANSIT CONNECT |
| 37 | A2201 | 2022 | FORD EXPLORER |

**Revenue Service Vehicles**

| | BUS NUMBER | YEAR | MAKE/MODEL |
|---|---|---|---|
| 1 | 1001 | 2010 | GILLIG/HYBRID ELECTRIC |
| 2 | 1003 | 2010 | GILLIG/HYBRID ELECTRIC |
| 3 | 1004 | 2010 | GILLIG/HYBRID ELECTRIC |
| 4 | 1005 | 2010 | GILLIG/HYBRID ELECTRIC |
| 5 | 1006 | 2010 | GILLIG/HYBRID ELECTRIC |
| 6 | 1007 | 2011 | GILLIG/HYBRID ELECTRIC |
| 7 | 1008 | 2011 | GILLIG/HYBRID ELECTRIC |
| 8 | 1401 | 2010 | GILLIG/HYBRID ELECTRIC |
| 9 | 1402 | 2010 | GILLIG/HYBRID ELECTRIC |
| 10 | 1601 | 2016 | STARCRAFT/TRANSIT 350 HD |
| 11 | 1602 | 2016 | STARCRAFT/TRANSIT 350 HD |
| 12 | 1603 | 2016 | STARCRAFT/TRANSIT 350 HD |
| 13 | 1604 | 2016 | STARCRAFT/TRANSIT 350 HD |

| | | | |
|---|---|---|---|
| 14 | 1605 | 2016 | STARCRAFT/TRANSIT 350 HD |
| 15 | 1606 | 2016 | STARCRAFT/TRANSIT 350 HD |
| 16 | 1701 | 2017 | Glaval Titan II |
| 17 | 1702 | 2017 | Glaval Titan II |
| 18 | 1703 | 2017 | Glaval Titan II |
| 19 | 1704 | 2017 | Glaval Titan II |
| 20 | 1705 | 2017 | Glaval Titan II |
| 21 | 1706 | 2017 | Glaval Titan II |
| 22 | 1707 | 2017 | Glaval Titan II |
| 23 | 1708 | 2017 | Glaval Titan II |
| 24 | 1709 | 2017 | Glaval Titan II |
| 25 | 1710 | 2017 | Glaval Titan II |
| 26 | 1711 | 2017 | Glaval Titan II |
| 27 | 1712 | 2017 | Glaval Titan II |
| 28 | 1713 | 2017 | Glaval Titan II |
| 29 | 1714 | 2017 | Glaval Titan II |
| 30 | 1715 | 2017 | Glaval Titan II |
| 31 | 1716 | 2017 | Glaval Titan II |
| 32 | 1717 | 2017 | Glaval Titan II |
| 33 | 1718 | 2017 | Glaval Titan II |
| 34 | 1719 | 2017 | Glaval Titan II |
| 35 | 1720 | 2017 | Glaval Titan II |
| 36 | 1721 | 2017 | Glaval Titan II |
| 37 | 1722 | 2017 | Glaval Titan II |
| 38 | 1901 | 2019 | Glaval Transit 3500 |
| 39 | 1902 | 2019 | Glaval Transit 3500 |
| 40 | 1903 | 2019 | Glaval Transit 3500 |
| 41 | 1904 | 2019 | Glaval Transit 3500 |
| 42 | 1905 | 2019 | Glaval Transit 3500 |
| 43 | 1906 | 2019 | Glaval Transit 3500 |
| 44 | 1907 | 2019 | Glaval Transit 3500 |
| 45 | 1908 | 2019 | Glaval Transit 3500 |
| 46 | 1909 | 2019 | Glaval Transit 3500 |
| 47 | 1910 | 2019 | Glaval Transit 3500 |
| 48 | 1911 | 2019 | Glaval Transit 3500 |
| 49 | 1912 | 2019 | Glaval Transit 3500 |
| 50 | 1913 | 2019 | Glaval Transit 3500 |
| 51 | 1914 | 2019 | Glaval Transit 3500 |

| | | | |
|---|---|---|---|
| 52 | 2046 | 2008 | MCI/D4500 |
| 53 | 6303 | 2006 | GILLIG/HYBRID ELECTRIC |
| 54 | 6306 | 2006 | GILLIG/HYBRID ELECTRIC |
| 55 | 6307 | 2006 | GILLIG/HYBRID ELECTRIC |
| 56 | 6309 | 2006 | GILLIG/HYBRID ELECTRIC |
| 57 | 6310 | 2006 | GILLIG/HYBRID ELECTRIC |
| 58 | 6401 | 2006 | GILLIG/HYBRID ELECTRIC |
| 59 | 6402 | 2006 | GILLIG/HYBRID ELECTRIC |
| 60 | 6403 | 2006 | GILLIG/HYBRID ELECTRIC |
| 61 | 9401 | 2009 | GILIG/LOW FLOOR HYBRID |
| 62 | 9402 | 2009 | GILIG/LOW FLOOR HYBRID |
| 63 | 9403 | 2009 | GILIG/LOW FLOOR HYBRID |
| 64 | 12001 | 2012 | GILLIG/HYBRID ELECTRIC |
| 65 | 12002 | 2012 | GILLIG/HYBRID ELECTRIC |
| 66 | 12003 | 2012 | GILLIG/HYBRID ELECTRIC |
| 67 | 12004 | 2012 | GILLIG/HYBRID ELECTRIC |
| 68 | 12005 | 2012 | GILLIG/HYBRID ELECTRIC |
| 69 | 12006 | 2012 | GILLIG/HYBRID ELECTRIC |
| 70 | 13401 | 2013 | GILLIG/DIESL ELECTRIC |
| 71 | 13402 | 2013 | GILLIG/DIESL ELECTRIC |
| 72 | 13403 | 2013 | GILLIG/DIESL ELECTRIC |
| 73 | 13404 | 2013 | GILLIG/DIESL ELECTRIC |
| 74 | 13405 | 2013 | GILLIG/DIESL ELECTRIC |
| 75 | 13406 | 2013 | GILLIG/DIESL ELECTRIC |
| 76 | 13407 | 2013 | GILLIG/DIESL ELECTRIC |
| 77 | 13408 | 2013 | GILLIG/DIESL ELECTRIC |
| 78 | 13409 | 2013 | GILLIG/DIESL ELECTRIC |
| 79 | 13410 | 2013 | GILLIG/DIESL ELECTRIC |
| 80 | 13411 | 2013 | GILLIG/DIESL ELECTRIC |
| 81 | 13412 | 2013 | GILLIG/DIESL ELECTRIC |
| 82 | 13413 | 2013 | GILLIG/DIESL ELECTRIC |
| 83 | 13414 | 2013 | GILLIG/DIESL ELECTRIC |
| 84 | 13415 | 2013 | GILLIG/DIESL ELECTRIC |
| 85 | 13416 | 2013 | GILLIG/DIESL ELECTRIC |
| 86 | 13417 | 2013 | GILLIG/DIESL ELECTRIC |
| 87 | 13418 | 2013 | GILLIG/DIESL ELECTRIC |
| 88 | 13419 | 2013 | GILLIG/DIESL ELECTRIC |
| 89 | 13420 | 2013 | GILLIG/DIESL ELECTRIC |

| | | | |
|---|---|---|---|
| 90 | 13451 | 2013 | MCI/J4800 |
| 91 | 13452 | 2013 | MCI/J4800 |
| 92 | 14601 | 2014 | NOVA/LFS-60 |
| 93 | 14602 | 2014 | NOVA/LFS-60 |
| 94 | 14603 | 2014 | NOVA/LFS-60 |
| 95 | 14604 | 2014 | NOVA/LFS-60 |
| 96 | 14605 | 2014 | NOVA/LFS-60 |
| 97 | 14606 | 2014 | NOVA/LFS-60 |
| 98 | 16401 | 2016 | PROTERRA/CATALYST |
| 99 | 16402 | 2016 | PROTERRA/CATALYST |
| 100 | 16403 | 2016 | PROTERRA/CATALYST |
| 101 | 16404 | 2016 | PROTERRA/CATALYST |
| 102 | 16405 | 2016 | PROTERRA/CATALYST |
| 103 | 16406 | 2016 | PROTERRA/CATALYST |
| 104 | 16407 | 2016 | PROTERRA/CATALYST |
| 105 | 16408 | 2016 | PROTERRA/CATALYST |
| 106 | 16409 | 2016 | PROTERRA/CATALYST |
| 107 | 16410 | 2016 | PROTERRA/CATALYST |
| 108 | 18401 | 2018 | PROTERRA/CATALYST BE-40 |
| 109 | 18402 | 2018 | PROTERRA/CATALYST BE-40 |
| 110 | 18403 | 2018 | PROTERRA/CATALYST BE-40 |
| 111 | 18404 | 2018 | PROTERRA/CATALYST BE-40 |
| 112 | 18405 | 2018 | PROTERRA/CATALYST BE-40 |
| 113 | 18406 | 2018 | GILLIG/DIESEL ELECTRIC |
| 114 | 18407 | 2018 | GILLIG/DIESEL ELECTRIC |
| 115 | 18408 | 2018 | GILLIG/DIESEL ELECTRIC |
| 116 | 18409 | 2018 | GILLIG/DIESEL ELECTRIC |
| 117 | 18410 | 2018 | GILLIG/DIESEL ELECTRIC |
| 118 | 18411 | 2018 | GILLIG/DIESEL ELECTRIC |
| 119 | 18412 | 2018 | GILLIG/DIESEL ELECTRIC |
| 120 | 18413 | 2018 | GILLIG/DIESEL ELECTRIC |
| 121 | 18414 | 2018 | GILLIG/DIESEL ELECTRIC |
| 122 | 18415 | 2018 | GILLIG/DIESEL ELECTRIC |
| 123 | 18416 | 2018 | GILLIG/DIESEL ELECTRIC |
| 124 | 18417 | 2018 | GILLIG/DIESEL ELECTRIC |
| 125 | 20261 | 2020 | Arboc Spirit of Mobility |
| 126 | 20262 | 2020 | Arboc Spirit of Mobility |
| 127 | 20263 | 2020 | Arboc Spirit of Mobility |

| | | | |
|---|---|---|---|
| 128 | 20264 | 2020 | Arboc Spirit of Mobility |
| 129 | 21451 | 2021 | MCI D45-CRT-LE |
| 130 | 21452 | 2021 | MCI D45-CRT-LE |
| 131 | EV1 | 2012 | PROTERA/ECORIDE |
| 132 | EV2 | 2012 | PROTERA/ECORIDE |

Detailed tables of all assets appear in appendices under Condition Assessments for Facilities and Vehicles (Appendices G – I).

## Chapter 3: Condition Assessment

*(Element 2. Condition)*

A condition assessment is the process of inspecting an asset, quantifying the condition of that asset, and producing useable data to measure the condition and performance of the asset. This process involves regular inspections that evaluate an asset's visual and physical conditions and addresses risk, ensures that the asset can meet its service requirements, and provides information from which assets can be managed across their lifecycle. This helped RTD create evaluation criteria and a grading basis for all of its equipment.

Staff conducted current assessments using the assessment criteria established in the initial TAM Plan (Appendix F).

**RTD 2022 Revenue Fleet and Status Summary**

| Year | Make/Model | Total Vehicle Score | Assessment Condition | Quantity |
|---|---|---|---|---|
| 2010 | Gillig/Hybrid Electric | 4/5 | Failing/Fair | 7 |
| 2011 | Gillig/Hybrid Electric | 3/5 | Failing/Fair | 2 |
| 2016 | Starcraft Transit 350 | 6/7 | Fair | 6 |
| 2017 | Glaval Titan II | 6/7 | Fair | 22 |
| 2019 | Glaval Transit 3500 | 6-9 | Fair/Good | 14 |
| 2008 | MCI/D4500 | 4 | Poor | 1 |
| 2006 | Gillig/Hybrid Electric | 3-5 | Poor/Fair | 8 |
| 2009 | Gillig/Low Floor Hybrid | 4 | Poor | 3 |
| 2012 | Gillig/Hybrid Electric | 6/7 | Fair | 6 |
| 2013 | Gillig/Diesel Electric | 7 | Fair | 20 |

| | | | | |
|---|---|---|---|---|
| 2013 | MCI/J4800 | 5/8 | Fair/Good | 2 |
| 2014 | Nova/LFS-60 | 9 | Good | 6 |
| 2016 | Proterra/Catalyst | 10 | Good | 10 |
| 2018 | Proterra/Catalyst BE-40 | 11 | Excellent | 5 |
| 2018 | Gillig/Diesel Electric | 10/11 | Good/Excellent | 12 |
| 2020 | Arboc (SOM) | 12 | Excellent | 4 |
| 2021 | MCI D45 CRT LE | 12 | Excellent | 2 |
| 2012 | Proterra/Ecoride | 8 | Poor | 2 |
| Total | | | | 132 |

### RTD 2022 Service Vehicle Fleet and Status Summary

| Year | Make/Model | Total Vehicle Score | Assessment Condition | Quantity |
|---|---|---|---|---|
| 2003 | Ford F550 | 3 | Poor | 1 |
| 2005 | Ford F350 | 0 | Failing | 1 |
| 2006 | Dodge Ram Truck | 0 | Failing | 1 |
| 2006 | Eldorado Type II | 0 | Failing | 1 |
| 2007 | Chrysler Sebring | 2 | Poor | 1 |
| 2008 | Ford F550 | 3 | Poor | 1 |
| 2011 | Ford F350 | 4 | Poor | 1 |
| 2013 | Ford F150 | 4 | Poor | 2 |
| 2013 | Ford Transit Connect | 5 | Fair | 1 |
| 2014 | Ford F250 | 6 | Fair | 2 |
| 2014 | Ford C-Max | 3/4/6 | Poor/Fair | 7 |
| 2014 | Hybrid Nissan Pathfinder | 5/6/8 | Fair/Good | 3 |
| 2017 | Dodge Caravan | 10 | Good | 1 |
| 2017 | Ford Transit 350 | 10 | Good | 1 |
| 2017 | Ford Focus | 8/9/10/12 | Good/Excellent | 6 |
| 2017 | Ford Escape SE | 7/9 | Good | 2 |
| 2021 | Ford Transit Connect | 13 | Excellent | 5 |
| 2022 | Ford Explorer | N/A | N/A | N/A |
| Total | | | | 37 |

### RTD Facility Assessment Summary

| Facilities | RTC | CTC | HTS | UTS | DTC |
|---|---|---|---|---|---|
| TAM Component & Subcomponent | Rating | Rating | Rating | Rating | Rating |
| Exterior Loading and On-Site Parking | | | | | |
| | N/A | 3.9 | 4.1 | 4.9 | 4.2 |
| Bus Canopies | | | | | |
| | N/A | N/A | N/A | 5 | N/R |
| Electric Vehicle Depot Chargers | | | | | |
| | 4.2 | N/A | N/A | N/A | N/A |
| Photovoltaic Panels | | | | | |
| | N/A | N/A | N/A | N/A | N/A |
| Photovoltaic Bus Parking Canopy | | | | | |
| | N/A | N/A | N/A | N/A | N/A |
| Battery Energy Storage System | | | | | |
| | N/A | N/A | N/A | N/A | N/A |
| Landscaping or Street Scape | | | | | |
| | N/A | N/A | 4 | 4.9 | 4.5 |
| Exterior Façade | | | | | |
| | N/A | 4 | 4 | 4.9 | 4.2 |
| Exterior Lighting & Security | | | | | |
| | N/A | 3.9 | 3.5 | 4.8 | 4.5 |
| Lobby & Breezeway | | | | | |
| | N/A | N/A | N/A | N/A | 4.4 |
| Office Finishes | | | | | |
| | N/A | N/A | N/A | N/A | 4.0 |
| Conveyance | | | | | |
| | 4.9 | N/A | N/A | N/A | 4.5 |
| Interior Partitions & Ceiling | | | | | |
| | 4.7 | 3.7 | 3 | 5 | 4.5 |
| Interior Floor & Floor Finish | | | | | |
| | 4.6 | 3.8 | 3 | 4.9 | 4.0 |
| Doors & Hardware | | | | | |
| | 4.9 | 3.5 | 4 | 5 | 4.6 |
| Windows | | | | | |
| | 4.9 | 4 | 4 | N/A | 4.5 |
| Interior Walls | | | | | |
| | 4.5 | 3.5 | 4 | N/A | 3.5 |
| Interior Lighting | | | | | |
| | N/A | 3.3 | 3 | 5 | 4.5 |
| HVAC | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| | 4.4 | 2.5 | 3.2 | 5 | 4.2 |
| Fire Protection | | | | | |
| | 4.9 | 4 | N/A | N/A | 4.4 |
| Security System | | | | | |
| | N/A | 4.3 | N/A | 5 | 4.5 |
| Restrooms & Plumbing | | | | | |
| | 4.9 | 3 | 3.5 | 5 | 4.2 |
| Kitchen/Break Areas | | | | | |
| | N/A | 3.8 | 3.3 | 4.7 | 4.1 |
| Equipment Rooms - IT, Mechanical, Electrical | | | | | |
| | N/A | 3.7 | 3 | N/A | 4.4 |
| Free Standing Equipment | | | | | |
| | 4.9 | N/A | N/A | 4.5 | N/A |
| Roof | | | | | |
| | 4.8 | 3 | 3 | 4.8 | 4.6 |
| Facility Totals | | | | | |
| | 4.8 | 3.6 | 3.5 | 4.8 | 4.1 |

Refer to Appendix F for RTD's Assessment Scoring Criteria.

## Chapter 4: Decision Support

*(Element 3. Decision support tool)*

Data is the primary tool RTD uses to make sound and practical asset management decisions. Because of this, RTD invested in Hexagon EAM (its TAM software system) which allows staff to collect, manage, and store all data related to equipment, facilities, parts and parts inventory, and asset conditions on a daily basis. This system also integrates with TransTrack (RTD's operational data management system) and OneSolution (its financial enterprise system), exporting relevant system wide maintenance and financial information such as purchase orders. Staff is able to generate reports from the system to forecast need, perform long term capital planning, and to aide in budget preparation. Staff is currently working with the TAM software integrator to add a warranty tracking functionality and bolstered TAM scoring monitor capability. These enhancements will provide staff with further tools for asset management.

An additional analytic process that RTD uses for its project prioritization, occurs as part of the region's capital needs coordination with the MPO. Staff's collaboration with SJCOG has historically required staff to organize and prioritize assets internally prior to the report out.

This plan, by way of its assessment criteria and condition assessments, provides staff with another layer of analysis with which to evaluate the overall condition of its assets. By ranking and using weighted evaluation criteria, staff can identify remaining useful equipment and facility component life and designate the remaining useful life for planning and capital replacement purposes.

The vehicle assessment scoring (Appendix F) included a color coding associated with five tiers. The same color coding is associated with a corresponding capital replacement priority scale. The newest and highest scoring vehicles fall in Tier 1 and 2 (new and low). However, as wear on the vehicle occurs, vehicle miles continue to accrue, and the remaining ULB diminishes, the replacement priority increases to moderate (capital planning and procurement necessary) or to high (procurement needing to be underway or complete).

**Basic**

*(Element 6. Implementation strategy)*

RTD was able to successfully implement its 2018 TAM Plan and Board-adopted TAM and SGR policies. For the new 2022 TAM Plan, the existing approach to managing capital assets will be maintained. This will include taking advantage of and increasing the functionality of the TAM software system. Generally, RTD intends on following the guiding principles below to ensure the new TAM Plan is implemented properly:

- Maintain continuity between departments directly involved with asset management in an organized fashion, particularly in communicating TAM priorities.
- Take advantage of regular manager meetings to discuss capital planning and asset management.
- Document TAM decisions and justification for investment decisions.
- Consider regulations and other business requirements established by the federal government, state government, and other oversight agencies that may or may not support asset management goals.
- Ensure TAM implementation continually aligns with RTD's strategic goals.

**Maintenance**

For vehicles, RTD has incorporated TAM visual inspections into the ongoing vehicle preventative maintenance inspection cycle performed on the entire fleet. Staff captures TAM assessment scores for 11 criteria, current vehicle miles, and other vehicle data onto individual TAM inspection forms. Data, specifically for older equipment and vehicles scoring poorly on assessments, are flagged, and considered a part of ongoing equipment replacement efforts.

For facilities, complete TAM assessments are performed on an annual basis. This ensures staff has surveyed each facility component and subcomponent. Those items rated poorly, and items identified as functioning poorly are reviewed by staff. If immediate action is necessary, staff will seek council and direction from RTD's executive management, including the Chief Operating Officer and the Chief Executive Officer. Those items less urgent or due for replacement are shared with coordinating Departments and added to RTD's long term capital planning list.

The Vehicle Maintenance Plan (Appendix K) and Facilities Maintenance Plan (Appendix L) provides details on RTD's Maintenance Strategy.

**Overhaul**

For the most part, the quality of RTD's ongoing maintenance programs has resulted in few assets being overhauled, especially vehicles. However, staff will consider when and how asset gets analyzed and determined when it would be most cost effect to overhaul rather than replace. In those instances, staff will coordinate with other departments and properly secure the resources and/or services necessary to overhaul. This strategy may be especially useful for facilities based on conditions assessments on components and sub-components. Analysis may be performed to identify whether there is a more feasible way to extend the useful life of the assets in question.

**Disposal**

RTD follows strict disposal practices of its resources, especially those procured with state and/or federal funds. This includes properly designating assets for retirement, preparing them for salvage (as required for vehicles), arranging for salvage or disposal, and documenting sale or disposal details.

**Acquisition & Renewal**

Annually, and once funding has been secured, staff will initiate the proper steps to either procure replacement equipment or secure the materials and/or services needed to renew or overhaul existing assets.

Maintenance and Facilities Supervisors initiates new acquisitions when the assets' useful life has lapse (i.e., score is low) by notify procurement to initiate the acquisition process. At minimum, this requires strict adherence to RTD's procurement policy in soliciting bids, proposals, and partnering on joint procurement processes. In cases where a long manufacturing lead time is required (e.g., vehicles), or the funding required is significant and varied in sources, staff will initiate the acquisition process as early as possible to coincide with when an asset needs to be

retired or renewed. RTD may revisit and revise its policies if planned changes or improvements are deemed necessary.

In addition to following a well-documented acquisition process, RTD staff will ensure that all associated ancillary equipment (e.g., destination sign programming software and hardware, facility subcomponents, etc.), warranty material, trainings, training manuals, and other related items to operate and maintain assets are obtained as well.

Chapter 5: Proposed Investments
*(Element 4. Prioritized Investments)*

The below table represents RTD's planned capital projects to continue its best practice and maintenance of its assets in a state of good repair. This project list includes new capital projects to improve RTD's system, accounts for maintenance of existing RTD assets in a state of good repair, estimates funding, assumes linkage to applicable STIP/TIP, and features enhancements to improve upon existing RTD assets.

In addition to the data acquired through the TAM process, the outcome/output of a safety risk assessment and/or safety performance monitoring and measurement from the Agency Safety Plan could inform the prioritization of an asset for repair or replacement. The Accountable Executive, who is responsible for approving both the TAM Plan and the Agency Safety Plan, has the ultimate responsibility for decision making throughout this process. The list compiled for RTD's 2022-2026 TAM Plan and the status of each of project can be found below.

**RTD 2022-2026 TAM Capital Plan Project List**

| Project | Description | Est. Time Frame | Projected Cost | Funding | Priority | Ranking |
|---|---|---|---|---|---|---|
| Revenue Vehicle Replacement | TAM ongoing replacement of revenue vehicles beyond ULB | FY 22–26 | $55,300,000 | Not fully funded | Highest | 1 |
| Support Vehicle Replacement | TAM ongoing replacement of support vehicles beyond ULB | FY 22–26 | $1,200,000 | Not completely funded | Highest | 2 |
| UTS Battery Energy Storage System | Peak energy initiative for ZEB charging & resiliency backup | FY 22–23 | $605,000 | Secured | High | 4 |
| Solar Panel PV Project-RTC | Solar panel installation at RTC. Carried over from previous TAM Plan. | FY 23 | $4,100,000 | Secured | Moderate | 6 |
| Bus Electrification Power Distribution | Hydrogen bus pilot project | FY 23-27 | $2,200,000 | Not yet identified | High-Moderate | 7 |
| Bus Wash Blower System | Divert reclaimed water runoff from entering storm drain at RTC | FY 23–24. | $100,000 | Secured | Moderate | 8 |

| | | | | | | |
|---|---|---|---|---|---|---|
| CTC Renovation | Parking lot resurfacing from previous TAM Plan & fencing | FY 23–24 | $100,000 | Secured | Moderate | 9 |
| RTC Improvement & Upgrades | Painting, Shop floor, fire alarm, LED lighting, switchgear, drain valve, shop impro. | FY 23-24 | $200,000 | Not completely secured | Moderate | 10 |
| Facility Improvement & Upgrades | Ongoing facilities improvements and upgrades | FY 23-25 | $1,200,000 | Not completely secured | Moderate | 11 |
| TAM Software Enhancements | Add new functionality and capability to system | FY 23 | $28,000 | Secured | Moderate | 12 |
| Safety & Security | Upgrade facility camera systems, bus stops, software, and equipment | FY 23-26 | $914,500 | Not yet identified | Low | 13 |
| Solar Bus Stop Project | Introduction of photovoltaics at select RTD bus stops | FY 24 | $25,000 | Secured | Low | 14 |
| Fleet-wide Farebox Replacement Campaign | Replace & upgrade fareboxes fleetwide | FY 24-26 | $2,640,000 | Not yet identified | Low | 15 |

**Proposed Investments**

*(Element 7. Key annual activities)*

RTD has several planned and programmed TAM-related activities that will occur on a monthly, quarterly, or annual basis. Below are those currently planned or programed TAM activities to occur during the TAM Plan period.

| | |
|---|---|
| Report FY 2022 Asset Inventory Module (AIM) data to NTD | September 2022 |
| Complete Updated 2022-26 TAM Plan | September 2022 |
| Revised Vehicle Maintenance Plan | October 2022 |
| Revised Facility Maintenance Plan | October 2022 |
| SRTP & Capital Needs to SJCOG | November 2022 |
| Report FY 2023 AIM data to NTD | September 2023 |
| Submit TAM targets for FY2023 to NTD | September 2023 |
| Revised Vehicle Maintenance Plan | October 2023 |
| Revised Facility Maintenance Plan | October 2023 |
| Submit narrative report to NTD | October 2023 |
| Report FY 2024 AIM data to NTD | September 2024 |
| Submit TAM targets for FY 2024 to NTD | September 2024 |
| Submit narrative report to NTD | September 2024 |
| Submit updated Capital Needs data to SJCOG | November 2024 |
| Revised Vehicle Maintenance Plan | October 2024 |
| Revised Facility Maintenance Plan | October 2024 |
| Report FY 2025 AIM data to NTD | September 2025 |
| Submit TAM targets for FY 2025 to NTD | September 2025 |
| Submit narrative report to NTD | September 2025 |
| Submit updated Capital Needs data to SJCOG | November 2025 |
| Complete updated TAM report | September 2026 |

# Appendix A: RTD 2021 NTD Facilities Submittal (Form A-15)

9/13/22, 1:46 PM Transit Asset Management Facilities Inventory (A-15)

| | |
|---|---|
| **NTD ID** | 90012 |
| **Reporter Name** | San Joaquin Regional Transit District |
| **Report** | 2021 (Revision: 7) |

## Transit Asset Management Facilities Inventory (A-15)

| ID | Name | Section of Larger Facility? | Street | City | State | Zip | Lat | Long | Condition Assessment | Est. Date of Condition Assessment | Primary Mode | Non-Agency Mode | Secondary Modes | Private Mode | Facility Type | Year Built or Reconstructed as New |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 231 | Regional Transportation Center | false | 2849 E. Myrtle Street | Stockton | CA | 95205 | | | 4 | 6/30/2018 | MB | | | | Combined Administrative and Maintenance Facility (describe in Notes) | 20 |
| 232 | County Transportation Center | false | 120 N. Filbert | Stockton | CA | 95205 | | | 3 | 6/30/2018 | MB | | CB | | Combined Administrative and Maintenance Facility (describe in Notes) | 19 |
| 233 | Downtown Transit Center | false | 421 E. Weber Avenue | Stockton | CA | 95202 | | | 4 | 6/30/2018 | MB | | | | Administrative Office / Sales Office | 20 |
| 234 | Hammer Triangle Station | false | 7735 Lower Sacramento Street | Stockton | CA | 95210 | 38.148214 | -121.302231 | 3 | 6/30/2018 | MB | | | | Bus Transfer Center | 19 |
| 17169 | Union Transfer Station | false | 1505 S. Union | Stockton | CA | 95206 | 37.9393500 | -121.2723700 | 5 | 6/30/2019 | MB | | | | Bus Transfer Center | 20 |

# Appendix B: RTD 2021 NTD Revenue Vehicle Submittals (Form A-30)



| | |
|---|---|
| **NTD ID** | 90012 |
| **Reporter Name** | San Joaquin Regional Transit District |
| **Report** | 2021 (Revision: 7) |

## Revenue Vehicle Inventory (A-30) - CB PT

### Fleets

| RVI ID | Agency Fleet Id | Vehicle Type | Total Vehicles | Active Vehicles | Dedicated Fleet | No Capital Replacement Responsibility | Automated or Autonomous Vehicles | Manufacturer | Describe Other Manufacturer | Model | Year Manufactured | Year Rebuilt | Fuel Type | Other Fuel Type | Dual Fuel Type | Vehicle Length | Seating Capacit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 44680 | | Over-the-road Bus (BR) | 2 | 2 | Yes | | | MCI - Motor Coach Industries International (DINA) | | 4500D | 2001 | | Diesel Fuel | | | 45 | 5 |
| 44681 | | Over-the-road Bus (BR) | 1 | 1 | Yes | | | MCI - Motor Coach Industries International (DINA) | | 4500D | 2008 | | Diesel Fuel | | | 45 | 5 |
| 376007 | | Over-the-road Bus (BR) | 2 | 2 | Yes | | | MCI - Motor Coach Industries International (DINA) | | J4500 | 2013 | | Diesel Fuel | | | 40 | 5 |
| 376009 | | Over-the-road Bus (BR) | 12 | 12 | Yes | | | GIL - Gillig Corporation | | G30D102N4 | 2018 | | Diesel Fuel | | | 40 | 3 |
| ***Total*** | | | ***17*** | ***17*** | | | | | | | | | | | | | |

### Energy Consumption

| Energy Type | Amount | Unit |
|---|---|---|
| **Bio-Diesel** | | Gallons |
| **Diesel Fuel** | 63,487 | Gallons |

| | |
|---|---|
| **NTD ID** | 90012 |
| **Reporter Name** | San Joaquin Regional Transit District |
| **Report** | 2021 (Revision: 7) |

# Revenue Vehicle Inventory (A-30) - DR PT

### Fleets

| RVI ID | Agency Fleet Id | Vehicle Type | Total Vehicles | Active Vehicles | Dedicated Fleet | No Capital Replacement Responsibility | Automated or Autonomous Vehicles | Manufacturer | Describe Other Manufacturer | Model | Year Manufactured | Year Rebuilt | Fuel Type | Other Fuel Type | Dual Fuel Type | Vehicle Length | Seat Capa |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 376010 | | Cutaway (CU) | 8 | 8 | Yes | | | GLV - Glaval Bus | | Commute | 2019 | | Gasoline | | | 26 | |
| 376011 | | Cutaway (CU) | 6 | 6 | Yes | | | FRD - Ford Motor Corporation | | Starcraft | 2017 | | Diesel Fuel | | | 26 | |
| 382861 | | Cutaway (CU) | 6 | 6 | Yes | | | GLV - Glaval Bus | | Commute | 2019 | | Gasoline | | | 26 | |
| ***Total*** | | | ***20*** | ***20*** | | | | | | | | | | | | | |

### Energy Consumption

| Energy Type | Amount | Unit |
|---|---|---|
| **Bio-Diesel** | | Gallons |
| **Diesel Fuel** | 5,797 | Gallons |
| **Gasoline** | 19,938 | Gallons |

| | |
|---|---|
| **NTD ID** | 90012 |
| **Reporter Name** | San Joaquin Regional Transit District |
| **Report** | 2021 (Revision: 7) |

# Revenue Vehicle Inventory (A-30) - DR TX

## Fleets

| RVI ID | Agency Fleet Id | Vehicle Type | Total Vehicles | Active Vehicles | Dedicated Fleet | No Capital Replacement Responsibility | Automated or Autonomous Vehicles | Manufacturer | Describe Other Manufacturer | Model | Year Manufactured | Year Rebuilt | Fuel Type | Other Fuel Type | Dual Fuel Type | Vehicle Length | Seating Capacity | St Ca |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 44732 | | Van (VN) | 16 | 16 | No | | | N/A | N/A | N/A | N/A | N/A | Gasoline | | | N/A | 5 | |
| ***Total*** | | | ***16*** | ***16*** | | | | | | | | | | | | | | |

## Energy Consumption

| Energy Type | Amount | Unit |
|---|---|---|
| **Gasoline** | | Gallons |

| | |
|---|---|
| **NTD ID** | 90012 |
| **Reporter Name** | San Joaquin Regional Transit District |
| **Report** | 2021 (Revision: 7) |

# Revenue Vehicle Inventory (A-30) - MB DO

## Fleets

| RVI ID | Agency Fleet Id | Vehicle Type | Total Vehicles | Active Vehicles | Dedicated Fleet | No Capital Replacement Responsibility | Automated or Autonomous Vehicles | Manufacturer | Describe Other Manufacturer | Model | Year Manufactured | Year Rebuilt | Fuel Type | Other Fuel Type | Dual Fuel Type | Vehicle Length |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25724 | | Bus (BU) | 9 | 9 | Yes | | | GIL - Gillig Corporation | | LOWFLOOR | 2006 | | Diesel Fuel | | | 35 |
| 34394 | | Bus (BU) | 3 | 3 | Yes | | | GIL - Gillig Corporation | | LOWFLOOR | 2008 | | Diesel Fuel | | | 40 |
| 44682 | | Bus (BU) | 2 | 2 | Yes | | | GIL - Gillig Corporation | | G30D102N4 | 2010 | | Diesel Fuel | | | 40 |
| 52362 | | Bus (BU) | 6 | 5 | Yes | | | GIL - Gillig Corporation | | LOWFLOOR | 2006 | | Diesel Fuel | | | 40 |
| 52363 | | Bus (BU) | 7 | 7 | Yes | | | GIL - Gillig Corporation | | LOWFLOOR | 2010 | | Diesel Fuel | | | 40 |
| 328502 | | Bus (BU) | 6 | 6 | Yes | | | GIL - Gillig Corporation | | G30D102N4 | 2012 | | Hybrid Diesel | | | 40 |
| 336970 | | Articulated Bus (AB) | 6 | 6 | Yes | | | NOV - NOVA Bus Corporation | | LFS ARTICULATED | 2014 | | Hybrid Diesel | | | 60 |
| 336971 | | Bus (BU) | 20 | 20 | Yes | | | GIL - Gillig Corporation | | G30D102N4 | 2013 | | Hybrid Diesel | | | 40 |
| 336972 | | Bus (BU) | 2 | 2 | Yes | | | PRO - Proterra Inc. | | ECORIDE BE-35 | 2012 | | Electric Battery | | | 35 |
| 350706 | | Bus (BU) | 4 | 4 | Yes | | | PRO - Proterra Inc. | | Catalyst | 2017 | | Electric Battery | | | 40 |
| 350707 | | Bus (BU) | 5 | 5 | Yes | | | PRO - Proterra Inc. | | Catalyst | 2017 | | Electric Battery | | | 40 |
| 356403 | | Bus (BU) | 1 | 1 | Yes | | | PRO - Proterra Inc. | | ECO Ride BE-35 | 2016 | | Electric Battery | | | 40 |
| 375918 | | Bus (BU) | 5 | 5 | Yes | | | PRO - Proterra Inc. | | Catalyst BE | 2018 | | Electric Battery | | | 40 |
| ***Total*** | | | ***76*** | ***75*** | | | | | | | | | | | | |

## Energy Consumption

| Energy Type | Amount | Unit |
|---|---|---|
| **Battery Charge** | 686,058 | Kilowatt Hours |
| **Bio-Diesel** | | Gallons |
| **Diesel Fuel** | 137,950 | Gallons |

9/13/22, 1:43 PM Revenue Vehicle Inventory (A-30) - MB PT

| | |
|---|---|
| **NTD ID** | 90012 |
| **Reporter Name** | San Joaquin Regional Transit District |
| **Report** | 2021 (Revision: 7) |

# Revenue Vehicle Inventory (A-30) - MB PT

## Fleets

| RVI ID | Agency Fleet Id | Vehicle Type | Total Vehicles | Active Vehicles | Dedicated Fleet | No Capital Replacement Responsibility | Automated or Autonomous Vehicles | Manufacturer | Describe Other Manufacturer | Model | Year Manufactured | Year Rebuilt | Fuel Type | Other Fuel Type | Dual Fuel Type | Vehicle Length | Seat Capa |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 356280 | | Cutaway (CU) | 6 | 6 | Yes | | | GLV - Glaval Bus | | Titan | 2017 | | Gasoline | | | 26 | |
| 356380 | | Cutaway (CU) | 9 | 9 | Yes | | | GLV - Glaval Bus | | Titan | 2017 | | Gasoline | | | 26 | |
| 356381 | | Cutaway (CU) | 7 | 7 | Yes | | | GLV - Glaval Bus | | Titan | 2017 | | Gasoline | | | 26 | |
| 384265 | | Bus (BU) | 11 | 7 | Yes | | | GIL - Gillig Corporation | | LOWFLOR | 2006 | | Diesel Fuel | | | 29 | |
| 384267 | | Bus (BU) | 4 | 4 | Yes | | | GIL - Gillig Corporation | | LOWFLOR | 2006 | | Diesel Fuel | | | 40 | |
| ***Total*** | | | ***37*** | ***33*** | | | | | | | | | | | | | |

## Energy Consumption

| Energy Type | Amount | Unit |
|---|---|---|
| **Bio-Diesel** | | Gallons |
| **Diesel Fuel** | 28,347 | Gallons |
| **Gasoline** | 69,830 | Gallons |

# Appendix C: RTD 2021 NTD Service Vehicle Submittal (Form A-35)

9/13/22, 1:41 PM Service Vehicle Inventory (A-35)

| | |
|---|---|
| **NTD ID** | 90012 |
| **Reporter Name** | San Joaquin Regional Transit District |
| **Report** | 2021 (Revision: 7) |

## Service Vehicle Inventory (A-35)

| ID | Agency Fleet Id | Fleet Name | Vehicle Type | Primary Mode | Year Manufactured | Estimated Cost | Useful Life Benchmark (Years) | Useful Life Remaining (Years) | Total Vehicles | Transit Agency Capital Responsibility (%) | Year Dollars of Estimated Cost | Secondary Modes | Notes | Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **554** | T106 | FORD E350 XLSUPERDUTY | Trucks and other Rubber Tire Vehicles | MB - Bus | 1999 | $33,455.66 | 5 | -17 | 1 | 100.00 | 1999 | | | Active |
| **555** | F101 | FORD E350 XLTSUPERDUT | Trucks and other Rubber Tire Vehicles | MB - Bus | 1999 | $33,455.67 | 5 | -17 | 1 | 100.00 | 1999 | | | Active |
| **556** | M101 | FORD F550 | Trucks and other Rubber Tire Vehicles | MB - Bus | 2003 | $26,759.71 | 5 | -13 | 1 | 100.00 | 2003 | | | Active |
| **558** | F104 | FORD F350 TRUCK | Trucks and other Rubber Tire Vehicles | MB - Bus | 2005 | $26,211.40 | 5 | -11 | 1 | 100.00 | 2005 | | | Active |
| **559** | A8 | DODGE RAM TRUCK | Trucks and other Rubber Tire Vehicles | MB - Bus | 2006 | $24,930.84 | 5 | -10 | 1 | 100.00 | 2006 | | | Active |
| **560** | A10 | DODGE CARAVAN | Trucks and other Rubber Tire Vehicles | MB - Bus | 2006 | $21,269.63 | 5 | -10 | 1 | 100.00 | 2006 | | | Active |
| **561** | 609 | ELDORADO AEROTECH | Trucks and other Rubber Tire Vehicles | MB - Bus | 2006 | $55,097.57 | 5 | -10 | 1 | 100.00 | 2006 | | | Active |
| **562** | F105 | FORD F550 REG CAB | Trucks and other Rubber Tire Vehicles | MB - Bus | 2008 | $41,722.49 | 5 | -8 | 1 | 100.00 | 2008 | | | Active |
| **563** | A2 | CHRYSLER SEBRING | Automobiles | MB - Bus | 2009 | $18,197.03 | 5 | -7 | 1 | 100.00 | 2009 | | | Active |
| **564** | M103 | FORD RANGER | Trucks and other Rubber Tire Vehicles | MB - Bus | 2009 | $13,938.95 | 5 | -7 | 1 | 100.00 | 2009 | | | Active |
| **565** | T10101 | FORD FOCUS SEDAN | Automobiles | MB - Bus | 2010 | $13,998.90 | 5 | -6 | 1 | 100.00 | 2010 | | | Active |
| **567** | F106 | FORD F350 TRUCK | Trucks and other Rubber Tire Vehicles | MB - Bus | 2011 | $31,230.47 | 5 | -5 | 1 | 100.00 | 2011 | | | Active |
| **568** | F13103 | FORD F150 | Trucks and other Rubber Tire Vehicles | MB - Bus | 2013 | $18,619.94 | 5 | -3 | 1 | 100.00 | 2017 | | | Active |
| **569** | F13104 | FORD F150 | Trucks and other Rubber Tire Vehicles | MB - Bus | 2013 | $18,619.94 | 5 | -3 | 1 | 100.00 | 2017 | | | Active |

| ID | Agency Fleet Id | Fleet Name | Vehicle Type | Primary Mode | Year Manufactured | Estimated Cost | Useful Life Benchmark (Years) | Useful Life Remaining (Years) | Total Vehicles | Transit Agency Capital Responsibility (%) | Year Dollars of Estimated Cost | Secondary Modes | Notes | Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 570 | F13105 | FORD PICK UP | Trucks and other Rubber Tire Vehicles | MB - Bus | 2013 | $23,588.18 | 5 | -3 | 1 | 100.00 | 2017 | | | Active |
| 571 | F13101 | FORD F250 | Trucks and other Rubber Tire Vehicles | MB - Bus | 2014 | $29,264.57 | 5 | -2 | 1 | 100.00 | 2017 | | | Active |
| 572 | F13102 | FORD F250 | Trucks and other Rubber Tire Vehicles | MB - Bus | 2014 | $29,264.57 | 5 | -2 | 1 | 100.00 | 2017 | | | Active |
| 573 | T14104 | FORD C-MAX | Trucks and other Rubber Tire Vehicles | MB - Bus | 2014 | $27,077.81 | 5 | -2 | 1 | 100.00 | 2017 | | | Active |
| 574 | T14101 | FORD C-MAX | Trucks and other Rubber Tire Vehicles | MB - Bus | 2014 | $27,077.81 | 5 | -2 | 1 | 100.00 | 2017 | | | Active |
| 575 | T14103 | FORD C-MAX | Trucks and other Rubber Tire Vehicles | MB - Bus | 2014 | $27,077.81 | 5 | -2 | 1 | 100.00 | 2017 | | | Active |
| 576 | O14104 | FORD C-MAX | Trucks and other Rubber Tire Vehicles | MB - Bus | 2014 | $27,077.81 | 5 | -2 | 1 | 100.00 | 2017 | | | Active |
| 577 | A14103 | FORD C-MAX | Trucks and other Rubber Tire Vehicles | MB - Bus | 2014 | $27,077.81 | 5 | -2 | 1 | 100.00 | 2017 | | | Active |
| 578 | A14104 | FORD C-MAX | Trucks and other Rubber Tire Vehicles | MB - Bus | 2014 | $27,077.81 | 5 | -2 | 1 | 100.00 | 2017 | | | Active |
| 579 | A14105 | FORD C-MAX | Trucks and other Rubber Tire Vehicles | MB - Bus | 2014 | $27,077.81 | 5 | -2 | 1 | 100.00 | 2017 | | | Active |
| 580 | M14102 | NISSAN HYBRID | Automobiles | MB - Bus | 2014 | $35,435.98 | 5 | -2 | 1 | 100.00 | 2017 | | | Active |
| 581 | T14102 | NISSAN HYBRID | Automobiles | MB - Bus | 2014 | $35,435.98 | 5 | -2 | 1 | 100.00 | 2017 | | | Active |
| 582 | A1401 | NISSAN HYBRID | Automobiles | MB - Bus | 2014 | $35,435.98 | 5 | -2 | 1 | 100.00 | 2017 | | | Active |
| 583 | T17101 | FORD ESCAPE | Trucks and other Rubber Tire Vehicles | MB - Bus | 2016 | $29,161.21 | 5 | 0 | 1 | 100.00 | 2017 | | | Active |
| 584 | T17101 | DODGE CARAVAN | Trucks and other Rubber Tire Vehicles | MB - Bus | 2017 | $22,936.91 | 5 | 1 | 1 | 100.00 | 2017 | | | Active |
| 585 | A17203 | FORD ESCAPE SE 4WD SUV | Trucks and other Rubber Tire Vehicles | MB - Bus | 2017 | $24,633.19 | 5 | 1 | 1 | 100.00 | 2017 | | | Active |
| 586 | A17102 | FORD ESCAPE SE 4WD | Trucks and other Rubber Tire Vehicles | MB - Bus | 2017 | $24,633.19 | 5 | 1 | 1 | 100.00 | 2017 | | | Active |
| 587 | A17104 | FORD FOCUS | Automobiles | MB - Bus | 2017 | $18,063.30 | 5 | 1 | 1 | 100.00 | 2017 | | | Active |
| 588 | T17201 | FORD FOCUS | Automobiles | MB - Bus | 2017 | $18,063.30 | 5 | 1 | 1 | 100.00 | 2017 | | | Active |
| 589 | F17101 | FORD FOCUS | Automobiles | MB - Bus | 2017 | $18,063.30 | 5 | 1 | 1 | 100.00 | 2017 | | | Active |

| ID | Agency Fleet Id | Fleet Name | Vehicle Type | Primary Mode | Year Manufactured | Estimated Cost | Useful Life Benchmark (Years) | Useful Life Remaining (Years) | Total Vehicles | Transit Agency Capital Responsibility (%) | Year Dollars of Estimated Cost | Secondary Modes | Notes | Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **590** | T17202 | FORD FOCUS | Automobiles | MB - Bus | 2017 | $18,063.30 | 5 | 1 | 1 | 100.00 | 2017 | | | Active |
| **591** | A17103 | FORD FOCUS | Automobiles | MB - Bus | 2017 | $18,063.30 | 5 | 1 | 1 | 100.00 | 2017 | | | Active |
| **592** | T17102 | FORD FOCUS | Automobiles | MB - Bus | 2017 | $18,063.30 | 5 | 1 | 1 | 100.00 | 2017 | | | Active |
| **28084** | A2105 | FORD CARGO VAN | Trucks and other Rubber Tire Vehicles | MB - Bus | 2020 | $35,000.00 | 14 | 13 | 1 | 100.00 | 2020 | | | Active |
| **28085** | F2101 | FORD CARGO VAN | Trucks and other Rubber Tire Vehicles | MB - Bus | 2020 | $35,000.00 | 14 | 13 | 1 | 100.00 | 2020 | | | Active |
| **28086** | M2102 | FORD CARGO VAN | Trucks and other Rubber Tire Vehicles | MB - Bus | 2021 | $35,000.00 | 14 | 14 | 1 | 100.00 | 2021 | | | Active |

# Appendix D: RTD 2021 NTD TAM Performance Measures & Targets (Form A-90)

9/13/22, 1:40 PM Transit Asset Management Performance Measure Targets (A-90)

| | |
|---|---|
| **NTD ID** | 90012 |
| **Reporter Name** | San Joaquin Regional Transit District |
| **Report** | 2021 (Revision: 7) |

## Transit Asset Management Performance Measure Targets (A-90)

### 1) Rolling Stock - Percent of revenue vehicles that have met or exceeded their useful life benchmark

| Performance Measure | 2021 Target (%) | 2021 Performance (%) | 2021 Difference | 2022 Target (%) |
|---|---|---|---|---|
| **AB - Articulated Bus** | 0.00 | 0.00 | 0.00 | **0.00** |
| **AO - Automobile** | N/A | | | **N/A** |
| **BR - Over-the-road Bus** | 17.64 | 17.65 | -0.01 | **0.00** |
| **BU - Bus** | 20.00 | 35.00 | -15.00 | **15.00** |
| **CU - Cutaway** | 0.00 | 0.00 | 0.00 | **0.00** |
| **DB - Double Decker Bus** | N/A | | | **N/A** |
| **MV - Minivan** | N/A | | | **N/A** |
| **OR - Other** | N/A | | | **N/A** |
| **SB - School Bus** | N/A | | | **N/A** |
| **SV - Sports Utility Vehicle** | N/A | | | **N/A** |
| **VN - Van** | N/A | | | **N/A** |

### 2) Equipment - Percent of service vehicles that have met or exceeded their useful life benchmark

| Performance Measure | 2021 Target (%) | 2021 Performance (%) | 2021 Difference | 2022 Target (%) |
|---|---|---|---|---|
| **Automobiles** | 5.00 | 45.45 | -40.45 | **45.45** |
| **Trucks and other Rubber Tire Vehicles** | 50.00 | 74.19 | -24.19 | **58.06** |
| **Steel Wheel Vehicles** | N/A | | | **N/A** |

### 3) Facility - Percent of facilities rated below 3 on the condition scale

| Performance Measure | 2021 Target (%) | 2021 Performance (%) | 2021 Difference | 2022 Target (%) |
|---|---|---|---|---|
| **Passenger / Parking Facilities** | 0.00 | 0.00 | 0.00 | **0.00** |
| **Administrative / Maintenance Facilities** | 0.00 | 0.00 | 0.00 | **0.00** |

# Appendix E: Sample Completed Revenue Vehicle Inspection Form

| Revenue and Non-Revenue Vehicle Condition Inspection Assessment | | | |
|---|---|---|---|
| Inspection Date: | **10/6/21** | Vehicle Number: | **1901** |
| Inspector (s) Name: | **Bill Dickerson** | Vehicle make/Modle?Year: | **Glaval Ford Transit 3500 HD / 2019** |

**RTD Condition Rating Scale**

| Rank | Category | Decription |
|---|---|---|
| 5.00 | New / Excellent | New assey; no visible defects. |
| 4.00 | Good | Some slightly defective / deteriorated componet(s). |
| 3.00 | Adequate | Some moderately defective / deteriorated componet(s). |
| 2.00 | Marginal | Increasing # of defective / deteriorated componet(s) & maintenance needs. |
| 1.00 | Poor | In need of immediate repair or replacement; Item is a safetty hazard and may have critically damaged componet(s). |

| Main Component | Sub-Component | Condition Rating Score |
|---|---|---|
| **Mileage: Life To Date** | **57,192.10** | |
| **Age / In service Date** | **3/29/19** | |
| **Engine** | | |
| | Oil Analysis | **5** |
| | Noises | **5** |
| | Coolant System | **5** |
| | Electrical Looms (Condition / Securement) | **5** |
| | Air Intake System (Hoses / Clamps) | **5** |
| | Engine Mounts / Brackets / Hardware (Condition) | **5** |
| | Belts and Pulleys | **5** |
| | Hoses, Tubes, Lines (Leaks) | **5** |
| | Aftertreatment (Pipes / Clamps) | **5** |
| | **Sub-Component Average Score** | |
| **Drivetrain** | Transmission Fluid Analysis | **5** |
| | Differential Condition | **5** |
| | Shift Quality (noises) | **5** |
| | Reverse / Backup Alarm | **5** |
| | Universal Joint / Driveshaft (tight) | **5** |
| | **Sub-Component Average Score** | |
| **Electrical** | Exterior Lighting | **5** |
| | Interior Lighting | **5** |
| | Dash Guages (function) | **5** |
| | Wiring Condition | **5** |
| | Destination Sign | **5** |
| | Camera System | **5** |
| | AVL System | **5** |
| | Charging System (Function / Condition) | **5** |
| | Radio and Antenna (Function) | **5** |
| | **Sub-Component Average Score** | |
| **A&C & Heat** | A/C System (Function / Leaks) | **5** |
| | Heating System (Function / Leaks) | **5** |
| | **Sub-Component Average Score** | |
| **Frame / Structure** | Frame (Rust / Cracks / Condition) | **5** |
| | King Pin (Condition / Wear) | **5** |
| | Sub Frame (Condition) | **5** |
| | **Sub-Component Average Score** | |
| **Steering / Suspension** | Steering System (Play / Leaks / Wear) | **5** |
| | Springs / Shocks (Condition / Function) | **5** |
| | Struts / Air Bellow(s) (Function / Condition) | **5** |
| | Suspension Leveling Valve(s) (Function) | **5** |
| | Radius / Torque Rods (Wear / Condition) | **5** |
| | Tie Rod Ends (Wear / Condition) | **5** |
| | | |
| | | |
| | **Sub-Component Average Score** | |

| Main Component | Sub-Component | Condition Rating Score |
|---|---|---|
| **Safety System** | Horn (Function) | 5 |
| | Fire Suspension System | 5 |
| | Emergency Exit Window Latch ( Function) | 5 |
| | Roof Hatch / Emergency Exit | 5 |
| | | |
| | **Sub-Component Average Score** | |
| **Brakes / Tires / Wheels** | Tire Condition / Tread Depth | 5 |
| | Lug / Axle Nuts (Tight) | 5 |
| | Brake / Shift Interlock (Function / Air Leaks) | 5 |
| | Emergency Brake (Function) | 5 |
| | Brake Drums / Disks / Pad Lining (Condition / Wear) | 5 |
| | Front Hub Oil (Level / Leaks) | 5 |
| | Brake Chamber (Function) | 5 |
| | Air Compressor (Function) | 5 |
| | Air System (Function / Leaks) | 5 |
| | Air Brake Lines (Leaks / Function) | 5 |
| | Air Dryer (Leaks / Function) | 5 |
| | **Sub-Component Average Score** | |
| **Body : Interior** | Seats (Condition / Loose) | 5 |
| | Grab Rail (Condition / Loose) | 5 |
| | Panels / Trim (Loose / Condition) | 5 |
| | Front / Rear Doors (Operation) | 5 |
| | Drivers Seat (Condition / Operation) | 5 |
| | Passenger Flooring (Condition) | 5 |
| | Passenger Flooring (Condition) | 5 |
| | Passenger Handrail (Condition / Loose) | 5 |
| | Gear Shift Selector (Function) | 5 |
| | **Sub-Component Average Score** | |
| **Body: Exterior** | Window Glass | 5 |
| | Body Panels (Condition / Broken / Rust) | 5 |
| | Bumper & Trim (Loose / Damaged) | 5 |
| | Mirrors | 5 |
| | Windshield Wipers (Function) | 5 |
| | Reflectors | 5 |
| | Body Damage | 5 |
| | Passenger Bike Rack (Function / Damage) | 5 |
| | Door Rubber Seal (Condition) | 5 |
| | Roof Hatch / Emergency Exit | 5 |
| | **Sub-Component Average Score** | |
| **ADA Amenities** | Wheelchair Lift / Ramp (Function / Condition) | 5 |
| | Kneeler (Function) | 5 |
| | Passenger Stop Request Cord / Bell (function) | 5 |
| | Stop Announcement Speaker (Function) | 5 |
| | Stop Announcement Display (Function) | 5 |
| | Wheelchair Restraint System (Condition / Function) | 5 |
| | Passenger Counter (Function / Calibration) | 5 |
| | **Sub-Component Average Score** | |
| | **Total Vehicle Condition Score** | |

Appendix F: Condition Assessment Scoring Criteria

**RTD Service and Revenue Service Vehicle Visual Assessment Criteria**

| No. | Primary Area | Assessment Criteria |
|---|---|---|
| 1 | Body: Exterior | Visible rust, damage, function, condition of glass, panels, bumpers, mirrors, door seals, & emergency exits |
| 2 | Body: Interior | Condition & operation seats, panels, flooring, doors, handrails, and gear shift selector |
| 3 | Frame/Structure | Visible cracks, rust, wear, condition of frame, sub frame, king pins |
| 4 | ADA Amenities | Function/condition wheelchair lift/ramp, kneeler, stop request, stop announcement display/speaker, passenger counter |
| 5 | Engine | Oil analysis, noise, condition/function coolant system, air intake, looms, engine mounts, belts & pulleys, hoses |
| 6 | Drivetrain | Transmission fluid analysis, condition/function differential, shift quality, universal joint/driveshaft |
| 7 | Electrical | Function/condition exterior & interior lighting, dash gauges, wiring, destination sign, camera system, AVL system, radio & antenna |
| 8 | A/C & Heat | Leaks/function heating & A/C system |
| 9 | Safety Systems | Function/condition fire suppression, horn, emergency exit window release, doors, and roof hatch release |
| 10 | Suspension/Steering | Condition/function/play springs, shocks, struts, suspension leveling, tie rods, torque rods |
| 11 | Brake/Tires/Wheels | Tire condition & tread depth, axle nuts, brake/shift interlock, emergency brakes, drums, disks, hub oil, air compressor, air system, air brake lines, air dryer |

**RTD Service and Revenue Service Vehicle Rating Guide**

| Score | Rating | Description |
|---|---|---|
| 1 | Poor | In need of immediate repair or replacement, Item is a safety hazard & may have critically damaged component(s) |
| 2 | Marginal | Increasing # of defective/deteriorated component(s) & maintenance needs |
| 3 | Adequate | Some moderately defective/deteriorated component(s) |
| 4 | Good | Some slight defective/deteriorated component(s) |
| 5 | New/Excellent | New asset; no visible defects |

**RTD 12-Year Revenue Service Vehicle Condition Assessment Criteria**

| Visual Inspection Criteria 1 | |
|---|---|
| Score | Tier Value |
| 45-55 | 4 |
| 34-44 | 3 |
| 23-33 | 2 |
| 12-22 | 1 |
| 0-11 | 0 |

| ULB Remaining Years Criteria 2 | |
|---|---|
| Years | Tier Value |
| 1-4 | 4 |
| 5-8 | 3 |
| 9-11 | 2 |
| 12-14 | 1 |
| >14 | 0 |

| Vehicle Miles Accrued Criteria 3 | |
|---|---|
| Miles | Tier Value |
| 0-100,000 | 4 |
| 100,001-200,000 | 3 |
| 200,001-350,000 | 2 |
| 350,001-450,000 | 1 |
| >450,001 | 0 |

**RTD 7-Yr/200,000 Mile Revenue Service Vehicle Condition Assessment Criteria**

| Visual Inspection Criteria 1 | |
|---|---|
| Score | Tier Value |
| 45-55 | 4 |
| 34-44 | 3 |
| 23-33 | 2 |
| 12-22 | 1 |
| 0-11 | 0 |

| ULB Remaining Years Criteria 2 | |
|---|---|
| Years | Tier Value |
| 1-2 | 4 |
| 3-4 | 3 |
| 5-6 | 2 |
| 7 | 1 |
| 7> | 0 |

| Vehicle Miles Accrued Criteria 3 | |
|---|---|
| Miles | Tier Value |
| 0-50,000 | 4 |
| 50,001-100,000 | 3 |
| 100,001-150,000 | 2 |
| 150,001-200,000 | 1 |
| >200,001 | 0 |

**RTD 7-Yr/75,000 Mile Revenue Service Vehicle Condition Assessment Criteria**

| Visual Inspection Criteria 1 | |
|---|---|
| Score | Tier Value |
| 45-55 | 4 |
| 34-44 | 3 |
| 23-33 | 2 |
| 12-22 | 1 |
| 0-11 | 0 |

| ULB Remaining Years Criteria 2 | |
|---|---|
| Years | Tier Value |
| 1-2 | 4 |
| 3-4 | 3 |
| 5-6 | 2 |
| 7 | 1 |
| 7> | 0 |

| Vehicle Miles Accrued Criteria 3 | |
|---|---|
| Miles | Tier Value |
| 0-15,000 | 4 |
| 15,001-35,000 | 3 |
| 35,001-55,000 | 2 |
| 55,001-75,000 | 1 |
| >75,001 | 0 |

**RTD 5-Year Revenue Service Vehicle Condition Assessment Criteria**

| Visual Inspection Criteria 1 | |
|---|---|
| Score | Tier Value |
| 45-55 | 4 |
| 34-44 | 3 |
| 23-33 | 2 |
| 12-22 | 1 |
| 0-11 | 0 |

| ULB Remaining Years Criteria 2 | |
|---|---|
| Years | Tier Value |
| 1 | 4 |
| 2 | 3 |
| 3-4 | 2 |
| 5 | 1 |
| >5 | 0 |

| Vehicle Miles Accrued Criteria 3 | |
|---|---|
| Miles | Tier Value |
| 0-25,000 | 4 |
| 25,001-50,000 | 3 |
| 50,001-75,000 | 2 |
| 75,001-100,000 | 1 |
| >100,001 | 0 |

**RTD 10-Year Service Vehicle Condition Assessment Criteria**

| Visual Inspection Criteria 1 | |
|---|---|
| Score | Tier Value |
| 45-55 | 4 |
| 34-44 | 3 |
| 23-33 | 2 |
| 12-22 | 1 |
| 0-11 | 0 |

| ULB Remaining Years Criteria 2 | | |
|---|---|---|
| Years | Score | Weighted value |
| 1 | 10 | 4 |
| 2 | 9 | |
| 3 | 8 | |
| 4 | 7 | 3 |
| 5 | 6 | |
| 6 | 5 | |
| 7 | 4 | 2 |
| 8 | 3 | |
| 9 | 2 | |
| 10 | 1 | 1 |
| >10 | 0 | 0 |

| Vehicle Miles Accrued Criteria 3 | |
|---|---|
| Miles | Tier Value |
| 0-25,000 | 4 |
| 25,001-50,000 | 3 |
| 50,001-75,000 | 2 |
| 75,001-100,000 | 1 |
| >100,001 | 0 |

The tier values for each of the three assessment criteria were tabulated to arrive at a final base condition score for each vehicle as presented below.

**RTD 2018 Base Condition Assessment Vehicle Scoring**

| Base Condition Scoring | |
|---|---|
| Condition | Tier Value Score |
| Excellent | 11-13 |
| Good | 8-10 |
| Fair | 5-7 |
| Poor | 2-4 |
| Failing | 0-1 |

**RTD TERM Facilities Assessment Scoring**

| Condition | Rating | Description |
|---|---|---|
| Excellent | 5.0 to 4.8 | New asset; no visible defects. |
| Good | 4.7 to 4.0 | Asset showing minimal signs of wear; some slightly defective or deteriorated component(s). |
| Adequate | 3.9 to 3.0 | Asset has reached its mid-life (condition 3.5); some moderately defective or deteriorated component(s). |
| Marginal | 2.9 to 2.0 | Asset reaching or just past the end of its use life; increasing number of defective or deteriorated component(s) and increasing maintenance needs. |
| Poor | 1.9 to 1.0 | Asset is past its useful life and needs immediate repair or replacement may have critically damaged component(s). |

The score and ratings given to each component and subcomponent took into consideration general wear and tear, the age of the facility subcomponent/parts, and other important variables (i.e., associated components, ownership, warranty, etc.).

# Appendix G: Sample Facilities Condition Assessment

| | | | | | |
|---|---|---|---|---|---|
| | | | | | Date -as of 10/21 |
| **Organization** | **Address** | **County** | **Landlord/Lease** | **Sq. Ft. of Facility** | **Sq. Ft. Occupied** |
| San Joaquin RTD | 120 N. Filbert Street | San Joaquin | Owned | 68,600 | 68,600 |
| **Parking Lot** | | **Comments** | | | **Status** |
| Pavement Condition | | Good, but needs a seal coat to preserve | | | 3 |
| Adequate Number of Spaces | | | | | 4.5 |
| Handicapped Spaces/Signage | | 1 car 1 van | | | 4.5 |
| Other Signage | | Building and gates | | | 4 |
| Grating & Curbs | | None | | | 0 |
| Painted Stalls | | | | | 3 |
| Adequate Lighting | | | | | 4.5 |
| Walkway | | None | | | 0 |
| Security Controls | | Badge access at 3 doors | | | 4.5 |
| Controlled Access | | Entrance and Exit gate - | | | 4 |
| Cameras | | need replacement | | | 2 |
| Misc. Other | | Perimeter wrought iron fencing | | | 4.5 |
| **Rating Average** | | | | | **3.9** |
| **Landscaping** | | **Comments** | | | **Status** |
| Sidewalks & Curbs | | City Owned | | | 0 |
| **Rating Average** | | | | | **0** |
| **Exterior Façade** | | **Comments** | | | **Status** |
| Entrance, Walk &/or Stairs | | None | | | 0 |
| Handicap Entrance? | | Yes | | | 4.5 |
| Entrance Doors | | 1- Glass | | | 4 |
| Storefronts | | 1 - Automated dual sliding | | | 4 |
| Building Signage/Numerals | | yes | | | 4.5 |
| Painting | | | | | 4 |
| Brickwork | | None | | | 0 |
| Metal Condition | | Coping | | | 4 |
| Overhangs and Cornices | | None | | | 0 |
| Concrete tilt up | | | | | 4 |
| Windows | | 2 | | | 4 |
| Caulking | | | | | 4 |
| Frame and Wall Joints | | | | | 4 |
| Parapet Walls | | None | | | 0 |
| Loading Dock Doors | | None | | | 0 |
| Fire Service Connections | | None | | | 0 |
| Roll up doors for loading access | | 6 - 1 needs replacement 1 needs repair | | | 3.5 |
| **Rating Average** | | | | | **4.0** |

| Exterior Lighting | Comments | Status |
|---|---|---|
| Type of Exterior Lighting | wall Pack and projection | 4 |
| Sufficient Lighting | yes | 4 |
| Energy Efficient | no | 3.5 |
| Exterior Exit Signage | yes | 4 |
| Motion Sensors | no | 0 |
| Rating Average | | 3.9 |
| **Floor Finishes** | **Comments** | **Status** |
| Carpet - Tile | Offices | 4 |
| Bare Concrete - Balance of warehouse | | 3.5 |
| Rating Average | | 3.8 |
| **Interior Wall Finishes** | **Comments** | **Status** |
| Paint | | 3.5 |
| Rating Average | | 3.5 |
| **Interior Ceiling** | **Comments** | **Status** |
| Exposed to roof deck | | 3.5 |
| Some office - T-Bar | | 3.5 |
| Some offices - hard lid ceiling | | 4 |
| Rating Average | | 3.7 |
| **Windows** | **Comments** | **Status** |
| Two windows hard cased - | do not open Office and training room | 4 |
| Rating Average | | 4 |
| **Doors and Hardware** | **Comments** | **Status** |
| Solid core | | 3.5 |
| Solid Core with windows | | 3.5 |
| Rating Average | | 3.5 |
| **Interior Lighting** | **Comments** | **Status** |
| Ceiling hung T-8s and Sodium Vapor | | 3 |
| Emergency Lighting - battery | | 3.5 |
| Exit Lighting | | 3.5 |
| Rating Average | | 3.3 |
| **HVAC** | **Comments** | **Status** |
| Roof Tops in Offices | | 3.5 |
| Evaporative Coolers in warehouse | | 1.5 |
| Rating Average | | 2.5 |
| **Fire Protection** | **Comments** | **Status** |
| Sprinklers | | 4 |
| Rating Average | | 4 |
| **Security System** | **Comments** | **Status** |
| Monitored | | 4 |
| Card key access | | 4.5 |
| Rating Average | | 4.3 |
| **Restrooms/Plumbing** | **Comments** | **Status** |
| Floor mounted porcelain toilets | | 3 |
| Porcelain sinks in women's restroom | | 3 |
| stainless stee sinks in men's restroom | | 3 |
| Rating Average | | 3 |

| Kitchen/Break Areas | Comments | Status |
|---|---|---|
| Refrigerators | | 4 |
| Ice Maker | | 4 |
| Microwaves | | 4 |
| VCT Tile and rolled carpet | | 3 |
| Rating Average | | 3.8 |
| **Equipment Rooms - IT, Mechanical, Electrical** | **Comments** | **Status** |
| Secured Door | | 4 |
| UPS Unit | | 4 |
| Redundant AC | | 3 |
| Rating Average | | 3.7 |
| **Roof** | **Comments** | **Status** |
| Rolled composition | | 3 |
| Gutters | | 3 |
| Drains | | 3 |
| Rating Average | | 3 |

# Appendix H: Facilities Condition Assessment

## County Transportation Center

| CTC - BUILDING - Conditional Assessment | |
|---|---|
| Parking Lot | 3.9 |
| Landscaping | 0 |
| Exterior Façade | 4 |
| Exterior lighting | 3.9 |
| Floor Finishes | 3.8 |
| Interior Walls | 3.5 |
| Interior Ceilings | 3.7 |
| Windows | 4 |
| Doors & Hardware | 3.5 |
| Interior Lighting | 3.3 |
| HVAC | 2.5 |
| Fire Protection | 4 |
| Security Systems | 4.3 |
| Restrooms/Plumbing | 3 |
| Kitchen/Breakrooms | 3.8 |
| Free standing Equipment | 3.7 |
| Roof | 3 |
| Total Rating | 57.9 |
| *Number of components rated* | 16 |
| **Building Condition Assessment** | **3.6** |

| | |
|---|---|
| **TOTAL BASE FACILITY ASSESSMENT** | **3.3** |

## Downtown Transit Center

| DTC - BUILDING - Conditional Assessment | |
|---|---|
| Loading Platform | 4.2 |
| Landscape/Streetscape | 4.5 |
| Exterior Façade | 4.2 |
| Exterior Lighting | 4.5 |
| Lobby & Breezeway | 4.4 |
| Office Finishes | 4.0 |
| Windows | 4.5 |
| Doors & Hardware | 4.6 |
| Interior Lighting | 4.5 |
| HVAC | 4.2 |
| Fire Protection | 4.4 |
| Security System | 4.5 |
| Restroom/Plumbing | 4.2 |
| Kitchen/Break Area | 4.1 |
| Equipment Rooms - IT, Mechanical, Electrical | 4.4 |
| Wellness Room | 4.5 |
| Roof | 4.6 |
| Total Rating | 74.4 |
| *Number of components rated* | *17* |
| **Building Condition Assessment** | **4.4** |

| | |
|---|---|
| **TOTAL BASE FACILITY ASSESSMENT** | **4.1** |

## Hammer Transfer Station

| HTS - BUILDING - Conditional Assessment | |
|---|---|
| Parking Lot | 4.1 |
| Landscaping | 4 |
| Exterior Façade | 4 |
| Exterior lighting | 3.5 |
| Floor Finishes | 3 |
| Interior Walls | 4 |
| Interior Ceilings | 3 |
| Windows | 4 |
| Doors & Hardware | 4 |
| Interior Lighting | 3 |
| HVAC | 3.2 |
| Security Systems | 0 |
| Restrooms/Plumbing | 3.5 |
| Kitchen/Breakrooms | 3.3 |
| IT room | 3 |
| Total Rating | 49.6 |
| Number of components r*ated* | 14 |
| **Building Condition Assessment** | **3.5** |

| **TOTAL BASE FACILITY ASSESSMENT** | **3.6** |
|---|---|

## Regional Transportation Center

| RTC - EQUIPMENT - Conditional Assessment | |
|---|---|
| Coil Roll-up Door | 4.9 |
| Grille Roll-up Door | 4.9 |
| Section Roll-up Door | 4.9 |
| Pumps | 4.3 |
| Bus Wash Equipment | 4.5 |
| Freestanding Equipment | 4.5 |
| Loading Dock | 4.7 |
| Vacuum System | 4.2 |
| Particulate Filter Cleaner | 4.5 |
| Fire Suppression - Equipment | 4.9 |
| Lifts | 4.1 |
| Hoists & Cranes | 4.9 |
| Air Conditioners Heating & Cooling Season | 4.5 |
| Make Up Air Units - Begin Heating Season | 3 |
| Evaporative Coolers - Begin Cooling Season | 4.5 |
| Gas Infrared Heater - Begin Heating Season | 4.5 |
| Emergency Power | 4.5 |
| UPS (Battery cabinet and UPS cabinet) | 4.5 |
| Proterra Chargers | 4.2 |
| Total Rating | 121.7 |
| *Number of components rated* | *28* |
| **Equipment Conditional Assessment** | **4.3** |

| RTC- BUILDING - Conditional Assessment | |
|---|---|
| Substructure | 4.5 |
| Shell | 4.8 |
| Interiors | 4.7 |
| Conveyance | 4.9 |
| Plumbing | 4.9 |
| HVAC Ducting & Distribution | 4.4 |
| Fire Protection | 4.9 |
| Site | 4.9 |
| Total Rating | 38 |
| *Number of components rated* | *8* |
| **Building Condition Assessment** | **4.8** |

| **TOTAL BASE FACILITY ASSESSMENT** | **4.5** |
|---|---|

## Union Transfer Station

| UTS - BUILDING - Conditional Assessment | |
|---|---|
| Parking Lot | 4.9 |
| Landscaping | 4.9 |
| Exterior Facade | 4.9 |
| Exterior lighting & Security | 4.8 |
| Canopies Exterior | 5 |
| Floor Finishes | 4.9 |
| Interior Walls | 4 |
| Interior Ceilings | 5 |
| Doors & Hardware | 5 |
| Interior Lighting | 5 |
| HVAC | 5 |
| Fire Protection | 5 |
| Security Systems | 5 |
| Restrooms/Plumbing | 5 |
| Kitchen/Breakrooms | 4.7 |
| Free standing Equipment | 4.5 |
| Roof | 4.8 |
| Total Rating | 82.4 |
| Number of co*mponents rated* | 17 |
| **Building Condition Assessment** | **4.8** |

| **TOTAL BASE FACILITY ASSESSMENT** | **4.7** |
|---|---|

# Appendix I: 2022 Revenue Vehicle Condition Assessment

| RTD REVENUE VEHICLES - TAM 2022 CONDITION SCORING | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| FAID | BUS NUMBER | YEAR | MAKE/MODEL | Visual Inspection Score | Weighted Inspection Score | Vehicle Age | ULB Weighted Score | Vehicle Miles | Weighted Miles Score | Total Vehicle Score | Vehicle Condition |
| FA035699 | 1001 | 2010 | GILLIG/HYBRID ELECTRIC | 11 | 1 | 12 | 2 | 381,199 | 1 | 4 | Failing |
| FA035701 | 1003 | 2010 | GILLIG/HYBRID ELECTRIC | 11 | 1 | 12 | 2 | 271,937 | 2 | 5 | Fair |
| FA035702 | 1004 | 2010 | GILLIG/HYBRID ELECTRIC | 11 | 1 | 12 | 2 | 284,433 | 2 | 5 | Fair |
| FA035703 | 1005 | 2010 | GILLIG/HYBRID ELECTRIC | 11 | 1 | 12 | 2 | 283,889 | 2 | 5 | Fair |
| FA035705 | 1006 | 2010 | GILLIG/HYBRID ELECTRIC | 11 | 1 | 12 | 2 | 290,571 | 2 | 5 | Fair |
| FA036232 | 1007 | 2011 | GILLIG/HYBRID ELECTRIC | 11 | 1 | 11 | 2 | 515,670 | 0 | 3 | Failing |
| FA036231 | 1008 | 2011 | GILLIG/HYBRID ELECTRIC | 11 | 1 | 11 | 2 | 273,160 | 2 | 5 | Fair |
| FA035718 | 1401 | 2010 | GILLIG/HYBRID ELECTRIC | 11 | 1 | 12 | 2 | 236,776 | 3 | 6 | Fair |
| FA035720 | 1402 | 2010 | GILLIG/HYBRID ELECTRIC | 11 | 1 | 12 | 2 | 248,035 | 3 | 6 | Fair |
| FA020231 | 1601 | 2016 | STARCRAFT/TRANSIT 350 HD | 33 | 2 | 6 | 2 | 112,666 | 2 | 6 | Fair |
| FA020232 | 1602 | 2016 | STARCRAFT/TRANSIT 350 HD | 33 | 2 | 6 | 2 | 100,433 | 2 | 6 | Fair |
| FA020233 | 1603 | 2016 | STARCRAFT/TRANSIT 350 HD | 33 | 2 | 6 | 2 | 93,780 | 3 | 7 | Fair |
| FA020234 | 1604 | 2016 | STARCRAFT/TRANSIT 350 HD | 33 | 2 | 6 | 2 | 91,927 | 3 | 7 | Fair |
| FA020235 | 1605 | 2016 | STARCRAFT/TRANSIT 350 HD | 33 | 2 | 6 | 2 | 92,208 | 3 | 7 | Fair |
| FA020236 | 1606 | 2016 | STARCRAFT/TRANSIT 350 HD | 33 | 2 | 6 | 2 | 94,189 | 3 | 7 | Fair |
| FA018321 | 1701 | 2017 | Glaval Titan II | 33 | 2 | 5 | 2 | 68,807 | 3 | 7 | Fair |
| FA018324 | 1702 | 2017 | Glaval Titan II | 33 | 2 | 5 | 2 | 117,713 | 2 | 6 | Fair |
| FA018323 | 1703 | 2017 | Glaval Titan II | 33 | 2 | 5 | 2 | 53,638 | 3 | 7 | Fair |
| FA018320 | 1704 | 2017 | Glaval Titan II | 33 | 2 | 5 | 2 | 94,841 | 3 | 7 | Fair |
| FA018478 | 1705 | 2017 | Glaval Titan II | 33 | 2 | 5 | 2 | 99,483 | 3 | 7 | Fair |
| FA018327 | 1706 | 2017 | Glaval Titan II | 33 | 2 | 5 | 2 | 90,064 | 3 | 7 | Fair |
| FA018322 | 1707 | 2017 | Glaval Titan II | 33 | 2 | 5 | 2 | 68,537 | 3 | 7 | Fair |
| FA018328 | 1708 | 2017 | Glaval Titan II | 33 | 2 | 5 | 2 | 61,561 | 3 | 7 | Fair |
| FA018331 | 1709 | 2017 | Glaval Titan II | 33 | 2 | 5 | 2 | 82,220 | 3 | 7 | Fair |
| FA018325 | 1710 | 2017 | Glaval Titan II | 33 | 2 | 5 | 2 | 79,428 | 3 | 7 | Fair |
| FA018479 | 1711 | 2017 | Glaval Titan II | 33 | 2 | 5 | 2 | 88,752 | 3 | 7 | Fair |
| FA018480 | 1712 | 2017 | Glaval Titan II | 33 | 2 | 5 | 2 | 102,478 | 2 | 6 | Fair |
| FA018330 | 1713 | 2017 | Glaval Titan II | 33 | 2 | 5 | 2 | 106,325 | 2 | 6 | Fair |
| FA018326 | 1714 | 2017 | Glaval Titan II | 33 | 2 | 5 | 2 | 55,792 | 3 | 7 | Fair |
| FA018481 | 1715 | 2017 | Glaval Titan II | 33 | 2 | 5 | 2 | 110,325 | 2 | 6 | Fair |
| FA018329 | 1716 | 2017 | Glaval Titan II | 33 | 2 | 5 | 2 | 90,458 | 3 | 7 | Fair |
| FA018482 | 1717 | 2017 | Glaval Titan II | 33 | 2 | 5 | 2 | 111,526 | 2 | 6 | Fair |
| FA018332 | 1718 | 2017 | Glaval Titan II | 33 | 2 | 5 | 2 | 64,492 | 3 | 7 | Fair |
| FA018483 | 1719 | 2017 | Glaval Titan II | 33 | 2 | 5 | 2 | 110,297 | 2 | 6 | Fair |
| FA018484 | 1720 | 2017 | Glaval Titan II | 33 | 2 | 5 | 2 | 98,175 | 3 | 7 | Fair |
| FA018485 | 1721 | 2017 | Glaval Titan II | 33 | 2 | 5 | 2 | 113,332 | 2 | 6 | Fair |
| FA018486 | 1722 | 2017 | Glaval Titan II | 33 | 2 | 5 | 2 | 106,363 | 2 | 6 | Fair |
| FA019862 | 1901 | 2019 | Glaval Transit 3500 | 55 | 4 | 3 | 2 | 57,192 | 2 | 8 | Good |
| FA019863 | 1902 | 2019 | Glaval Transit 3500 | 55 | 4 | 3 | 2 | 144,488 | 0 | 6 | Fair |
| FA019864 | 1903 | 2019 | Glaval Transit 3500 | 55 | 4 | 3 | 2 | 89,345 | 1 | 7 | Fair |
| FA019865 | 1904 | 2019 | Glaval Transit 3500 | 55 | 4 | 3 | 2 | 88,175 | 1 | 7 | Fair |
| FA019866 | 1905 | 2019 | Glaval Transit 3500 | 55 | 4 | 3 | 2 | 81,522 | 1 | 7 | Fair |
| FA019867 | 1906 | 2019 | Glaval Transit 3500 | 55 | 4 | 3 | 2 | 75,334 | 1 | 7 | Fair |
| FA019868 | 1907 | 2019 | Glaval Transit 3500 | 55 | 4 | 3 | 2 | 88,911 | 1 | 7 | Fair |
| FA019869 | 1908 | 2019 | Glaval Transit 3500 | 55 | 4 | 3 | 2 | 55,502 | 2 | 8 | Good |
| FA020435 | 1909 | 2019 | Glaval Transit 3500 | 55 | 4 | 3 | 2 | 50,914 | 2 | 8 | Good |
| FA020436 | 1910 | 2019 | Glaval Transit 3500 | 55 | 4 | 3 | 2 | 63,753 | 2 | 8 | Good |
| FA020437 | 1911 | 2019 | Glaval Transit 3500 | 55 | 4 | 3 | 2 | 60,693 | 2 | 8 | Good |
| FA020438 | 1912 | 2019 | Glaval Transit 3500 | 55 | 4 | 3 | 2 | 48,143 | 3 | 9 | Good |
| FA020439 | 1913 | 2019 | Glaval Transit 3500 | 55 | 4 | 3 | 2 | 39,960 | 3 | 9 | Good |
| FA020440 | 1914 | 2019 | Glaval Transit 3500 | 55 | 4 | 3 | 2 | 43,992 | 3 | 9 | Good |
| FA008731 | 2046 | 2008 | MCI/D4500 | 22 | 2 | 17 | 0 | 365,791 | 2 | 4 | Poor |
| FA005818 | 6303 | 2006 | GILLIG/HYBRID ELECTRIC | 0 | 0 | 12 | 2 | 406,793 | 1 | 3 | Poor |
| FA006097 | 6306 | 2006 | GILLIG/HYBRID ELECTRIC | 0 | 0 | 12 | 2 | 398,785 | 1 | 3 | Poor |
| FA006098 | 6307 | 2006 | GILLIG/HYBRID ELECTRIC | 0 | 0 | 12 | 2 | 512,108 | 0 | 2 | Poor |
| FA006100 | 6309 | 2006 | GILLIG/HYBRID ELECTRIC | 11 | 1 | 12 | 2 | 331,915 | 2 | 5 | Fair |
| FA006101 | 6310 | 2006 | GILLIG/HYBRID ELECTRIC | 11 | 1 | 12 | 2 | 322,665 | 2 | 5 | Fair |
| FA005106 | 6401 | 2006 | GILLIG/HYBRID ELECTRIC | 21 | 2 | 12 | 2 | 408,022 | 1 | 5 | Fair |
| FA005101 | 6402 | 2006 | GILLIG/HYBRID ELECTRIC | 21 | 2 | 12 | 2 | 419,405 | 1 | 5 | Fair |
| FA005103 | 6403 | 2006 | GILLIG/HYBRID ELECTRIC | 19 | 2 | 12 | 2 | 378,006 | 1 | 5 | Fair |
| FA009028 | 9401 | 2009 | GILIG/LOW FLOOR HYBRID | 11 | 1 | 13 | 1 | 294,085 | 2 | 4 | Poor |
| FA009029 | 9402 | 2009 | GILIG/LOW FLOOR HYBRID | 11 | 1 | 13 | 1 | 315,247 | 2 | 4 | Poor |
| FA009030 | 9403 | 2009 | GILIG/LOW FLOOR HYBRID | 11 | 1 | 13 | 1 | 263,935 | 2 | 4 | Poor |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| FA012567 | 12001 | 2012 | GILLIG/HYBRID ELECTRIC | 22 | 2 | 10 | 2 | 241,400 | 3 | 7 | Fair |
| FA012568 | 12002 | 2012 | GILLIG/HYBRID ELECTRIC | 22 | 2 | 10 | 2 | 163,400 | 3 | 7 | Good |
| FA012569 | 12003 | 2012 | GILLIG/HYBRID ELECTRIC | 22 | 2 | 10 | 2 | 265,616 | 2 | 6 | Fair |
| FA012570 | 12004 | 2012 | GILLIG/HYBRID ELECTRIC | 22 | 2 | 10 | 2 | 239,145 | 3 | 7 | Fair |
| FA012571 | 12005 | 2012 | GILLIG/HYBRID ELECTRIC | 22 | 2 | 10 | 2 | 250,944 | 3 | 7 | Fair |
| FA012572 | 12006 | 2012 | GILLIG/HYBRID ELECTRIC | 22 | 2 | 10 | 2 | 252,447 | 2 | 6 | Fair |
| FA013146 | 13401 | 2013 | GILLIG/DIESL ELECTRIC | 22 | 2 | 9 | 2 | 178,625 | 3 | 7 | Fair |
| FA013147 | 13402 | 2013 | GILLIG/DIESL ELECTRIC | 22 | 2 | 9 | 2 | 365,894 | 2 | 6 | Fair |
| FA013148 | 13403 | 2013 | GILLIG/DIESL ELECTRIC | 22 | 2 | 9 | 2 | 166,810 | 3 | 7 | Fair |
| FA013149 | 13404 | 2013 | GILLIG/DIESL ELECTRIC | 22 | 2 | 9 | 2 | 183,348 | 3 | 7 | Fair |
| FA013150 | 13405 | 2013 | GILLIG/DIESL ELECTRIC | 22 | 2 | 9 | 2 | 187,456 | 3 | 7 | Fair |
| FA013151 | 13406 | 2013 | GILLIG/DIESL ELECTRIC | 22 | 2 | 9 | 2 | 172,125 | 3 | 7 | Fair |
| FA013152 | 13407 | 2013 | GILLIG/DIESL ELECTRIC | 22 | 2 | 9 | 2 | 170,413 | 3 | 7 | Fair |
| FA013153 | 13408 | 2013 | GILLIG/DIESL ELECTRIC | 22 | 2 | 9 | 2 | 183,424 | 3 | 7 | Fair |
| FA013154 | 13409 | 2013 | GILLIG/DIESL ELECTRIC | 22 | 2 | 9 | 2 | 175,701 | 3 | 7 | Fair |
| FA013155 | 13410 | 2013 | GILLIG/DIESL ELECTRIC | 22 | 2 | 9 | 2 | 175,622 | 3 | 7 | Fair |
| FA013156 | 13411 | 2013 | GILLIG/DIESL ELECTRIC | 22 | 2 | 9 | 2 | 191,163 | 3 | 7 | Fair |
| FA013157 | 13412 | 2013 | GILLIG/DIESL ELECTRIC | 22 | 2 | 9 | 2 | 184,296 | 3 | 7 | Fair |
| FA013158 | 13413 | 2013 | GILLIG/DIESL ELECTRIC | 22 | 2 | 9 | 2 | 175,617 | 3 | 7 | Fair |
| FA013159 | 13414 | 2013 | GILLIG/DIESL ELECTRIC | 22 | 2 | 9 | 2 | 176,450 | 3 | 7 | Fair |
| FA013160 | 13415 | 2013 | GILLIG/DIESL ELECTRIC | 22 | 2 | 9 | 2 | 183,257 | 3 | 7 | Fair |
| FA013161 | 13416 | 2013 | GILLIG/DIESL ELECTRIC | 22 | 2 | 9 | 2 | 143,143 | 3 | 7 | Fair |
| FA013162 | 13417 | 2013 | GILLIG/DIESL ELECTRIC | 22 | 2 | 9 | 2 | 183,541 | 3 | 7 | Fair |
| FA013163 | 13418 | 2013 | GILLIG/DIESL ELECTRIC | 22 | 2 | 9 | 2 | 182,291 | 3 | 7 | Fair |
| FA013164 | 13419 | 2013 | GILLIG/DIESL ELECTRIC | 22 | 2 | 9 | 2 | 172,676 | 3 | 7 | Fair |
| FA013165 | 13420 | 2013 | GILLIG/DIESL ELECTRIC | 22 | 2 | 9 | 2 | 181,460 | 3 | 7 | Fair |
| FA020099 | 13451 | 2013 | MCI/J4800 | 22 | 2 | 9 | 2 | 386,392 | 1 | 5 | Fair |
| FA019440 | 13452 | 2013 | MCI/J4801 | 22 | 2 | 9 | 2 | 50,472 | 4 | 8 | Good |
| FA013264 | 14601 | 2014 | NOVA/LFS-60 | 33 | 2 | 8 | 3 | 197,337 | 3 | 8 | Good |
| FA013265 | 14602 | 2014 | NOVA/LFS-60 | 33 | 2 | 8 | 3 | 199,850 | 3 | 8 | Good |
| FA013266 | 14603 | 2014 | NOVA/LFS-60 | 33 | 2 | 8 | 3 | 210,436 | 3 | 8 | Good |
| FA013267 | 14604 | 2014 | NOVA/LFS-60 | 33 | 2 | 8 | 3 | 214,733 | 3 | 8 | Good |
| FA013268 | 14605 | 2014 | NOVA/LFS-60 | 33 | 2 | 8 | 3 | 201,211 | 3 | 8 | Good |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| FA013269 | 14606 | 2014 | NOVA/LFS-60 | 33 | 2 | 8 | 3 | 187,096 | 3 | 8 | Good |
| FA017223 | 16401 | 2016 | PROTERRA/CATALYST | 33 | 2 | 6 | 3 | 57,916 | 4 | 9 | Good |
| FA017224 | 16402 | 2016 | PROTERRA/CATALYST | 33 | 2 | 6 | 3 | 48,098 | 4 | 9 | Good |
| FA017630 | 16403 | 2016 | PROTERRA/CATALYST | 33 | 2 | 6 | 3 | 49,037 | 4 | 9 | Good |
| FA017631 | 16404 | 2016 | PROTERRA/CATALYST | 33 | 2 | 6 | 3 | 76,381 | 4 | 9 | Good |
| FA013157 | 16405 | 2016 | PROTERRA/CATALYST | 33 | 2 | 6 | 3 | 93,302 | 4 | 9 | Good |
| FA013153 | 16406 | 2016 | PROTERRA/CATALYST | 33 | 2 | 6 | 3 | 77,293 | 4 | 9 | Good |
| FA017713 | 16407 | 2016 | PROTERRA/CATALYST | 33 | 2 | 6 | 3 | 68,778 | 4 | 9 | Good |
| FA017714 | 16408 | 2016 | PROTERRA/CATALYST | 33 | 2 | 6 | 3 | 70,920 | 4 | 9 | Good |
| FA017834 | 16409 | 2016 | PROTERRA/CATALYST | 33 | 2 | 6 | 3 | 78,009 | 4 | 9 | Good |
| FA013156 | 16410 | 2016 | PROTERRA/CATALYST | 33 | 2 | 6 | 3 | 67,536 | 4 | 9 | Good |
| FA019259 | 18401 | 2018 | PROTERA/CATALYST BE-40 | 44 | 3 | 4 | 4 | 78,444 | 4 | 11 | Excellent |
| FA019260 | 18402 | 2018 | PROTERA/CATALYST BE-40 | 44 | 3 | 4 | 4 | 67,543 | 4 | 11 | Excellent |
| FA019261 | 18403 | 2018 | PROTERA/CATALYST BE-40 | 44 | 3 | 4 | 4 | 50,182 | 4 | 11 | Excellent |
| FA019262 | 18404 | 2018 | PROTERA/CATALYST BE-40 | 44 | 3 | 4 | 4 | 42,351 | 4 | 11 | Excellent |
| FA019263 | 18405 | 2018 | PROTERA/CATALYST BE-40 | 44 | 3 | 4 | 4 | 70,970 | 4 | 11 | Excellent |
| FA019581 | 18406 | 2018 | GILLIG/DIESL ELECTRIC | 44 | 3 | 4 | 4 | 70,698 | 4 | 11 | Excellent |
| FA019582 | 18407 | 2018 | GILLIG/DIESL ELECTRIC | 44 | 3 | 4 | 4 | 94,257 | 4 | 11 | Excellent |
| FA019583 | 18408 | 2018 | GILLIG/DIESL ELECTRIC | 44 | 3 | 4 | 4 | 92,694 | 4 | 11 | Excellent |
| FA019584 | 18409 | 2018 | GILLIG/DIESL ELECTRIC | 44 | 3 | 4 | 4 | 126,622 | 3 | 10 | Good |
| FA019585 | 18410 | 2018 | GILLIG/DIESL ELECTRIC | 44 | 3 | 4 | 4 | 96,009 | 4 | 11 | Excellent |
| FA019586 | 18411 | 2018 | GILLIG/DIESL ELECTRIC | 44 | 3 | 4 | 4 | 81,881 | 4 | 11 | Excellent |
| FA019587 | 18412 | 2018 | GILLIG/DIESL ELECTRIC | 44 | 3 | 4 | 4 | 77,930 | 4 | 11 | Excellent |
| FA019588 | 18413 | 2018 | GILLIG/DIESL ELECTRIC | 44 | 3 | 4 | 4 | 122,333 | 3 | 10 | Good |
| FA019589 | 18414 | 2018 | GILLIG/DIESL ELECTRIC | 44 | 3 | 4 | 4 | 84,238 | 4 | 11 | Excellent |
| FA019590 | 18415 | 2018 | GILLIG/DIESL ELECTRIC | 44 | 3 | 4 | 4 | 108,651 | 3 | 10 | Good |
| FA019591 | 18416 | 2018 | GILLIG/DIESL ELECTRIC | 44 | 3 | 4 | 4 | 87,136 | 4 | 11 | Excellent |
| FA019592 | 18417 | 2018 | GILLIG/DIESL ELECTRIC | 44 | 3 | 4 | 4 | 63,294 | 4 | 11 | Excellent |
| FA021506 | 20261 | 2020 | Arboc Spirit of Mobility | 55 | 4 | 2 | 4 | 10,576 | 4 | 12 | Excellent |
| FA021507 | 20262 | 2020 | Arboc Spirit of Mobility | 55 | 4 | 2 | 4 | 14,554 | 4 | 12 | Excellent |
| FA021508 | 20263 | 2020 | Arboc Spirit of Mobility | 55 | 4 | 2 | 4 | 9,907 | 4 | 12 | Excellent |
| FA021509 | 20264 | 2020 | Arboc Spirit of Mobility | 55 | 4 | 2 | 4 | 13,133 | 4 | 12 | Excellent |
| FA021648 | 21451 | 2021 | MCI D45-CRT-LE | 55 | 4 | 1 | 4 | 27,212 | 4 | 12 | Excellent |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| FA013269 | 14606 | 2014 | NOVA/LFS-60 | 33 | 2 | 8 | 3 | 187,096 | 3 | 8 | Good |
| FA017223 | 16401 | 2016 | PROTERRA/CATALYST | 33 | 2 | 6 | 3 | 57,916 | 4 | 9 | Good |
| FA017224 | 16402 | 2016 | PROTERRA/CATALYST | 33 | 2 | 6 | 3 | 48,098 | 4 | 9 | Good |
| FA017630 | 16403 | 2016 | PROTERRA/CATALYST | 33 | 2 | 6 | 3 | 49,037 | 4 | 9 | Good |
| FA017631 | 16404 | 2016 | PROTERRA/CATALYST | 33 | 2 | 6 | 3 | 76,381 | 4 | 9 | Good |
| FA013157 | 16405 | 2016 | PROTERRA/CATALYST | 33 | 2 | 6 | 3 | 93,302 | 4 | 9 | Good |
| FA013153 | 16406 | 2016 | PROTERRA/CATALYST | 33 | 2 | 6 | 3 | 77,293 | 4 | 9 | Good |
| FA017713 | 16407 | 2016 | PROTERRA/CATALYST | 33 | 2 | 6 | 3 | 68,778 | 4 | 9 | Good |
| FA017714 | 16408 | 2016 | PROTERRA/CATALYST | 33 | 2 | 6 | 3 | 70,920 | 4 | 9 | Good |
| FA017834 | 16409 | 2016 | PROTERRA/CATALYST | 33 | 2 | 6 | 3 | 78,009 | 4 | 9 | Good |
| FA013156 | 16410 | 2016 | PROTERRA/CATALYST | 33 | 2 | 6 | 3 | 67,536 | 4 | 9 | Good |
| FA019259 | 18401 | 2018 | PROTERA/CATALYST BE-40 | 44 | 3 | 4 | 4 | 78,444 | 4 | 11 | Excellent |
| FA019260 | 18402 | 2018 | PROTERA/CATALYST BE-40 | 44 | 3 | 4 | 4 | 67,543 | 4 | 11 | Excellent |
| FA019261 | 18403 | 2018 | PROTERA/CATALYST BE-40 | 44 | 3 | 4 | 4 | 50,182 | 4 | 11 | Excellent |
| FA019262 | 18404 | 2018 | PROTERA/CATALYST BE-40 | 44 | 3 | 4 | 4 | 42,351 | 4 | 11 | Excellent |
| FA019263 | 18405 | 2018 | PROTERA/CATALYST BE-40 | 44 | 3 | 4 | 4 | 70,970 | 4 | 11 | Excellent |
| FA019581 | 18406 | 2018 | GILLIG/DIESL ELECTRIC | 44 | 3 | 4 | 4 | 70,698 | 4 | 11 | Excellent |
| FA019582 | 18407 | 2018 | GILLIG/DIESL ELECTRIC | 44 | 3 | 4 | 4 | 94,257 | 4 | 11 | Excellent |
| FA019583 | 18408 | 2018 | GILLIG/DIESL ELECTRIC | 44 | 3 | 4 | 4 | 92,694 | 4 | 11 | Excellent |
| FA019584 | 18409 | 2018 | GILLIG/DIESL ELECTRIC | 44 | 3 | 4 | 4 | 126,622 | 3 | 10 | Good |
| FA019585 | 18410 | 2018 | GILLIG/DIESL ELECTRIC | 44 | 3 | 4 | 4 | 96,009 | 4 | 11 | Excellent |
| FA019586 | 18411 | 2018 | GILLIG/DIESL ELECTRIC | 44 | 3 | 4 | 4 | 81,881 | 4 | 11 | Excellent |
| FA019587 | 18412 | 2018 | GILLIG/DIESL ELECTRIC | 44 | 3 | 4 | 4 | 77,930 | 4 | 11 | Excellent |
| FA019588 | 18413 | 2018 | GILLIG/DIESL ELECTRIC | 44 | 3 | 4 | 4 | 122,333 | 3 | 10 | Good |
| FA019589 | 18414 | 2018 | GILLIG/DIESL ELECTRIC | 44 | 3 | 4 | 4 | 84,238 | 4 | 11 | Excellent |
| FA019590 | 18415 | 2018 | GILLIG/DIESL ELECTRIC | 44 | 3 | 4 | 4 | 108,651 | 3 | 10 | Good |
| FA019591 | 18416 | 2018 | GILLIG/DIESL ELECTRIC | 44 | 3 | 4 | 4 | 87,136 | 4 | 11 | Excellent |
| FA019592 | 18417 | 2018 | GILLIG/DIESL ELECTRIC | 44 | 3 | 4 | 4 | 63,294 | 4 | 11 | Excellent |
| FA021506 | 20261 | 2020 | Arboc Spirit of Mobility | 55 | 4 | 2 | 4 | 10,576 | 4 | 12 | Excellent |
| FA021507 | 20262 | 2020 | Arboc Spirit of Mobility | 55 | 4 | 2 | 4 | 14,554 | 4 | 12 | Excellent |
| FA021508 | 20263 | 2020 | Arboc Spirit of Mobility | 55 | 4 | 2 | 4 | 9,907 | 4 | 12 | Excellent |
| FA021509 | 20264 | 2020 | Arboc Spirit of Mobility | 55 | 4 | 2 | 4 | 13,133 | 4 | 12 | Excellent |
| FA021648 | 21451 | 2021 | MCI D45-CRT-LE | 55 | 4 | 1 | 4 | 27,212 | 4 | 12 | Excellent |
| FA021649 | 21452 | 2021 | MCI D45-CRT-LE | 55 | 4 | 1 | 4 | 24,286 | 4 | 12 | Excellent |
| FA013135 | EV1 | 2012 | PROTERA/ECORIDE | 22 | 2 | 10 | 2 | 86,804 | 4 | 8 | Good |
| FA013134 | EV2 | 2012 | PROTERA/ECORIDE | 22 | 2 | 10 | 2 | 86,760 | 4 | 8 | Good |
| **Total Revenue Buses** | **132** | | | | | | | | | | |

# Appendix J: 2022 Service Vehicle Condition Assessment

| RTD SERVICE VEHICLES - TAM 2022 CONDITION SCORING | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| FAID | VEHICLE NUMBER | YEAR | MAKE/MODEL | Visual Inspection Score | Weighted Inspection Score | Vehicle Age | ULB Weighted Score | Vehicle Miles | Weighted Miles Score | Total Base Vehicle Score | Base Condition |
| FA000501 | M101 | 2003 | FORD F550 2003 | 11 | 0 | 19 | 0 | 44,819 | 3 | 3 | Poor |
| FA000606 | F104 | 2005 | FORD F350 TRUCK | 11 | 0 | 17 | 0 | 107,864 | 0 | 0 | Failing |
| FA005013 | A8 | 2006 | DODGE RAM TRUCK FLEET | 11 | 0 | 16 | 0 | 126,463 | 0 | 0 | Failing |
| FA015361 | 609 | 2006 | ELDORADO TYPE II | 11 | 0 | 16 | 0 | 106,876 | 0 | 0 | Failing |
| | F07101 | 2007 | Chrysler Sebring | 0 | 0 | 15 | 0 | 60,224 | 2 | 2 | Poor |
| FA015377A-C | F105 | 2008 | FORD F550 REG CAB | 11 | 1 | 14 | 0 | 55,069 | 2 | 3 | Poor |
| FA035775A | F106 | 2011 | FORD F350 TRUCK | 11 | 0 | 11 | 0 | 46,126 | 3 | 3 | Poor |
| FA013169 | F13103 | 2013 | FORD F150 | 22 | 1 | 9 | 2 | 97,001 | 1 | 4 | Poor |
| FA013168 | F13104 | 2013 | FORD F150 | 22 | 1 | 9 | 2 | 81,581 | 1 | 4 | Poor |
| FA013170 | F13105 | 2013 | FORD TRANSIT CONNECT | 22 | 1 | 9 | 2 | 55,972 | 2 | 5 | Fair |
| FA013171 | F13101 | 2014 | FORD F250 | 22 | 1 | 8 | 2 | 32,814 | 3 | 6 | Fair |
| FA013172 | F13102 | 2014 | FORD F250 | 22 | 1 | 8 | 2 | 33,126 | 3 | 6 | Fair |
| FA012955 | T-14101 | 2014 | FORD C-MAX | 22 | 1 | 8 | 2 | 88,185 | 1 | 4 | Fair |
| FA013354 | T-14102 | 2014 | HYBRID NISSAN PATHFINDER | 22 | 3 | 4 | 2 | 25,708 | 3 | 8 | Good |
| FA012956 | T-14103 | 2014 | FORD C-MAX | 22 | 1 | 8 | 2 | 47,352 | 1 | 4 | Poor |
| FA012954 | T-14104 | 2014 | FORD C-MAX | 22 | 1 | 8 | 2 | 87,198 | 1 | 4 | Poor |
| FA012957 | A14101 | 2014 | FORD C-MAX | 22 | 1 | 8 | 2 | 109,534 | 0 | 3 | Poor |
| FA012958 | A14103 | 2014 | FORD C-MAX | 22 | 1 | 8 | 2 | 30,564 | 3 | 6 | Fair |
| FA012959 | A14104 | 2014 | FORD C-MAX | 22 | 1 | 8 | 2 | 45,744 | 3 | 6 | Fair |
| FA012960 | A14105 | 2014 | FORD C-MAX | 22 | 1 | 8 | 2 | 28,226 | 3 | 6 | Fair |
| FA013353 | M14102 | 2014 | HYBRID NISSAN PATHFINDER | 22 | 1 | 8 | 2 | 48,629 | 3 | 6 | Fair |
| FA013355 | A1401 | 2014 | HYBRID NISSAN PATHFINDER | 22 | 1 | 8 | 2 | 50,970 | 2 | 5 | Fair |
| FA017704 | A17101 | 2017 | DODGE CARAVAN | 44 | 3 | 5 | 3 | 16,277 | 4 | 10 | Good |
| FA017638 | T17101 | 2017 | Ford T350 LR WAGON | 44 | 3 | 5 | 3 | 16,560 | 4 | 10 | Good |
| FA017884 | T17102 | 2017 | FORD FOCUS | 44 | 3 | 5 | 3 | 43,362 | 3 | 9 | Good |
| FA017883 | A17103 | 2017 | FORD FOCUS | 44 | 3 | 5 | 3 | 46,562 | 3 | 9 | Good |
| FA017760 | A17203 | 2017 | FORD ESCAPE SE 4WD SUV | 44 | 3 | 5 | 3 | 27,223 | 3 | 9 | Good |
| FA017818 | A17102 | 2017 | FORD ESCAPE SE 4WD | 44 | 3 | 5 | 3 | 97,616 | 1 | 7 | Good |
| FA017819 | A17104 | 2017 | FORD FOCUS | 44 | 3 | 5 | 3 | 10,815 | 4 | 10 | Good |
| FA017820 | T17201 | 2017 | FORD FOCUS | 44 | 3 | 5 | 3 | 53,552 | 2 | 8 | Good |
| FA017821 | F17101 | 2017 | FORD FOCUS | 55 | 4 | 1 | 4 | 2,077 | 4 | 12 | Excellent |
| FA017882 | T17202 | 2017 | FORD FOCUS | 44 | 3 | 5 | 3 | 49,724 | 3 | 9 | Good |
| FA021528 | A2105 | 2021 | FORD CARGO VAN | 55 | 5 | 1 | 4 | 1,020 | 4 | 13 | Excellent |
| FA021529 | F2101 | 2021 | FORD CARGO VAN | 55 | 5 | 1 | 4 | 867 | 4 | 13 | Excellent |
| FA021530 | M2102 | 2021 | FORD CARGO VAN | 55 | 5 | 1 | 4 | 5,774 | 4 | 13 | Excellent |
| FA021531 | M2103 | 2021 | FORD CARGO VAN | 55 | 5 | 1 | 4 | 2,527 | 4 | 13 | Excellent |
| FA021532 | M2104 | 2021 | FORD CARGO VAN | 55 | 5 | 1 | 4 | 1,968 | 4 | 13 | Excellent |
| | A2201 | 2022 | FORD EXPLORER | | | 0 | | | | | Excellent |
| Total Service Vehicles 37 | | | | | | | | | | | |

# Appendix K: Five-Year Capital/Operations Project List

**San Joaquin Regional Transit District (RTD) Cap/Ops Project List for the SJCOG 2022 RTP-SCS Constrained Project List**

7/29/22

| Project Information | Project Description | Project Limits (Enter Location) | ANNUAL COST FY23 | FY24 | FY25 | FY26 | FY27 | Total Cost to Deliver | Estimated Completion Date |
|---|---|---|---|---|---|---|---|---|---|
| Bus Electrification/Power Distribution | Renewable energy solutions for facility and fleet energy consumption. | San Joaquin County | $ 3,375,000.00 | $ 1,500,000.00 | $ 1,500,000.00 | $ 1,500,000.00 | | $ 7,875,000.00 | 10/30/22 |
| | Charging infrastructure will be needed if RTD replaces commuter bus with zero-emission electric bus. Depending on the bus purchase the following is an estimated infrastructure cost: Hydrogen: $750K to 1M for on-site tank dispenser (1-5 buses) ; Hydrogen: $1.5M to 2M for Full service station (5-30 buses); Electric: $1M to 1.5M for Depot charger/Induction Charger 5 FCEB pilot at $1.5 Million per Bus. | San Joaquin County | $ 7,500,000.00 | | | | | $ 7,500,000.00 | TBD |
| | Hydrogen and Lease of the Trailer (5 Years @ $350K per Year) | San Joaquin County | $ 350,000.00 | $ 350,000.00 | $ 350,000.00 | $ 350,000.00 | $ 350,000.00 | $ 1,750,000.00 | 6/30/23 |
| | Battery Energy Storage Systems | San Joaquin County | | $ 1,936,000.00 | $ 2,032,800.00 | $ 2,134,440.00 | $ 2,241,162.00 | $ 8,344,402.00 | TBD |
| Total | Bus Electrification/Power Distribution | | $ 11,225,000.00 | $ 3,786,000.00 | $ 3,882,800.00 | $ 3,984,440.00 | $ 2,591,162.00 | $ 25,469,402.00 | |
| | Replace fourteen (14) GILLIG diesel-electric hybrid buses with zero-emission - electric buses in BRT fleet. | Stockton Metropolitan Area | $ 11,200,000.00 | $ 8,400,000.00 | | | | $ 19,600,000.00 | TBD |
| | Replace (2) Protera - EcoRide BE-35 (SMA) | San Joaquin County | | | $ 2,800,000.00 | | | $ 2,800,000.00 | TBD |
| | Replace (2) MCI 34500 (Commuter) | San Joaquin County to Bay Area | | | $ 2,800,000.00 | | | $ 2,800,000.00 | TBD |
| | Replace (6) Nova Hybrid LF Articulated (SMA) | San Joaquin County | | | | $ 9,600,000.00 | | $ 9,600,000.00 | TBD |
| | Replace (6) Starcraft/Ford Transit 350 HD (VanGo) | San Joaquin County | | $ 1,650,000.00 | | | | $ 1,650,000.00 | TBD |
| | Replace (22) Glaval Titan II LF (Hopper) | San Joaquin County | | | $ 6,050,000.00 | | | $ 6,050,000.00 | TBD |
| | Replace (14) Glaval/Ford Transit 350 HD (VanGo) | San Joaquin County | | $ 3,850,000.00 | | | | $ 3,850,000.00 | TBD |
| | Replace (6) ADA Cut-away gasoline (Replaces Item 9) | San Joaquin County | | | | $ 1,650,000.00 | | $ 1,650,000.00 | TBD |
| | Replace 12 cutaway Buses used by United Cebral Palsy to transport individuals who would otherwise use SMA Paratransit. | San Joaquin County | $ 310,000.00 | $ 620,000.00 | $ 620,000.00 | $ 310,000.00 | | $ 1,860,000.00 | 6/30/27 |
| | Provide infrastructure to accommodate future replacement of cutaway buses. | San Joaquin County | $866,000 | $ 268,000.00 | $ 294,800.00 | $ 147,400.00 | | $ 1,576,200.00 | 6/30/27 |
| | Bus component rebuild and parts. | San Joaquin County | $ 250,000.00 | $ 262,500.00 | $ 275,625.00 | $ 289,406.25 | $ 303,876.56 | $ 1,381,407.81 | FY23-27 |
| | Hybrid Electric Buses (5 new/additional buses). | San Joaquin County | $ 2,750,000.00 | | | | | $ 2,750,000.00 | TBD |
| Total | Bus Rolling Stock - Buy/Replacement/Rehab/Rebuild | | $ 15,376,000.00 | $ 15,050,500.00 | $ 12,840,425.00 | $ 11,996,806.25 | $ 303,876.56 | $ 55,567,607.81 | |
| Safety & Security | To upgrade surveillance/security camera system at RTD's facilities and bus stations/stops; to purchase assessment service, management tool, software and equipment to improve RTD's cyber security. | San Joaquin County | $ 157,500.00 | $ 112,000.00 | $ 150,000.00 | $ 495,000.00 | $ 150,000.00 | $ 1,064,500.00 | 6/30/20258 |
| | Purchase and/or replace disinfecting chemical vehicle foggers and other misc. safety-related equipment. | San Joaquin County | $ 50,000.00 | $ 50,000.00 | $ 50,000.00 | $ 50,000.00 | $ 50,000.00 | $ 250,000.00 | FY23-27 |
| | Security Guard Radios | | $ 18,000.00 | | | | | $ 18,000.00 | FY23 |
| | Pedestrian Collision and Avoidance Detection System and other safety/security related project with 5% annual increase | San Joaquin County | $ 919,767.00 | $ 965,755.35 | $ 1,014,043.12 | $ 1,064,745.27 | $ 1,117,982.54 | $ 5,082,293.28 | FY23-27 |
| Total | Safety & Security | | $ 1,145,267.00 | $ 1,127,755.35 | $ 1,214,043.12 | $ 1,609,745.27 | $ 1,317,982.54 | $ 6,414,793.28 | |
| Communication System, Fare Collection (Mobile), Computer Software & Hardware, and Misc. Equipment | Bus Video Standardization System. | San Joaquin County | $ 3,474,702.00 | $ 1,025,702.00 | | | | $ 4,500,404.00 | 6/30/24 |
| | ERP System. Scoping consulting to provide suggestions/planning on new ERP that will provide Integrated Financial and administrative solution (Financial, Budget, HR & Employee Online, Grants management, Procurement & Contracts Management, Inventory, & Retirement database.) | San Joaquin County | $ 100,000.00 | | | | | $ 100,000.00 | 6/30/23 |
| | To purchase and install support equipment for bus and facilities. This includes computers and software, ERP, procurement and HR management systems and other misc. equipment. | San Joaquin County | $ 320,000.00 | $ 1,815,000.00 | $ 2,000,000.00 | $ 1,000,000.00 | | $ 5,135,000.00 | 6/30/27 |
| | Computer, printer, scanner, camera, video, smartphone, office furniture, Transit Vehicle Public Display Monitor System, non-revenue vehicle GPS and other misc. items. 5% annual increase | San Joaquin County | $ 844,012.00 | $ 886,212.60 | $ 930,523.23 | $ 977,049.39 | $ 1,025,901.86 | $ 4,663,699.08 | TBD |
| | Transit Vehicle Public Display Monitor System Project | San Joaquin County | | $ 750,000.00 | | | | $ 750,000.00 | FY24 |
| Total | Communication System, Fare Collection (Mobile), Computer Software & Hardware, and Misc. Equipment | | $ 4,738,714.00 | $ 4,476,914.60 | $ 2,930,523.23 | $ 1,977,049.39 | $ 1,025,901.86 | $ 15,149,103.08 | |
| | Transit Asset Management System Update | San Joaquin County | $ 28,000.00 | | | | | $ 28,000.00 | TBD |
| | Hydrogen Fuel Cell Electric Bus training. | San Joaquin County | $ 269,000.00 | | | | | $ 269,000.00 | TBD |
| | Service Equity Analysis of the future changes including service restoration and expansions for Fixed Route in the Stockton Metropolitan Area and Intercity Service | San Joaquin County | $ 75,000.00 | | | | | $ 75,000.00 | TBD |
| | RTD's Title VI Program Update as required by FTA every four years | San Joaquin County | $ 100,000.00 | | | | | $ 100,000.00 | TBD |
| Total | Planning/Study/Training, Outreach and Research Projects | | $ 472,000.00 | $ - | $ - | $ - | $ - | $ 472,000.00 | |
| Operating Costs | Costs associated with Bus Rapid Transit (BRT), Stockton Metropolitan Area (SMA), Intercity and County Hopper, Interregional Commuter, Dial-A-Ride, Van GO!, Operations | Stockton Metropolitan Area, San Joaquin County, San Joaquin County to Bay Area | $ 48,691,252.00 | $ 50,051,436.00 | $ 51,628,482.00 | $ 53,415,758.00 | $ 55,068,472.00 | $ 258,855,400.00 | FY23-27 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Total** | **Operating Costs** | | **$ 48,691,252.00** | **$ 50,051,436.00** | **$ 51,628,482.00** | **$ 53,415,758.00** | **$ 55,068,472.00** | **$ 258,855,400.00** | |
| **Facilities Improvement and Upgrade** | Bus Stations/Stops/Terminals: Costs associated with upgrade and improvement at RTD's bus stations and stops, including bus passenger information signage, bus shelter solar lights, HVAC replacement, roof/window replacement, trash cans and benches, and other miscellaneous upgrade and improvement. | San Joaquin County | $ 301,368.00 | $ 316,436.40 | $ 332,258.22 | $ 348,871.13 | $ 366,314.69 | $ 1,665,248.44 | FY23-27 |
| | Install new benches, shelters, and other amenities in alignment to service restoration and expansions for Fixed Route in the Stockton Metropolitan Area and Intercity Service | San Joaquin County | $ 350,000.00 | $ 350,000.00 | $ 350,000.00 | $ 350,000.00 | $ 350,000.00 | $ 1,750,000.00 | TBD |
| | Costs associated with capital improvement and upgrade at RTD's Admin and Maintenance facilities. This includes the upgrades in electrical gear switch, fire alarm and LED lighting systems at RTC; storm drain emergency shutoff valve construction at RTC; maintenance shop retrofit and floor repair at RTC; HVAC units replacement at DTC and wrought fence construction at CTC, pavement re-seal at CTC, RTC Floor repair and other refurbishment improvement. | San Joaquin County | $ 2,000,000.00 | | | | | $ 2,000,000.00 | FY23 |
| | Projection for the next 5 year rehabilitation/renovation at RTD's Admin and Maintenance facilities (CTC, DTC, Hammer Transit Station [HTS] and RTC). This includes capital improvements/remodel to extend useful life of CTC and HTS buildings; installation of generator at DTC to power building during emergency; replacement of portable bus lifts and lube pumps at RTC; replacement of building exhaust fans and gas heaters and furniture. | San Joaquin County | $ 3,408,905.00 | $ 3,408,905.00 | $ 3,408,905.00 | $ 3,408,905.00 | $ 3,408,905.00 | $ 17,044,525.00 | FY23-27 |
| **Total** | **Facilities Improvement and Upgrade** | | **$ 6,060,273.00** | **$ 4,075,341.40** | **$ 4,091,163.22** | **$ 4,107,776.13** | **$ 4,125,219.69** | **$ 22,459,773.44** | |
| **Support Vehicles - Acquisition/Rehab/Renovation** | To purchase, refurb and rehab support vehicles for RTD's Admin/Maintenance. Approximately 12- non-revenue vehicles to replace in the next 5 years, with an average cost of $75K per vehicle. | San Joaquin County | $ 300,000.00 | $ 300,000.00 | $ 300,000.00 | $ 300,000.00 | $ 300,000.00 | $ 1,500,000.00 | FY23-27 |
| **Total** | **Support Vehicles - Acquisition/Rehab/Renovation** | | **$ 300,000.00** | | | | | **$1,500,000.00** | |
| **GRAND TOTAL** | | | **$88,008,506.00** | **$78,567,947.35** | **$76,587,436.57** | **$77,091,575.05** | **$64,432,614.65** | **$ 385,888,079.61** | |
| | | | | | | | | **$ (1,200,000)** | |

# Vehicle Maintenance Plan

August 2022
San Joaquin Regional Transit District

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| Document Management Information | |
|---|---|
| Document Author: | **Maintenance Superintendent** |
| Area of application: | All RTD Vehicles |
| Document location: | RTD SharePoint/Plans and Reports |
| Original issue date: | 11/29/2004 |

**Revisions**

| Rev. No. | Date | Description |
|---|---|---|
| 001 | 7/1/16 | Update and document format conversion |
| 002 | 8/24/18 | Vehicle and Transit Asset Management (TAM) update |
| 003 | 8/31/20 | Update and document format conversion |
| 004 | 8/11/22 | Update and document format conversion |

| Recurring Action Items | Responsibility | Frequency |
|---|---|---|
| 1. Review of FTA requirements and the contents of this plan. Update this plan as needed. | Operations Superintendent | As Needed |

**Approval Signature**

08/17/2022

Chief Operations Officer (COO) — Date

# Vehicle Maintenance Plan – August 2022
# San Joaquin Regional Transit District

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## Introduction

San Joaquin Regional Transit District (RTD), as a Federal Transit Administration (FTA) grantee, has acquired a number of vehicles that it administers, operates, and maintains for transit services. Providing adequate maintenance for these vehicles is an ongoing process with a substantial cost. RTD relies on FTA, State and Local funding to perform these duties; as a result, this Vehicle Maintenance Plan was developed to comply with FTA requirements for continued support. In addition, the Vehicle Maintenance Plan helps staff to meet RTD's Strategic Goals.

## Purpose

This plan establishes the vehicle maintenance program implemented by staff to ensure that RTD vehicle assets remain in a state of good repair and reach their optimal life expectancy. The plan describes the Maintenance Department's responsibilities to perform preventive maintenance and non-routine repair services on all RTD vehicles. It also provides descriptions of responsible parties, definitions of maintenance categories, procedures, as well as record-keeping necessary to keep RTD vehicles and systems in good working order. In addition, this plan specifically describes the "system of periodic inspections and preventive maintenance to be performed at certain defined intervals" as required by FTA C 5010.1E and is in keeping with RTD's Transit Asset Management (TAM) efforts and TAM Plan as required by FTA 49 CFR parts 625 and 630.

## Responsibility

RTD Maintenance Department staff members are responsible for all vehicle maintenance, inspections, and repairs. It is staffed with the following positions:

- **Chief Operations Officer** is responsible for the overall operations of the Division.
- **Operations Superintendent—Maintenance** is responsible for day-to-day operations of the Maintenance department and is responsible for all documentation relating to the vehicles and equipment, including warranty claims and inspection tracking.
- **Maintenance Supervisor** is responsible for assigning duties and oversight of mechanics, utility workers, and contractors within their assigned shift.
- **Shift Leader - Mechanic** is responsible for the assigned duties from the shift supervisor. In addition, is responsible for the completion of all work performed under their direct supervison.
- **Mechanic** is responsible for the assigned duties from the shift supervisor or shift lead. These duties are related to the maintenance of RTD vehicles. These positions include Mechanic A, Mechanic B, Mechanic C, Electronics Tech A, and Electronics Tech C.
- **Utility Workers** are responsible for the assigned duties from the shift supervisor or shift lead. These duties are related to the daily servicing, cleaning and detailing of RTD-owned vehicles and equipment.

## Definitions

**Daily Servicing**: As each bus returns from service, utility workers will perform the following daily service requirements:

- Fueling and/or Battery Electric Bus charging
- checking and servicing engine oil, transmission fluid, and coolant
- cleaning bus interior; cleaning exterior of bus by driving through full bus wash system
- parking bus in the assigned parking stall for the next day's service
- and reporting any discrepancies found during the cleaning process to the Maintenance Supervisor

**Unscheduled Maintenance**: These services are of a non-preventive nature and usually denote a situation that requires an unexpected and unscheduled repair (e.g., wheelchair lift not working, engine or transmission diagnostic code, farebox not working, etc.).

**Scheduled Preventive Maintenance**: The service schedules are predetermined by the Maintenance Department based on the maintenance needs of the equipment, mileage, and as recommended by the equipment manufacturer(s).

**Contracted Maintenance**: Maintenance (scheduled or unscheduled) performed by contractors or vendors on revenue and non-revenue vehicles or equipment, according to the RTD Vehicle Maintenance Plan, policies and procedures.

**Preventive Maintenance Inspection (PMIs)**: A part of scheduled maintenance, preventive maintenance inspections aim to minimize road calls between inspections. Maintenance service may include (but is not limited to)

- engine oil and filter change
- transmission oil and filter change
- differential oil change
- air conditioning system inspection and or service
- wheelchair lift/ramp inspection and or service
- chassis and body lubrication,
- bumper to bumper safety inspection
- exhaust system back pressure test and recording, exhaust opacity test and recording (a Clean Air requirement)
- inspection of all electrical equipment (including video cameras, farebox, destination signs, and radios), and the inspection of wearable items and or systems
- road test to verify the serviceability of the bus

**State of Good Repair (SGR)**

The FTA, as part of its Transit Asset Management initiative, defines the state of good repair as "the condition in which a capital asset is able to operate at a full level of performance."

**Transit Asset Management (TAM)**

Per FTA 49 U.S.C. 5326(a)(3), "Transit asset management is a strategic and systematic process of operating , maintaining, and improving public transportation capital assets effectively through the life cycle of such assets."

**Contingency Fleet**: Buses that are inactive because they have reached the end of their minimum useful service life or due to the reduction of operational service requirements. They are placed in an inactive contingency fleet in preparation for emergencies. They may also be used for potential service expansion, fuel shortages, natural disasters or loaned to another transit agency for emergency-response evacuation.

**Hexagon Enterprise Asset Management System (EAM)**
The electronic maintenance management system used by RTD to automate work orders, workflows, scheduling, manage materials, data analysis, maintenance reliability, and asset investment planning.

## Procedures

In order to ensure that RTD's vehicle assets remain in a state of good repair and reach their optimal life expectancy, both scheduled and unscheduled maintenance is necessary. The goal of a well-run preventive maintenance program is to have limited "in service" failures (e.g., road calls, bus exchanges, and field repairs) between preventive maintenance inspections. Both scheduled and unscheduled maintenance aim to extend the life of the vehicle and increase the miles between "in service" failures by reviewing the condition of the equipment and modifying the process to reflect the most efficient and effective maintenance possible. The mileage goal of this maintenance program is 10,000 miles between road calls. In order to increase the mileage between road calls, RTD aims to use better analytics and diagnostic procedures, increased technical training and enhanced inspection procedures.

1. **Scheduled Preventive Maintenance:** A well-defined and prudently managed preventive maintenance program is the cornerstone of every successful fleet operation. Through our scheduled preventive maintenance program, RTD vehicles are serviced and maintained by maintenance staff or contracted vendors in accordance with the preventive maintenance inspection checklist. Regular maintenance is performed to ensure that all RTD assets are in optimal operating condition.

    a. **Inspections** represent a key component of maintenance. These inspections routinely evaluate the condition of RTD assets. Deficiencies found during the inspections are corrected immediately or scheduled for repair based on the nature of the task being performed.

    Employees perform those tasks that are within RTD's resources and its personnel's scope of training. All other scheduled preventive maintenance is contracted with professionals who specialize in that specific area of expertise, such as our non-revenue vehicles. These vehicles require specialized training and equipment from the manufacturer of the vehicles.

    i. **Preventive Maintenance Inspections (PMIs):** The total number of preventive maintenance inspections (PMIs) needed to support each of RTD's revenue fleets were determined by the following: The number of annual miles each sub-fleet traveled divided by the PM interval miles for that sub-fleet .

$$\frac{\text{Number of annual miles each sub fleet traveled}}{\text{PMI interval miles for each sub-fleet}} = \text{PMI needed to support each of RTD's revenue fleets}$$

The Maintenance Department must budget work hours for the number of PMIs determined by this equation.

The mileage indicator (shown below), and the factors of an extreme environmental operating condition, can affect our Preventive Maintenance due dates.

| Service | Annual Mileage | PM Interval | Needed PMIs |
|---|---|---|---|
| BRT | 824,068 | 6,000 | 138 |
| Commuter | 683,012 | 6,000 | 112 |
| County Hopper | 648,840 | 5,000 | 130 |
| Metro Hopper | 289,766 | 5,000 | 58 |
| Mobility on Demand | 249,887 | 5,000 | 50 |
| SMA | 682,100 | 6,000 | 114 |
| UCP | 74,504 | 5,000 | 15 |

**All Contingency Fleet** vehicles will be scheduled for a PMI based on the Contingency Fleet Procedure located on the RTD Sharepoint under the Maintenance Department's Procedures folder.

Buses in the contingency fleet are subject to a 6,000 mile or 90 calendar days preventive maintenance schedule for the vehicles. Periodic vehicle "start-ups" will occur between normal preventive maintenance inspections so that the fleet remains ready for service at all times. RTD will maintain all records associated with these buses. At a minimum, the contingency fleet will have a visual inspection and start up at every 45 days with a full PMI at 90 days.

**Fleets Requiring Special Attention**: Fleets within these services (e.g., Inter-regional service (IRS), Stockton Metropolitan Area (SMA), Inter-city (IC), Dial-A-Ride (DAR) may need special attention at earlier intervals: Vehicles with engines equipped with a particulate filter after-treatment device, or oil sample analysis indicating a need for an earlier engine or transmission inspection intervals.

The following is a list of the fleets, the services, and the PMI intervals scheduled based upon manufacturers' recommendation:

| Revenue Vehicles | | |
|---|---|---|
| **Vehicle Type** | **Service** | **PMI Interval** |
| 2006 GILLIG LOW FLOOR | SMA/IC | 6,000 mile |
| 2006 ELDORADO AEROTECH Coach | UCP | 5,000 mile |
| 2008 MCI COACH | IRS | 6,000 mile |
| 2009 GILLIG LOW FLOOR | SMA | 6,000 mile |
| 2010 GILLIG LOW FLOOR | SMA | 6,000 mile |
| 2011 GILLIG LOW FLOOR | SMA | 6,000 mile |
| 2012 GILLIG LOW FLOOR | SMA | 6,000 mile |
| 2012 PROTERRA LOW FLOOR | SMA | 6,000 mile |
| 2013 GILLIG LOW FLOOR | SMA | 6,000 mile |
| 2013 MCI COACH | IRS | 6,000 mile |
| 2014 NOVA ARTICULATED | SMA | 6,000 mile |
| 2016 PROTERRA LOW FLOOR | SMA/BRT | 6,000 mile |
| 2016 STARCRAFT STARLITE | VAN GO! | 5,000 mile |
| 2017 GLAVAL TITAN II LF | HOPPER | 5,000 mile |
| 2018 PROTERRA LOW FLOOR | BRT | 6,000 mile |
| 2018 GILLIG LOW FLOOR | IRS | 6,000 mile |
| 2019 GLAVAL COMMUTE T-350 HD | VAN GO! | 5,000 mile |
| 2021 ARBOC FREEDOM LF | HOPPER | 5,000 mile |
| 2021 MCI COACH | IRS | 6,000 mile |
| 2022 GILLIG ELECTRIC LOW FLOOR | SMA | 6,000 mile |

| Non-Revenue Vehicles | |
|---|---|
| **Vehicle Type** | **PMI Interval** |
| 2003 FORD F-550 | 5,000 mile |
| 2005 FORD F-350 | 5,000 mile |
| 2006 DODGE RAM 1500 | 5,000 mile |
| 2007 CHRYSLER SEBRING | 5,000 mile |
| 2008 FORD F-550 | 5,000 mile |
| 2011 FORD F-350 | 5,000 mile |
| 2013 FORD TRANSIT | 5,000 mile |
| 2014 FORD C-MAX | 5,000 mile |
| 2014 NISSAN PATHFINDER | 5,000 mile |
| 2017 FORD FOCUS | 5,000 mile |
| 2017 FORD T350 TRANSIT | 5,000 mile |
| 2017 CHRYSLER CARAVAN | 5,000 mile |
| 2021 FORD TRANSIT CONNECT | 5,000 mile |

ii. **A-Inspection (Brake/Safety)**

The Maintenance Department operates the brake/safety pit inspection every two (2) weeks.

- Minor defects found during this inspection are repaired on the equipment.
- Defects that are time intensive and safety-related are assigned a separate work order; this vehicle is held out of service until the repairs are completed. These repairs are assigned or scheduled by the shift supervisor.

Adherence and quality inspections will be performed upon the return of the vehicle using the brake/safety inspection.

**Repair and Maintenance**

The preventive maintenance defect repair work is as critical to the success of a preventive maintenance program as the inspection process itself. The quality of the

repair work is the key to meeting the goal of 10,000 miles between service equipment failures. The hours required to accomplish defect repair work generated by the PMI program will average two (2) hours of repair work for each PMI program work hour. After the PMI defect repairs are complete, the bus interior is detailed.

b. **Special Projects/Campaigns**
RTD has developed a process to identify and evaluate the continuing need for special projects and maintenance campaigns to repair, modify, refine, engineer, and implement processes and repairs to systems that have proven to be undependable and problematic. One such example is the Nova Articulated fleet engine replacement program. Others may include manufacturer recalls or modifications.

2. **Unscheduled Maintenance:** The Maintenance staff performs unscheduled maintenance inspections and service of vehicles based on work orders generated by supervisors or lead mechanics. In addition, maintenance can be dictated by observation or newly available data in the form of technical bulletins, manufacturer notifications, recall notifications, etc.
   a. **Requests**
      i. **Driver's Defects** are usually minor repair requests. These are defects found during the operator's pre-trip, normal in-service operation and/or post-trip inspections. These defects do not affect the ability of the bus to complete their assigned run. Operators will note the defect on a card provided and turn it into the Control Center. Maintenance will collect these cards periodically throughout each shift and assign work orders to each defect. The work orders are then assigned to mechanics for repair. Examples of these requests may include: interior lights that are not working, squeaks or rattles, loose seats, destination sign lights that are not working, etc.
      The Maintenance Department assigns personnel to perform tasks based upon the urgency and type of service required. When possible, similar non-emergency tasks are deferred, scheduled, and performed together to increase efficiency.
      ii. **Verbal Notice:** The Maintenance Department encourages verbal requests for emergencies, urgent repairs, and minor defects. Work orders are created upon notification of all verbal requests.
      iii. **E-mailed Requests:** Written (usually in the form of an email) requests for unscheduled maintenance as determined by RTD staff.
      iv. **Field Repairs:** Minor unscheduled defects that are repaired while the bus is in service and will not cause route to be delayed (e.g., repairing a jammed farebox trim unit).
      v. **Road Call Repairs:** These services are non-preventive and usually denote a mechanical failure of a bus while in revenue service. This causes a delay in service and necessitates removing the bus from service until repairs are made. Road calls or other vehicle breakdowns will be handled in the most expedient manner possible. Employees responding to these calls will leave the gate within ten minutes of the call. Each road call will be tracked in EAM and reviewed by the Operations Superintendent—Maintenance at the end of each month. The review will identify and correct any deficiencies found in the process. Examples of these deficiencies may include the wheelchair lift not working, engine or transmission trouble code, farebox not working, etc.

vi. **Work Request:** Notification of minor repairs needed are sent through the EAM system. Any employee with access to EAM can place a request for unscheduled maintenance. Work orders are created upon submission of the work request.

3. **Contracted Maintenance:** Staff use the formal contract or purchase order process to request the following services as needed:
   a. **Contracted Services (Ongoing Contracts)**
      - Contract for County Services (Currently performed by RTD).
        - Oversight of PM program to be completed once a week.
        - Oversight of the brake and safety inspections to be completed once a month.
        - Oversight of parts procurement process
      - Tire lease and service.
      - Towing.
      - Uniforms.
      - Shop supplies and cleaning supplies.
      - Fasteners.
      - Bus batteries.
   b. **Periodic Contracted Services**
      - Glass repair and replacement
      - Upholstery repair and replacement
4. **Maintenance Prioritization:** The Maintenance Department assigns personnel to perform the required task(s) based upon the urgency and type of service required. The Department performs maintenance and repairs as required in response to
   a. EAM work requests
   b. verbal requests
   c. written and e-mailed request
   d. road calls
   e. scheduled preventive maintenance or inspections

   The system works when all areas of the agency work together to meet the goals and vision. All procedural details will be addressed more specifically in the department's procedures and work instructions.
5. **State of Good Repair:** Through the RTD Transit Asset Management system, all capital assets are maintained to achieve and operate at a full level of performance and exceed the expected useful life benchmark.

## California Air Resources Board (CARB) Impacts

CARB rulings have a direct impact on the maintenance of our fleet. Currently, RTD is transitioning the fleet to zero emissions vehicles, based on the requirements of the CARB Innovative Clean Transit (ICT) Regulation requiring RTD to have a zero emissions fleet by 2040. In addition, RTD must monitor its' fleet and follow the Bus Fleet Rule to ensure compliance with other CARB regulations. This is accomplished by regularly attending the local meetings, subscribing to the CARB website for notices, and staying in contact with our statewide counterparts.

## Americans with Disabilities Act (ADA) Compliance

RTD procures and maintains a fully accessible fleet or revenue vehicles in compliance with the Americans with Disabilities Act 49 CFR Parts 27, 37, 38, and 39. ADA Compliance is responsibly considered in the Procurement, Maintenance, and Operations of all revenue vehicles. All RTD revenue vehicles are accessible according to the specifications set forth in the ADA. All ramps and lifts are maintained according to manufacturer's instructions and tested before pull-out during the operator pre-trip inspection process. Accessible equipment and accessories are also assessed and addressed in the PMI process. No vehicle is placed in service without functioning ADA equipment. Malfunctions with accessible equipment are repaired and tested before the vehicle is returned to revenue service. If an issue is identified with accessible equipment in service, the vehicle with the issue is replaced with another that is functioning and the issue is attended to by Maintenance and repaired as needed.

RTD ensures that ADA accessory equipment including securements are available in accordance with the vehicle type and accessible space needs. The presence of these items is confirmed by drivers during pre-trip and post-trip inspections. Maintenance replaces lost or damaged equipment as needed and vehicles are put in service with the appropriate functioning ADA accessory equipment.

## Training

The transit industry has become the testing ground for many new ideas. Regulation changes and electronic system integration in the industry make it necessary to provide comprehensive training programs to ensure our mechanics are effective. Yet training requires more than a few hours a year at a vendor's location. It is essential that as transit agencies, we develop our own mechanics and technicians. Historically, RTD has had difficulty attracting and recruiting well-trained and experienced transit vehicle mechanics. Entry-level staff require extensive training and thus few qualified mechanics and technicians are available. The solution to this problem is to develop high-quality mechanics internally through the RTD/ATU Bus Mechanic Apprenticeship Program; this is the only way that RTD can ensure that we have quality mechanics who are truly in step with technological advancements. RTD has a State of California approved apprenticeship program that provides on-the-job training, and in-residence instruction with our educational partner San Joaquin Delta College. Also, we bring in manufacturer vendors to do specialized training when necessary. In order to ensure our success in this technologically advanced industry, we must train more mechanics and utility workers.

## Comparison of Maintenance Efficiency with Peers

RTD monitors the National Transit Database (NTD) website for efficiency comparisons with other agencies. RTD also uses the American Public Transportation Association (APTA) and American Bus Benchmarking Group (ABBG) to compare efficiency standards. We recognize the importance of performance indicators and we use these indicators to maintain an efficient operation. Also, RTD looks to other agencies for best practices in reaching or exceeding goals. The Operations Superintendent—Maintenance monitors spending according to the budget and uses these comparisons to maximize our efficiency and effectiveness.

## Transit Asset Management (TAM) Plan

The RTD TAM Plan consists of RTD's commitment to maintain its vehicle assets in a state of good repair and the vehicle maintenance procedures identified in this Plan are in keeping with the TAM Plan. Also included in the TAM Plan is a baseline condition assessment of RTD's inventoried vehicles, and the decision support tools used in developing the process of operating, maintaining, and improving these vehicle capital assets through their life cycle, and a prioritization of future vehicle capital investments. The TAM Plan is located on the RTD Sharepoint under the Maintenance Department's Procedures folder.

## Documentation

RTD uses Hexagon EAM in its record-keeping system (Attachment D) to ensure a documented institutional record of maintenance activity. The electronic maintenance management system is designed to maintain accuracy and order and represents a complete inventory of RTD's equipment assets. RTD's complete documentation system is not medium-specific, as record-keeping media may change with improvements in material and supply management technology. It contains the following foundational elements:

- Preventive Maintenance Inspection Checklist(s): documenting inspections, repairs and other maintenance activities including warranty service.
- Acquisition documents necessary for maintenance, including originals or copies of warranties, service contracts and agreements, purchase requisitions and orders, sales receipts, etc.
- Work orders completed by the technician(s).
- Complete and verifiable asset inventory with current custody documentation.
- A budget-tracking database to reconcile and support asset acquisition documentation.

## References/Related Documents

FTA C5010.1E, Grant Management Guidelines
FTA C9030.1E, Urbanized Area Formula Program

## Appendix A: Sample A-Inspection (Brake/Safety) Checklist

Time Stamp_____

San Joaquin RTD - Metro
A-INSPECTION
**MONDAY**

**MECHANIC'S SIGNATURE** _____ **DATE** _____

√ **OK** **X REPAIR REQUIRED** **O ADJUSTMENT MADE**

| | | | |
|---|---|---|---|
| **1** LIGHTS INSIDE | **5** BRAKE INTERLOCK | **10** ENGINE OIL LEAK | **15** BRAKE SHOE CONTACT |
| **2** BACK UP ALARM | **6** WCL | **11** TRANS OIL LEAK | **16** SCHEDULE RELINE |
| **3** LIGHTS OUTSIDE | **7** REAR DOOR S. EDGE | **12** FAN DRIVE LEAK | **17** SLACK ADJUSTER |
| **4** AIR LEAK | **8** A/C FILTER | **13** FUEL LEAK | **18** OTHER |
| A- APPLIED | **9** COOLANT LEAK | **14** RIDE HEIGHT | **19** DOWN BUS |
| B- STATIC | | | |

| BUS # | INSP | DEFECT | DESCRIPTION | W/O # | SUP/Lead |
|---|---|---|---|---|---|
| 1401 | | | | | |
| 1402 | | | | | |
| 4001 | | | | | |
| 4002 | | | | | |
| 6001 | | | | | |
| 6002 | | | | | |
| 6003 | | | | | |
| 6004 | | | | | |
| 6005 | | | | | |
| 6006 | | | | | |
| 1001 | | | | | |
| 1002 | | | | | |
| 12001 | | | | | |
| 609 | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

12/17/2009

## Appendix B: Sample Preventive Maintenance Checklist

SAN JOAQUIN RTD

# Gillig PMI B

BUS# _____
W/O # _____
DATE : _____
MECHANIC# _____

**6,000 MILE PREVENTIVE MAINTENANCE INSPECTION GILLIG PHANTOM & LOW FLOOR**

| | CURRENT |
|---|---|
| MILEAGE READING | |
| MILES BETWEEN P.M.I | |

√ = O.K. O = ADJUSTMENT MADE R = REPLACED X = REPAIR

### ROAD TEST

| | |
|---|---|
| | STEAM CLEAN: ENGINE, TRANS, UNDERCARRIAGE, BATTERIES, HYD COOLER, RADIATOR, & CHARGE AIR COOLER; IF NOT PREVIOUSLY DONE. |
| | ROAD TEST ON PRESCRIBED COURSE, NOTIFY YOUR SUPERVISOR UPON DEPARTURE & ARRIVAL FROM ROAD TEST. |
| | CK: RETARDER/AUX BRAKE APPLIED (regeneration) OPERATION & LIGHT. |
| | CK: ALL INSTRUMENT OPERATION. CK: REAR OBJECT DETECTION SYS. |
| | CK: STEERING ACTION, PULLING, & FOR SHIMMY. |
| | CK: BRAKE PERFORMANCE, PULLING. |

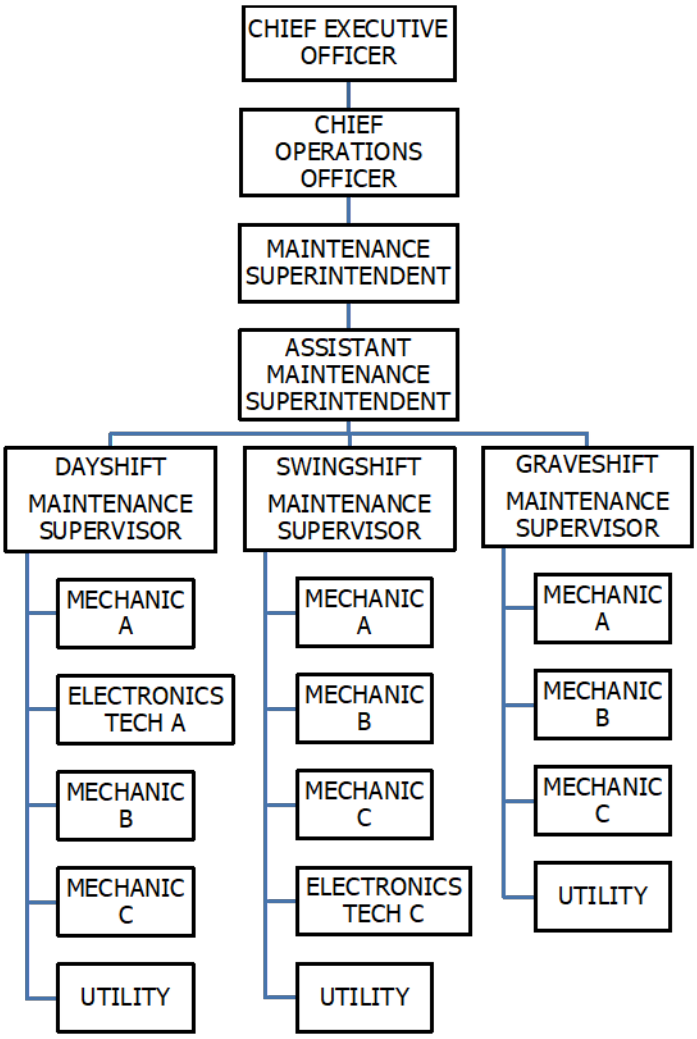
### COACH EXTERIOR

| | |
|---|---|
| | CK: HI-LO BEAM, TURN SIGNALS, 4-WAY FLASHERS & BEEPER, CLEARANCE, TAIL, LIC PLATE, BACK-UP LIGHTS & ALARM. CK: YIELD SIGN IF EQUIPPED. |
| | CK: ALL LIGHT & REFLECTOR LENS FOR CONDITION, CRACKS, & MOISTURE. |
| | CK: WIPER BLADE CONDITION, ARM SECUREMENT, & SPRAY NOZZLE COND. CK: WASHER FLUID LEVEL & ADJUST IF NEEDED. |
| | CK: COACH OUTSIDE MIRRORS CONDITION & SECUREMENT. |
| | CK: COACH OUTSIDE NUMBERS, LOGOS, WHEELCHAIR LIFT, BATTERY DISCONNECT, CHP NUMBERS, & DO NOT PASS STICKER LOCATIONS & CONDITION. CK: FOR LOOSE OR DAMAGED FENDER SKIRTS. |
| | CK: FRONT & REAR BUMPER SECUREMENT, ALIGNMENT, & CONDITION. |
| | CK: BIKE RACK FOR DAMAGE, ACTUATE ALL LATCHES, HANDLES, & BRACKETS FOR LOCKING & SMOOTH OPERATION. CK: BIKE RACK DEPLOYED SWITCH & DASH LIGHT OPERATION. |
| | **COMPLETE BODY INSPECTION SHEET.** CK: ALL GLASS FROM OUTSIDE. |
| | CK: HUBODOMETER FOR LEGIBILITY, ACCURACY, MOISTURE, & SHIELD. |
| | CK: TIRE PRESSURE & CORRECT TO **115 PSI FRONT, 110 PSI REAR.** |
| | CK: FRONT HUB OIL LEVEL, ADJUST IF NEEDED, (85W-140) |
| | CK: LUG & AXLE NUT COND. CK: FOR MISSING STUDS & OIL LEAKS. |
| | CK: ALL ACCESS DOOR LATCHES, HINGES, & PROPS FOR COND **& LUBE.** |
| | CK: FIBERGLASS REAR ACCESS PANELS FOR MISSING SCREWS & RIVETS. |
| | CK: BODY PANELS FOR CRACKS & BUCKLING. |
| | CK: FUEL CAP & FILLER NECK FOR LEAKS. |
| | REMOVE & CLEAN BATTERY TERMINALS. CK: BATTERIES, HOLD DOWNS, TRAYS, & SLIDES FOR DAMAGE, LEAKS, & CORROSION. **LUBE LOCKS & SLIDES.** CK: VANNER & BATTERY DISCONNECT SWITCH OPERATION & COND. CK: ALL CABLES, ENDS, & CONNECTIONS MOUNTING & CONDITION. |
| | TAKE HYDROMETER READINGS OF EACH CELL & RECORD HI-LO READINGS ADD WATER IF NEEDED AFTER READINGS, OR NOTE MAT/FREE EYE COLOR.<br>BATTERY 1 (FRONT/ UPPER) BATTERY 2 (REAR/LOWER)<br>HI_____LO_____CLR_____ HI_____LO_____CLR_____ |
| | LOAD TEST BATTERIES TO 600 AMPS FOR 15 sec. MIN 9.6 VOLTS. |
| | CK: CHARGING VOLTAGE (28.0 VOLTS +/- 1 VOLT) @ FAST IDLE WITH HEADLIGHTS, MARKER LIGHTS, & **DOME LIGHTS "ON".** |
| | **ON LOW FLOOR,** CK: AIR LINES, SHUTOFF VALVES, & FITTINGS FOR LEAKS. DRAIN AIR TANKS & CK FOR CONTAMINATION. |

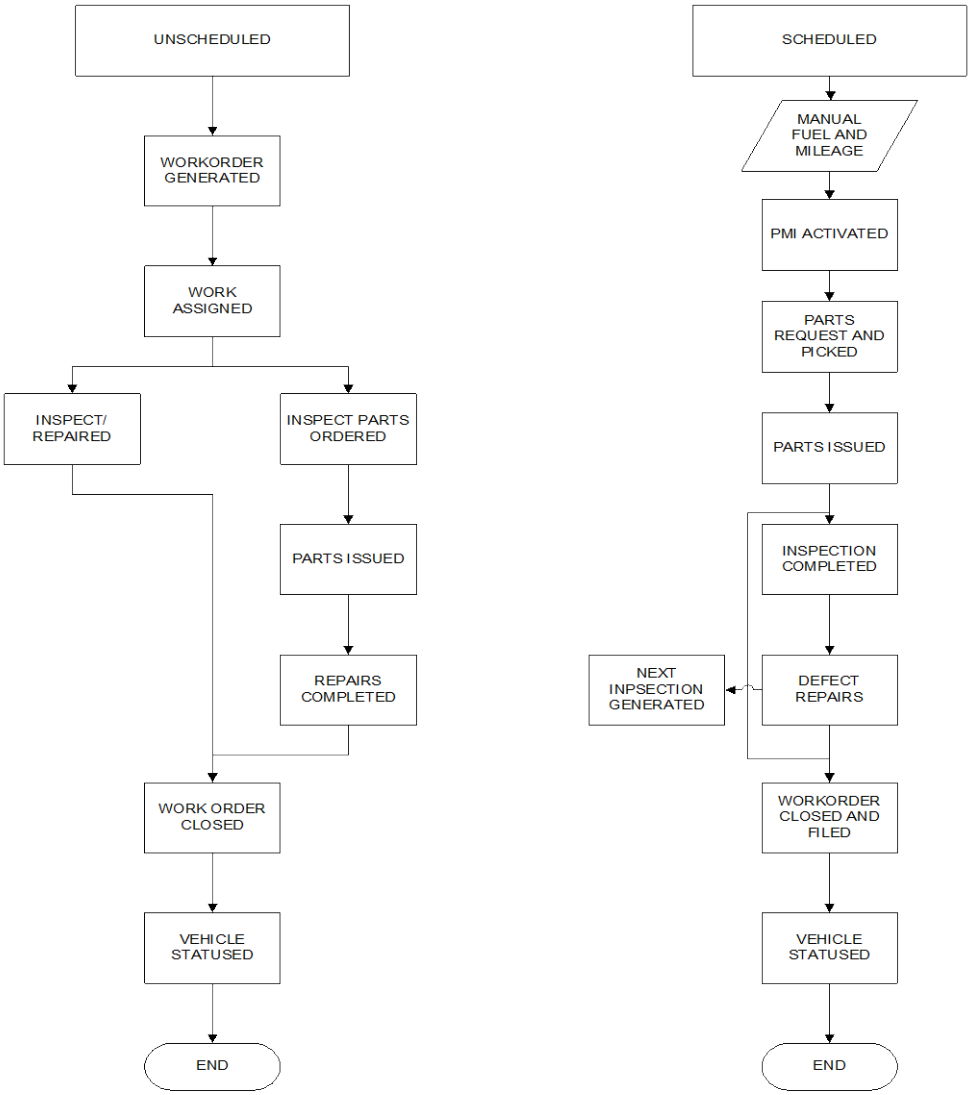
### COACH INTERIOR

| | |
|---|---|
| | CK: DASH INDICATOR LIGHTS WITH TEST SWITCH, INCLUDING WAIT TO START ON HYBRID BUSES. |
| | CK: ABS, CK, & STOP ENGINE LIGHTS SHOULD ILLUMINATE MOMENTARILY WHEN ENGINE IS STARTED. IF LIGHTS DO NOT ILLUMINATE, LOG AS DEFECT CK: CAMERA SYSTEM INDICATOR LIGHTS, GREEN ONLY ON = GOOD. |
| | PUMP AIR DOWN TO 40 psi, CHECK WARNING LIGHT & PARKING BRAKE SELF APPLICATION. |
| | CK: FAST IDLE OP WITH ACCELERATOR & BRAKE INTERLOCK. |
| | CK: AIR COMPRESSOR **CUT IN; MIN 85-psi, & CUT OUT; MAX 130-psi.** |
| | CK: AIR BUILD UP TIME, FROM **85-psi TO 100-psi IN 40-sec @ HI RPM.** |
| | CK: FOR APPLIED SERVICE BRAKE AIR LEAKS **3-lbs MAX LOSS PER 1-min.** |
| | CK: PARKING BRAKE CONTROLS, KNOB & PIN FOR CRACKS, OPERATION, & DASH INDICATOR LIGHT. CK: VALVE FOR LEAKS. |
| | CK: STEERING WHEEL COND, FOR EXCESSIVE WHEEL LASH, & VERTICAL MOVEMENT. CK: COLUMN SECUREMENT & BOOT COND. CK: TILT/TELE OPERATION. **LUBE STEERING SHAFT & U-JOINTS.** |
| | CK: ALL DRIVER CONTROL SWITCHES, LT'S, **MIRRORS,** VISOR, & TRASH CAN. CK: RADIO, P.A., HANDSET, & FAREBOX CONTROLS, OP, & MOUNTING. |
| | CK: DRIVER'S DASH, SIDE, & OVERHEAD CONSOLES FOR LABELING, LIGHTING, CRACKS, & SECUREMENT. CK: FOR MISSING OR LOOSE SCREWS. CK: DRIVERS WINDOW TRACK & LOCK ASSY. |
| | CK: KNEELING & (FRONT RAMP OPERATION ON LOW FLOOR) WARNING LIGHTS, & ALARMS. CK: THROTTLE & BRAKE INTERLOCK OPERATION. |
| | CK: DRIVER'S SEAT & SEATBELT OPERATION & COND. CK: SEAT ALARM IF EQUIPPED. **LUBE SLIDE TRACK.** |
| | CK: W/S WIPER, WASHER, & INTERMITTENT OP & ARM ADJUSTMENT. |
| | CK: WINDSHIELD CONDITION FROM INSIDE. |
| | CK: THROTTLE & BRAKE PEDALS FOR DEBRIS & FUNCTION, **& LUBE.** |
| | CK: FIRE EXTINGUISHER & FIRE SUPPRESSION SYSTEM PIN, SEAL, & DATE. |
| | CK: ROADSIDE WARNING DEVICES/TRIANGLES. (3 PER SET OR SEALED BOX) CK: VEHICLE REGISTRATION SLIP. |
| | CK: BODILY FLUID & STOP LEAK KITS FOR CONTENTS OR SEALED. |
| | CK: DRIVERS BARRIER/SCHEDULE RACK CONDITION & SECUREMENT. |
| | CK: DESTINATION SIGN OPERATION & ELECT CONNECTION. **CLEAN SIDE SIGN GLASS.** |
| | CK: DOME LIGHTS OPERATION. CK: DOME LIGHT ASSY FOR SECUREMENT. |
| | CK: FRONT DOOR OPERATION, COND, (LOWFLOOR INTERLOCK & RELEASE) & EMERG AIR RELEASE VALVE & GLASS. CK: DOOR MOTOR & COMP, CONTROL RODS, ARMS, LOCK NUTS, & **BRG'S.** CK: MICRO SWITCHES RELAYS & ALL ELECT WIRING. **LUBE DOOR ROD ENDS, ROLLERS, & BRG'S.** |
| | CK: REAR DOOR OPERATION, COND, INTERLOCK, EMERG AIR RELEASE & GLASS, GREEN LIGHT, & TOUCH BAR OP. CK: SENSITIVE EDGE & DRUNK ALARM SWITCHES FOR OP. CK: REAR DOOR MOTOR & COMP, CONTROL **RODS, ARMS, LOCK NUTS, & BRG'S. CK: MICRO SWITCHES, RELAYS, & ALL** ELECT WIRING. **LUBE DOOR ROD ENDS, ROLLERS, & BRG'S.** |
| | CK: ROOF HATCHES OP, COND, & DECALS. CK: CAMERA COVERS & LENSES. |

## Appendix C: Organization Chart—Maintenance



## Appendix D: Hexagon EAM Flow Chart



## Appendix E: Contingency Fleet Procedure

### Contingency Fleet Procedure

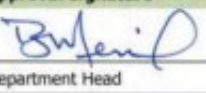
| Document Management Information | |
|---|---|
| Person responsible: | Operations Superintendent – Maintenance |
| Area of application: | Contingency Fleet |
| Document location: | SharePoint/Maintenance/Procedure/ |
| Original issue date: | 12/8/16 |

**Revisions**

| Rev. No. | Date | Description |
|---|---|---|
| 001 | 9/10/16 | Updated document to current procedure template |
| 002 | 12/11/20 | Updated contingency fleet activation authority and electronic maintenance management system software |
| 003 | 08/09/22 | Updated document to current procedure template |

| Recurring Action Items | Responsibility | Frequency |
|---|---|---|
| 1. Review state and federal laws, regulations, new requirements, changes in workplace practice, or other factors to determine whether this document is still valid. | Operations Superintendent – Maintenance | As Needed |
| 2. Review and modify this procedure as needed to support RTD's need for a contingency fleet and to remain in compliance with appropriate laws, regulations, or other requirements. | Operations Superintendent – Maintenance | As Needed |

**Approval Signature**

| | |
|---|---|
|  | 8.26.2022 |
| Department Head | Date |

**1.0 Purpose**

1.1. In order to establish and maintain a contingency bus fleet as needed, this procedure outlines the rules associated with the establishment of RTD's contingency bus fleet.
1.2. This procedure is in compliance with the requirements of the Federal Transit Administration (FTA) Circular 9300.1B prior to the establishment of a contingency fleet.

**2.0 Scope**

2.1. This procedure outlines the periodic need and justification for RTD's contingency bus fleet as required by the FTA, prior to establishing a contingency fleet.
2.2. This procedure defines the various types of fleets RTD possesses and outlines the allowable usage for each.

**3.0 Responsibility**

# Appendix E: Contingency Fleet Procedure

## Contingency Fleet Procedure

3.1. **Chief Operating Officer:** Ensures these procedures adhere to the FTA policies and regulations.

3.2. **Operations Superintendent – Maintenance**: Account for rolling stock and ensure that all vehicles placed into the contingency fleet meet the FTA requirements. Ensure all vehicles are documented, maintained, and properly stored. Authorizes contingency fleet activation.

3.3. **All Employees**: Comply with this procedure and suggest improvements to their manager/supervisor.

### 4.0 Definitions

4.1. **Active fleet**: An FTA-recognized vehicle type that is in active bus service. A sudden, unanticipated reduction in the availability of buses in the active bus fleet could require that buses in the contingency fleet be placed back into service. Such an event could occur if a significant number of buses were damaged or destroyed by fire, flood, or other natural disasters.

4.2. **Contingency bus fleet**: An FTA-recognized vehicle type that has reached the end of its useful life according to FTA standards. It may be used during emergency operation, including but not limited to evacuations due to an earthquake, fire, flood, or other natural or man-made disasters. These vehicles may be used for potential service expansion, fuel shortages, or loaned to another transit agency for emergency-response/evacuation. These vehicles may also be used due to the loss of an operating base and for other undefined emergencies or service requirements.

4.3. **Inactive fleet**: Considered part of the active fleet, the inactive fleet consists of vehicles that could be inactive during a period of vehicle replacement. This is a temporary condition (i.e., vehicles that are being prepared to be disposed of or sold) and is not an FTA-recognized vehicle type.

4.4. **Rolling stock**: All active, inactive, and contingency fleets make up the whole of RTD's rolling stock—which is accounted for in Hexagon Enterprise Asset Management (EAM). Any rolling stock not included in the contingency fleet will be considered part of the active or inactive fleet (awaiting delivery to be auctioned off) after completing its useful service life.

4.5. **Service Life**: Vehicle life of rolling stock begins on the date the vehicle is placed in revenue service and continues until it is removed from service. Minimum service lives for buses are listed under the FTA's Useful Life Policy (FTA C-9300.1B) as follows:

- Useful life of rolling stock begins on the date the vehicle is placed in revenue service and continues until it is removed from service. Minimum useful life for buses, vans, trolleys, and ferry boats is determined by years in service or accumulation of miles, whichever comes first, as follows:
  a. Large, heavy-duty transit buses including over the road buses (approximately 35'–40', and articulated buses): at least 12 years of service or an accumulation of at least 500,000 miles.
  b. Small size, heavy-duty transit buses (approximately 30'): at least ten years or an accumulation of at least 350,000 miles.
  c. Medium-size, medium-duty transit buses (approximately 25'–35'): at least seven years or an accumulation of at least 200,000 miles.
  d. Medium-size, light-duty transit buses (approximately 25'–35'): at least five years or an accumulation of at least 150,000 miles.
  e. Other light-duty vehicles used in transport of passengers (revenue service) such as regular and specialized vans, sedans, light-duty buses including all bus models

## Appendix E: Contingency Fleet Procedure

### Contingency Fleet Procedure

exempt from testing in the current 49 CFR Part 665: at least four years or an accumulation of at least 100,000 miles.

Each vehicle to be placed into a contingency fleet will be examined for reliability versus need for disposal prior to placement. The RTD contingency standards are based on FTA guidelines.

4.6. **Spare ratio**: The number of spare buses over the peak demand requirement of buses.

4.7. **Hexagon Enterprise Asset Management (EAM)**: Electronic maintenance management system software that RTD uses to account for its rolling stock.

4.8. **Start-ups**: To start the vehicles to ensure they are in working order.

**5.0 Process**

5.1. The RTD Contingency Fleet Procedure accounts for rolling stock in a contingency fleet due to the following reasons:
- Procurement schedules for fleet replacement.
- Expansion.
- Other justification as noted below.

5.2. Buses held in a contingency fleet will be properly stored, maintained, and documented in a Contingency Fleet Inventory Log.
- That documentation will be used once the first bus is placed in a contingency status and updated as necessary to support RTD's need for a contingency fleet.
- This log can be created manually or kept electronically in EAM.

5.3. **Contingency fleet usage**: The buses identified in the RTD contingency fleet may be used in or during the following circumstances:
- Emergency operation, including but not limited to evacuations due to an earthquake, fire, flood or other natural or man-made disasters.
- Potential service expansion.
- Fuel shortages, which includes the loss of grid electrical power.

5.3.1. The contingency fleet may also be loaned to another transit agency for emergency response/evacuation.

5.3.2. The contingency fleet may be used due to the loss of an operating base and for other undefined emergencies or service requirements.

5.4. **Contingency fleet as active fleet**: A sudden unanticipated reduction in the availability of buses in the active bus fleet could require that buses in the contingency fleet be placed back into service. Such an event could occur if a significant number of buses were damaged or destroyed by fire, flood, or other natural disaster.

5.5. **Additional use of contingency buses**: Additional usage may also include but is not limited to the following:
- A fleet-wide defect or a major component recall impacting a significant portion of a fleet.
- Other fleet-wide failure, including the failure of a major component of a group or sub fleet of buses (e.g., an engine or transmission failures).

5.6. **Training and vehicle readiness**: Buses in the contingency fleet may also be used for vehicle and/or mechanic training and are subject to occasional in-service use to ensure mechanical reliability and fleet readiness. Any bus placed into the contingency fleet must meet the FTA minimum retirement standards.

5.7. **Rules for vehicles in the contingency fleet**:
- Any bus placed into the contingency fleet must meet the FTA minimum retirement standards. No bus may be placed into the contingency fleet before the vehicle has

## Contingency Fleet Procedure

replaced do not count as spare buses (during the process of decommissioning older buses). The older buses should be separated from the existing fleet so as to provide an accurate spare ratio.

5.10. RTD will establish and maintain a contingency bus fleet as needed. When applicable, the contingency fleet is in addition to the normal spare ratio allowed by federal regulations and will only be used when circumstances warrant.

5.11. **Accounting of Rolling Stock:** RTD uses Spear4i to inventory its rolling stock. The status of active and contingency fleet vehicles is updated daily and reports can be generated from Spear at anytime.

5.12. **Maintenance of Contingency Fleet:** Buses in the contingency fleet are subject to a 6,000-mile preventive maintenance schedule for the vehicles. Periodic vehicle start-ups will occur between normal preventive maintenance inspections so that the fleet remains ready for service at all times. All records associated with these buses will be maintained by RTD. At a minimum, the heavy duty diesel fleet will have a visual inspection and start-up at every 45 days with a full PM at 90 days.

### 6.0 References/Related Documents

6.1. FTA Useful Life Policy (FTA C-9300.1B)
6.2. Contingency Fleet Preauthorization Form
6.3. Contingency Fleet Inventory Log

SAN JOAQUIN RTD

## Preauthorization Form: Use of Contingency Fleet

Date: _____ Request initiated by: _____

Authorization approved by: _____ Date: _____
Operations Superintendent - Maintenance

Anticipated period of use*: _____

**Check intended use of contingency fleet and provided brief explanation**:

- ☐ Emergency response*: _____
  (Example: Earthquake, fire, flood, natural/man-made disaster)
- ☐ Evacuation*: _____
  (Example: Emergency event, Office of Emergency Services/Multi-Agency Drill)
- ☐ Service/Fleet Expansion due to: _____
- ☐ Fleet-wide mechanical failures: _____
  (Example: Mechanical failures impacting a significant portion of a fleet)
- ☐ Occasional in-service use, vehicle or mechanic training* to ensure mechanical reliability and fleet readiness. Explain and list days of use: _____
- ☐ Other Undefined Emergencies: _____

** Preauthorization Not Required for Emergency Response, Evacuation or Operator/Mechanic Training*

| Requested Vehicle ID # | Total Mileage | Fuel Used | Beginning Use Date | Ending Use Date |
|---|---|---|---|---|
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Please fill out above table (include additional pages if needed after placing vehicle(s) back in contingency status.

## Appendix M: Facilities Maintenance Plan

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| **Document Management Information** | |
|---|---|
| Document Author: | **Facilities Superintendent** |
| Area of application: | All RTD Facilities |
| Document location: | RTD SharePoint/Plans and Reports |
| Original issue date: | 2/25/11 |

**Revisions**

| Rev. No. | Date | Description |
|---|---|---|
| 001 | 6/3/13 | Updated with document format conversion |
| 002 | 7/1/15 | Updated |
| 003 | 8/24/18 | Updated to include TAM Provisions |
| 004 | 5/2/22 | Update to include new facility location, classification changes, and software management changes |

| Recurring Action Items | Responsibility | Frequency |
|---|---|---|
| 1. Review of FTA, state, and local requirements and the contents of this plan. Update this plan as needed. | Facilities Superintendent | Annual |

**Approval Signature**

Chief Executive Officer — Date: 5/6/22

# Facilities Maintenance Plan – April 2022
# San Joaquin Regional Transit District

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## Introduction

The San Joaquin Regional Transit District (RTD), as a Federal Transit Administration (FTA) grantee, has acquired facilities in order to administer, operate, and maintain transit services. Providing adequate maintenance for these facilities is an ongoing process with a substantial cost. RTD relies on FTA funding and other funding sources to perform these duties; as a result, this Facilities Maintenance Plan was developed to comply with FTA requirements—including State of Good Repair (SGR) and Transit Asset Management (TAM) requirements—for continued support. In addition, the Facilities Maintenance Plan helps employees meet RTD's strategic goals.

## Purpose

This plan established the facilities maintenance program implemented by staff to ensure that RTD facilities remain in a state of good repair and reach their optimal life expectancy. The plan describes the Facilities Department's responsibilities to perform preventative maintenance, non-routine repair services, and replacement services on all RTD facilities. It also provides descriptions of responsible parties, maintenance categories, requests, procedures, and the necessary recordkeeping to keep RTD facilities and systems in a good state of repair. In addition, this plan specifically describes the "system of periodic inspections and preventive maintenance" to be performed at defined intervals as required by FTA C 5010.1D and is in keeping with RTD's TAM efforts and TAM Plan as required by FTA 49 CFR parts 625 and 630.

## Responsibility

The Facilities Department staff are responsible for all facilities and facility-related equipment maintenance, inspections, and repairs.

Responsibilities are as follows:

- **Chief Operating Officer** is responsible for overall operations of the department.
- **Facilities Superintendent** responsible for day-to-day operations of the Facilities Department, contract oversight as required, and all documentation relating to the various facilities, including warranty claims and inspection tracking.
- **Facilities Supervisor** is responsible for assigning duties and oversight of Facilities Technicians, Porters, and Contractors.
- **Facilities Technicians** are responsible for maintenance, inspections, and repair duties. This position includes Facility Technician A, B, and C.
- **Porters** are responsible for minor building maintenance, interior and exterior cleanliness at all RTD facilities, bus stops, and assisting Facilities Technicians as needed.

## RTD Facilities

### The Downtown Transit Center (DTC)

*421 East Weber Avenue, Stockton, California*

This two-story facility, constructed in 2006, consists of approximately 30,484 square feet. The facility houses RTD's Administrative staff, a boardroom, and public amenities. This location also includes a passenger boarding area, which consists of 24 bus stops. RTD leases part of the first

floor (2,816 square feet of commercial rental space on the southeast corner) currently unoccupied.

**The Regional Transportation Center (RTC)**
*2849 East Myrtle Street, Stockton, California*

This operations and fuel/wash complex, constructed in 2014-2015, consists of 136,310 square feet of building space. The facility houses RTD's Operations staff, including Transportation, Bus Maintenance, Facilities, Procurement, IT, and space for other departments as needed (e.g. Service Development, Police, and Human Resources). The fuel wash equipment and maintenance facility is used by staff to maintain the Metro fleet parked on site and the County fleet parked nearby at 120 North Filbert Street.

**The County Transportation Center (CTC)**
*120 North Filbert Street, Stockton, California*

RTD purchased this 69,000 square foot facility in 2004 to provide a larger base of operations for RTD's county-wide transportation and maintenance operations. As of July 2021, all maintenance services are conducted at the RTC location.

**The Hammer Transfer Station (HTS)**
*7735 Lower Sacramento Road, Stockton, California*

This bus transfer station, purchased by RTD in 2011, is a 7,900-square foot bus transfer center that serves as RTD's Northern hub for the City of Stockton. The HTS includes a covered passenger waiting area, five boarding locations, and a small driver break area with restrooms.

**The Union Transfer Station (UTS)**
*1505 South Union Street, Stockton, California*

This bus transfer station was constructed in 2018 and is approximately 5,431 square feet. This station serves as a southern hub for the City of Stockton. The UTS includes a covered passenger waiting area, six boarding locations, overhead charging infrastructure for battery electric buses, and a small driver break area with restrooms. This building has approximately 3,000 square feet of unfinished and unused area that may be used as future commercial rental space.

**RTD Bus Stops**
RTD maintains approximately 862 standard bus stops and 83 Bus Rapid Transit shelters in San Joaquin County as well as numerous commuter bus stops for additional service to and from adjacent counties.

**Vacant Lot**
*1710 East Fremont Street, Stockton, California*
Parcel retained after sale of larger property, fate of lot is to be determined.

## Facility Maintenance Categories

**Preventative maintenance service**: The Facilities Department determines the service schedules based on the maintenance needs of the equipment and as recommended by the equipment manufacturers, authorized service representatives, and internal determination (based on usage).

**Non-routine or emergency repair service**: These unexpected and unscheduled repair services are of a non-preventative nature.

- Examples: Discovered hazards, security breaches, vandalism, premature equipment failure, disasters, and mandates.

**Non-critical service**: These services are usually the result of RTD's need to alter a workspace, elements within a workspace, or the amenities present at bus stops.

**Hazardous material/waste control**: Routine maintenance inspections and repair of material handling systems based on the needs of staff and regulatory agency requirements.

## Maintenance Request Process

The Facilities Department dispatches staff to perform tasks based upon the urgency and type of service required. When possible, similar non-emergency tasks are deferred, scheduled, and accomplished together to increase efficiency.

- **Verbal requests**: The Facilities Department encourages verbal requests for emergency or urgent repairs. However, for the purpose of documenting and maintaining records, staff asks that all verbal requests be followed up with an email.
- **Written/e-mailed requests**: Email (usually sent via SugarCRM on-line work order system) requests for unscheduled improvements or maintenance as needed by RTD staff.
- **Discovered maintenance**: Facilities staff routinely learns of needed repairs or maintenance due to deficiencies found during the inspections or while completing various tasks. Facilities staff inputs discovered maintenance tasks into the Infor Enterprise Asset Management (EAM) or SugarCRM work order system and, if possible, combines discovered task work with other verbal or written maintenance requests.
- **Scheduled Maintenance**: Work orders for scheduled maintenance may be generated by RTD's licensed Infor EAM Transit Asset Management software system. These come in the form of pre-scheduled preventative maintenance inspection forms and allow the Facilities Department to maintain equipment in a state of good repair and to meet other RTD needs.
- **Contracted Maintenance**: Staff uses the formal third-party contract or purchase order process to solicit and ensure the following services are performed as needed:
    1. Contracted Services (Ongoing Contracts)
       Landscaping, pest control, elevator maintenance and repair, capital project engineering.

2. Routinely Contracted Services
   Lock and key services, fuel island equipment maintenance and repair, disposal of biohazard waste, laboratory testing (hazardous waste compliance), hazardous waste removal, fire protection system inspections.
3. Occasionally Contracted Services
   Capital project construction, air compressor maintenance and repairs, HVAC system major repairs, emergency generator maintenance and repairs, electrical and plumbing system repairs, roll-up door and gate repairs, fire extinguisher re-certification, security and camera system repairs, bus vacuum system repairs, bus wash repairs, underground storage tank/fuel system repairs.

## Maintenance Prioritization

The Facilities Department prioritizes all work according to several factors:

- Safety
- Security
- Impact on critical functions
- Funding
- Work force availability
- Task duration
- Required maintenance intervals
- Material availability
- Directives
- TAM Plan Initiatives
- RTD's strategic goals

- **Unscheduled Maintenance**: The Facilities Department schedules all tasks. When scheduling is impossible, staff will evaluate the work and determine if RTD staff members are available, or if contracting is the most efficient method of completing the task.
- **Scheduled Maintenance**: The Facilities Department staff will prioritize and complete all regulatory required maintenance, pre-scheduled preventative maintenance, and non-emergency maintenance. When RTD staff determines that a need for extra help exists, staff will evaluate the situation and contract out the work if it serves the best interest of RTD.
- **Contracted Maintenance**: Contractors or vendors will accomplish all tasks the Facilities staff are unable to complete (as funding allows), and all tasks that require licenses or skills not required of staff members. Staff will contract work when it is in the best interest of RTD.

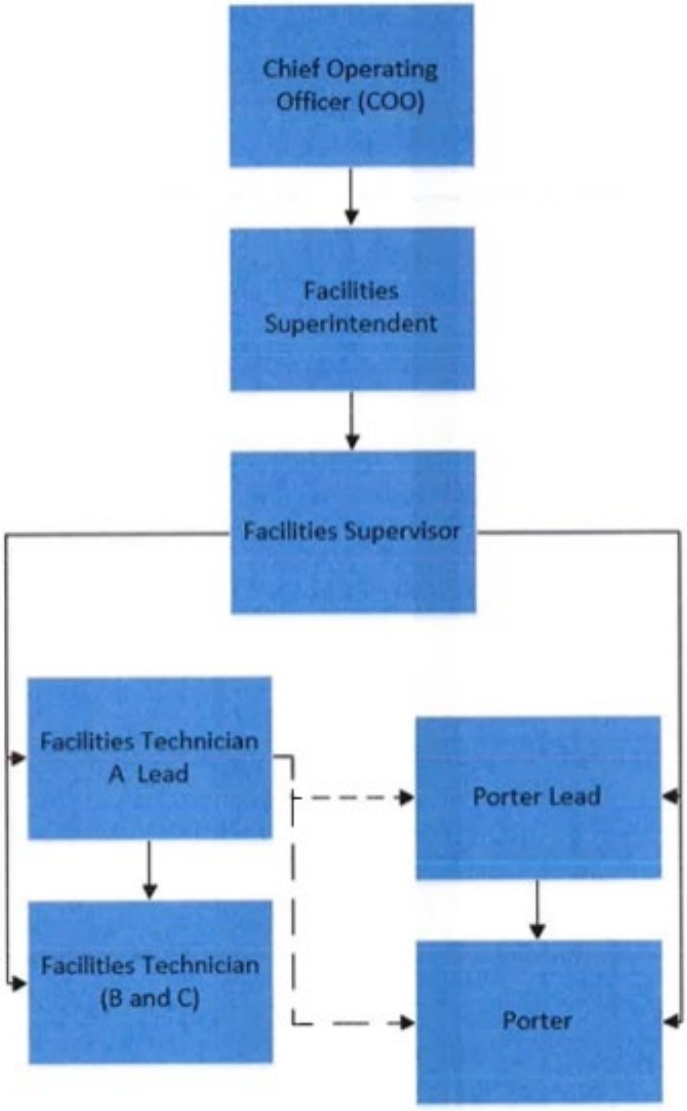
## Recordkeeping

The RTD Facilities Department uses Infor EAM software to input and track the preventative maintenance schedule. This system generates preventative maintenance inspection (PMI) schedules and forms according to a preset schedule. Staff members also use the SugarCRM

system for non-PMI work orders as needed. Staff records PMI work order task details in Infor EAM at the completion of a task. The Infor EAM and SugarCRM systems are part of RTD's plan to ensure a documented record of maintenance activity is in place. In addition to electronic record retention, staff maintains hard copy records and supplemental documentation in accordance with RTD's Record Retention Policy.

## Appendix A: San Joaquin RTD Equipment PMI Checklist

## Appendix B: Organizational Chart—Facilities



## Appendix C: Work Order Process