



GO bg Transit

Transit Asset Management Plan 2021

September 20, 2021

Contents

| | |
|--|----|
| Introduction | 3 |
| Background | 3 |
| Definition | 4 |
| Overview | 4 |
| Performance Targets & Measures | 5 |
| Transit Asset Management: Vision | 5 |
| TAM Goals and Objectives | 6 |
| About the TAM Plan..... | 6 |
| Roles and Responsibilities..... | 6 |
| Asset Portfolio..... | 7 |
| Asset Inventory Listing..... | 7 |
| Inventory Table | 7 |
| Condition Assessment..... | 7 |
| Asset Condition Summary..... | 7 |
| Rolling Stock Condition Table | 8 |
| Facility Condition | 8 |
| Management Approach | 9 |
| Decision Support..... | 9 |
| Investment Prioritization | 10 |
| Risk Management | 10 |
| Maintenance Strategy..... | 10 |
| Overhaul and Rebuild Strategy | 11 |
| Overhaul Strategy | 11 |
| Rebuild Strategy..... | 11 |
| Disposal Strategy..... | 11 |
| Acquisition and Renewal Strategy | 12 |
| Work Plans & Schedules | 12 |
| Proposed Investments | 12 |
| Capital Investment Activity Schedules..... | 12 |
| Attachments..... | 13 |
| B.1 | 13 |

Introduction

Background

The Moving Ahead for Progress in the 21st Century Act (MAP-21) required the Secretary to develop rules to establish a system to monitor and manage public transportation assets to improve safety and increase reliability and performance, and to establish performance measures, and the Fixing America's Surface Transportation (FAST) Act reaffirmed this requirement. On July 26, 2016, FTA published the Transit Asset Management (TAM) Final Rule. The Final Rule can be viewed at:

<https://federalregister.gov/a/2016-16883>

Transit Asset Management Final Rule Fact Sheet can be viewed at:

<https://www.transit.dot.gov/TAM/rulemaking/finalrulefactsheet>

The rule requires FTA grantees to develop asset management plans for their public transportation assets, including vehicles, facilities, equipment, and other infrastructure. In 2012, MAP-21 mandated—and in 2015 the Fixing America's Surface Transportation Act (FAST) reauthorized—FTA to develop a rule to establish a strategic and systematic process of operating, maintaining and improving public transportation capital assets effectively through their entire life cycle.

The specific requirements of the TAM rule for transit providers depend upon whether the agency is classified as Tier I or Tier II:

Tier I vs. Tier II Applicability

The Final Rule groups providers into two categories: Tier I and Tier II.

| <u>Tier I</u> | <u>Tier II</u> |
|---|---|
| Operates rail | Subrecipient of 5311 funds |
| OR | OR |
| ≥ 101 vehicles across all fixed route modes | American Indian Tribe |
| OR | OR |
| ≥ 100 vehicles in one non-fixed route mode | ≤ 100 vehicles across all fixed route modes |
| | OR |
| | ≤ 100 vehicles in one non-fixed route mode |

According to which Tier a provider is classified, there are specific TAM Plan elements that are required to be completed by the provider. Since Tier II providers generally operate fewer complex systems, their TAM Plan requirements are not as extensive. The TAM Plan elements are the following:

| | |
|----------------------------------|-------------|
| 1. Inventory of Capital Assets | Tier I & II |
| 2. Condition Assessment | |
| 3. Decision Support Tools | |
| 4. Investment Prioritization | |
| 5. TAM and SGR Policy | Tier I Only |
| 6. Implementation Strategy | |
| 7. List of Key Annual Activities | |
| 8. Identification of Resources | |
| 9. Evaluation Plan | |

The purpose of the Final Rule is to help achieve and maintain a state of good repair (SGR) for the nation's public transportation assets. Transit asset management is a business model that uses transit asset condition to guide the optimal prioritization of funding. Implementing and maintaining an asset management plan can result in numerous business benefits such as improved customer service, reduced safety risks, reduced costs, data for decision making and more accurate and timely data to communicate with oversight boards and customers.

TAM requirements in this Final Rule are part of a larger performance management context. MAP-21 created a performance-based and multimodal program to strengthen the U.S. transportation system, which is comprised of a series of nine rules overseen by FTA and the Federal Highway Administration (FHWA). FTA is tasked with developing other rules, including the National Public Transit Safety Plan and the Public Transportation Agency Safety Plan, and worked jointly with FHWA on a rule to manage Statewide and Metropolitan Planning.

Definition

Transit asset management is defined at 49 CFR Section 625.5 as: Transit asset management is the strategic and systematic practice of procuring, operating, inspecting, maintaining, rehabilitating, and replacing transit capital assets to manage their performance, risks, and costs over their life cycles, for the purpose of providing safe, cost-effective, and reliable public transportation.

Overview

The GO bg Transit system serves the citizens of Bowling Green within the city limits in the South Central Region of Kentucky at approximately 38.5 square miles. According to the United States Census Bureau, the City of Bowling Green yields a population of 70,543. The City of Bowling Green is dependent on transporting the public with the use of medium buses at over 90,000 trips annually on both fixed-route and paratransit services combined. Thus, the COVID-19 pandemic has interrupted service dropping ridership by at least 50%, the GO bg Transit system continues to provide services at maximum service rates to provide more space for the health and safety of riders.

Transit asset management (TAM) is a business model that prioritizes funding based on the condition of transit assets, in order to achieve or maintain transit networks in a state of good repair (SGR). In July 2016, FTA issued a final rule requiring transit agencies to maintain—and document—minimum TAM standards. The new standards will help transit agencies keep their systems operating smoothly and efficiently.

GO bg Transit's Asset Management Plan is aligned with its **Vehicle and Equipment Maintenance Plan**. City of Bowling Green Fleet Division uses a system of checks and balances when conducting preventive maintenance inspections. The transit contract operator is required to ensure the fleet and equipment is undergoing driver pre and post-trip vehicle inspection reports every time a vehicle is used, a review of pre and post-trip inspection documents for service or repair, regular preventive maintenance inspections during intervals prescribed in the vehicle and equipment maintenance plan; furthermore, the City of Bowling Green Fleet Division conducts annual maintenance and service inspections to certify the fleet is in a good state of repair.

GO bg Transit's TAM Plan structure utilizes a living asset portfolio that keeps track of all asset information. In addition, the City of Bowling Green Fleet Division conducts annual condition assessments to ensure maximum care is taking place and the fleet is in good working order. GO bg Transit uses several management approaches to accomplish the highest level of managing its fleet with the use of work plans and schedules.

Performance Targets & Measures

| Asset Category | Performance Measure | 2021 Target TERM | 2022 Target TERM |
|---|--|----------------------|----------------------|
| Rolling Stock <i>All revenue vehicles</i> | Age - % of revenue vehicles within a particular asset class that have met or exceeded their Useful Life Benchmark (ULB) | CU – 23% MV – 33% | CU – 16% MV – 25% |
| Equipment <i>Non-revenue vehicles</i> | Age - % of vehicles that have met or exceeded their Useful Life Benchmark (ULB) | 0% | 0% |
| Facilities <i>All buildings or structures</i> | Condition - % of facilities with a condition rating below 3.0 on the FTA Transit Economic Requirements Model (TERM) Scale | Adequate 3.4 | Good 4.0 |

Transit Asset Management: Vision

GO bg Transit ultimately expects to achieve a positive fleet health that would prove the ability to deliver a full level of performance in support of the transit system with the use of strong fleet inspections, service, and maintenance standards.

A more comprehensive goal of GO bg Transit is to ensure the system can sustain and mitigate service disruptions by assessing, adapting, and overcoming maintenance issues. GO bg Transit exceptionally desires to provide safe, friendly, and reliable service to the public.

TAM Goals and Objectives

Specific: FY 2022 upgrade GO bg Transit's fleet to new or Cutaways 16% to Minivans 25% under useful life standards.

- Audit rolling stock, equipment, and facility inventories
- Increase the health of the fleet

Measurable: Measure rolling stock, equipment, and facilities for life capabilities.

- Review maintenance invoices
- Rate all rolling stock, equipment, and facilities based on emergency maintenance

Achievable: Educate transit employees to strengthen the system, its policies, and the operation.

- Educate employees on asset management
- Indoctrinate a safety and risk culture

Results-Focused: FY 2022 keep minor and major system failures under 10%.

- Mitigate fleet maintenance issues
- Review vehicle inspection documents and locate trends

Time-Bound: Bi-annual review on performance

- Targets
- Measures
- Attainable Goals

About the TAM Plan

GO bg Transit Asset Management Plan has set performance targets, measures, goals, and objectives to aid in maintaining positive fleet health as well as to mitigate potential pinnacle road blocks to its operation. This document covers a timeline once effective through FY 2022. In addition, this document shall be updated annually on an as needed basis to reflect changes in goals, performance targets & measures as well as objectives.

Roles and Responsibilities

| Department/Individual | (Title and/or Description) | Role |
|---|-----------------------------------|-------------------------|
| Transit Administration /Robert Gil III | Transit Manager | Review, Monitor, Update |
| Transit Operations/Carroll Duckworth | CASOKY Director of Transportation | Review and Input |

Asset Portfolio

Asset Inventory Listing

| Asset Category | Total Number | Avg Age | Avg Value |
|----------------|--------------|---------|-----------|
| Facilities | 1 | 11 | \$649,615 |
| Rolling Stock | 18 | 4 | \$91,604 |

Inventory Table

| Asset Category | Asset Class Type | Asset Name | Make | Asset Owner | Current Years | Cost |
|------------------|------------------|------------|-------|-------------|---------------|--------------|
| 1 Rolling Stock | MV | PT-50 | Dodge | CBG | 14 | \$21,250.00 |
| 2 Rolling Stock | CU | PT-51 | Ford | CBG | 13 | \$45,058.00 |
| 3 Rolling Stock | CU | PT-53 | Ford | CBG | 7 | \$81,746.00 |
| 4 Rolling Stock | CU | PT-54 | Ford | CBG | 7 | \$79,227.00 |
| 5 Rolling Stock | CU | PT-56 | Ford | CBG | 5 | \$94,452.00 |
| 6 Rolling Stock | CU | PT-57 | Ford | CBG | 5 | \$94,452.00 |
| 7 Rolling Stock | MV | PT-60 | Dodge | CBG | 3 | \$37,024.00 |
| 8 Rolling Stock | CU | PT-61 | Ford | CBG | 3 | \$128,874.00 |
| 9 Rolling Stock | CU | PT-62 | Ford | CBG | 3 | \$128,874.00 |
| 10 Rolling Stock | CU | PT-63 | Ford | CBG | 2 | \$176,859.00 |
| 11 Rolling Stock | CU | PT-64 | Ford | CBG | 2 | \$179,026.00 |
| 12 Rolling Stock | MV | PT-65 | Dodge | CBG | 2 | \$39,240.00 |
| 13 Rolling Stock | CU | PT-72 | Ford | CBG | 2 | \$95,276.00 |
| 14 Rolling Stock | CU | PT-73 | Ford | CBG | 2 | \$95,276.00 |
| 15 Rolling Stock | CU | PT-74 | Ford | CBG | 1 | \$84,516.00 |
| 16 Rolling Stock | CU | PT-75 | Ford | CBG | 0 | \$84,516.00 |

Condition Assessment

The FTA has set a default Useful Life Benchmark (ULB) for each vehicle type. The ULB is the average age-based equivalent of a 2.5 rating on the FTA Transit Economic Requirements Model (TERM) scale. While transit agencies can adjust their ULBs based on actual operating conditions (with approval by FTA), GO bg Transit uses the default ULBs provided in the *2017 Asset Inventory Module Report Manual* published by the FTA.

Asset Condition Summary

| Asset Category | Count | Avg Age | Avg TERM Condition | Avg Value | % At or Past ULB |
|----------------|-------|---------|--------------------|-----------|------------------|
| Facilities | 1 | 114 | Adequate | \$649,615 | - |
| Rolling Stock | 16 | 4 | N/A | \$91,604 | 25% |

Rolling Stock Condition Table

| Asset Category | Asset Class Type | Asset Name | Replacement Cost/Value | Useful Years | Current Years |
|------------------|------------------|------------|------------------------|--------------|---------------|
| 1 Rolling Stock | MV | PT-50 | \$21,250.00 | 4 | 14 |
| 2 Rolling Stock | CU | PT-51 | \$45,058.00 | 4 | 13 |
| 3 Rolling Stock | CU | PT-53 | \$81,746.00 | 7 | 7 |
| 4 Rolling Stock | CU | PT-54 | \$79,227.00 | 7 | 7 |
| 5 Rolling Stock | CU | PT-56 | \$94,452.00 | 7 | 5 |
| 6 Rolling Stock | CU | PT-57 | \$94,452.00 | 7 | 5 |
| 7 Rolling Stock | MV | PT-60 | \$37,024.00 | 5 | 3 |
| 8 Rolling Stock | CU | PT-61 | \$128,874.00 | 7 | 3 |
| 9 Rolling Stock | CU | PT-62 | \$128,874.00 | 7 | 3 |
| 10 Rolling Stock | CU | PT-63 | \$176,859.00 | 7 | 2 |
| 11 Rolling Stock | CU | PT-64 | \$179,026.00 | 7 | 2 |
| 12 Rolling Stock | MV | PT-65 | \$39,240.00 | 5 | 2 |
| 13 Rolling Stock | CU | PT-72 | \$95,276.00 | 10 | 2 |
| 14 Rolling Stock | CU | PT-73 | \$95,276.00 | 10 | 2 |
| 15 Rolling Stock | CU | PT-74 | \$84,516.00 | 10 | 1 |
| 16 Rolling Stock | CU | PT-75 | \$84,516.00 | 4 | 0 |

Facility Condition

Facility condition is assessed using the TERM scale. The TERM scale rates the condition of an asset on a scale of one to five *See page 5 Performance Targets and Measures in this document.*

- 1 = Poor (asset is in need of immediate repair or replacement or may have critically damaged components)
- 2 = Marginal (asset is reaching or is just past the end of its useful life; there are an increasing number of defective or deteriorated components and increasing maintenance needs)
- 3 = Adequate (asset has reached its mid-life; some moderately defective or deteriorated components)
- 4 = Good (asset shows minimal signs of wear; some slightly defective or deteriorated components)
- 5 = Excellent (asset is new with no visible defects)

FTA has provided a set of default ULBs (See Attachment B.1)

In order to meet the facilities TAM rule requirements, GO bg Transit follows the TAM Facility Performance Measure Reporting Guidebook: Condition Assessment Calculation published in April 2017. This guidebook focuses on data elements regarding facility conditions and performance measures for administrative and maintenance facilities, as well as for passenger and parking facilities. The guidebook can be viewed at the following link:

<https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/regulations-and-guidance/asset-management/60361/tam-facility-performance-measure-reporting-guidebook.pdf>

A facility asset is deemed to be in a state of good repair if it has a rating of 3, 4, or 5 on this scale. Likewise, a facility is deemed to not be in a state of good repair if it has a rating of 1 or 2. The overall average rating value a facility is rounded to the nearest integer value. If the fractional portion of the rating is less than 0.5 the rating would be rounded down; if it is 0.5 or greater it would be rounded up.

| Asset Category | Asset Class Type | Asset Name | ID/Serial No. | Replacement Cost/Value | Useful Years | Current Years 2 |
|----------------|--|-------------------------|--------------------|------------------------|--------------|-----------------|
| Facilities | Administration, Operations, and Maintenance Facility | Downtown Transit Center | 304 E Eleventh Ave | 649615 | 40 | 9 |

Management Approach

Decision Support

The primary tools for decision support are forms and Microsoft Excel spreadsheets. GO bg Transit is a Small Urban System that can manage the assets by utilizing forms and simple spreadsheets. Future investment needs are determined by established priority lists based on asset condition, and useful life. Proper investment planning is essential so as not to affect the core operating services of GO bg Transit.

| Process/Tool | Brief Description |
|-------------------------------|---|
| Vehicle Inspection Report | Form that is filled out by drivers, reviewed by transit management and vehicle equipment services. |
| Vehicle Maintenance Worksheet | Excel spreadsheet that is used to document general information to include miles, road calls, and maintenance occurrences. |
| Master Vehicle List | Excel spreadsheet kept by transit management with information on every vehicle purchased or used in transit services |
| Building Survey | Form that is filled out by maintenance technicians and transit staff |

Investment Prioritization

The transit operations contractor (TOC) determines priority investments by utilizing the Vehicle Inspection Report and any other notations made by staff. Once the vehicle or equipment is evaluated the highest priority will be given to vehicles or equipment that may require major repair.

Risk Management

| Risk | Mitigation Strategy |
|---------------|---|
| Fire | Vehicles are properly shutdown and secured by operators and double checked by supervisors |
| Vandalization | Vehicles are stored in a well-lit and gated environment with frequent police/security patrols and CCTV surveillance |
| Theft | Vehicles are stored in a well-lit and gated environment with frequent police/security patrols and CCTV surveillance |

Maintenance Strategy

| Asset Category/Class | Maintenance Activity | Frequency | Avg Duration (Hrs.) | Cost |
|---------------------------|-------------------------|-----------------------|---------------------|------|
| Rolling Stock & Equipment | Bus Operator Inspection | Daily | 1 | \$20 |
| Rolling Stock & Equipment | PM Service | 4 Months/4,000 Miles | 1 | \$50 |
| Rolling Stock & Equipment | PM Service | 12 Months/5,000 Miles | 1 | \$50 |
| Rolling Stock & Equipment | PM Service | 20,000 Miles | 1 | \$50 |
| Rolling Stock & Equipment | PM Service | 24,000 Miles | 1 | \$50 |
| Rolling Stock & Equipment | PM Service | 40,000 Miles | 1 | \$50 |
| Rolling Stock & Equipment | PM Service | 60,000 Miles | 1 | \$50 |
| Rolling Stock & Equipment | PM Service | 80,000 Miles | 1 | \$50 |
| Rolling Stock & Equipment | PM Service | 100,000 Miles | 1 | \$50 |

GO bg Transit addresses unplanned maintenance needs by having transit operations contractor inspect and identify the problem. The transit operations contractor will then inform transit operations management of the issue, cost, and ability to perform the unplanned maintenance. Transit operations management will either approve or deny the cost associated with such repair by using FTA guidance and historical reports. If needed, other sources would be sought for pricing and ability to perform the task. In addition, a warranty assessment of the issue would be reviewed by vehicle portfolio to seek ways to recover costs.

Overhaul and Rebuild Strategy

Overhaul Strategy

According to *FTA C 5010.1E (4) Equipment and Supplies (Including Rolling Stock) (h) Rolling Stock Overhauls* an overhaul is defined as the systematic replacement or upgrade of revenue and non-revenue systems whose useful life is less than the useful life of the entire vehicle in a programmed manner. Overhaul is performed as a planned or concentrated preventive maintenance activity and is intended to enable the vehicle to perform to the end of the original useful life. Rolling stock must have accumulated at least 40 percent of its useful life before FTA will participate in the costs of its overhaul.

When an overhaul is recommended by manufacturer warranty recovery practices will be sought. In addition, if a vehicle or equipment has not met the useful life standards set forth by the Federal Transit Administration (FTA) further decision will be made on a case-by-case basis to conduct any overhaul with the guidance of the presiding body.

Rebuild Strategy

According to *FTA C 5010.1E (4) Equipment and Supplies (Including Rolling Stock) (g) Rolling Stock Rebuilding Policies* a rebuild is defined as a capital activity associated with rolling stock that occurs at, or near, the end of a unit of rolling stock's useful life, and that results in an extended useful life for the unit of rolling stock consistent with the extent of the rebuilding.

GO bg Transit Administration will determine the proper strategy when considering a rebuild of a vehicle.

Disposal Strategy

The disposal of any transit vehicles or equipment must first meet the useful life standards set by the FTA and manufacturers. In addition, a determination must be made concluding that the asset is no longer safely operable, beyond useful life standards, and funding is available for replacement. Once a determination is made to dispose of a vehicle transit management will continue the process to seek approval from either FTA or KYOTD with supporting documentation. *FTA C 5010.1E (4) Equipment and Supplies (Including Rolling Stock) (f) Minimum Useful Life of Federally Assisted Property*. The useful life of rolling stock begins on the date the vehicle is placed in revenue service and continues until it is removed from revenue service *FTA C 5010.1E (4) Equipment and Supplies (Including Rolling Stock) (f) (2) FTA Minimum Useful Life Policy for Rolling Stock and Ferries*. Vehicle Disposition Process which will include information on the following:

- Mileage

- Condition
- Appraisal or Quote estimating value
- Fair Market Value
- Reason for disposition (Useful Life Standards)
- Information regarding maintenance history & Costs
- Any accident documentation

Acquisition and Renewal Strategy

| Asset Category/Class | Acquisition and Renewal Strategy |
|---------------------------|---|
| Rolling Stock & Equipment | Rolling stock and equipment will be transitioned once useful life standards have been met and deemed no longer safe to operate. It is GO bg Transit's goal to upgrade fleet and equipment to 16% by FY 2022. |
| Facilities | Facilities will be maintained as adequately as possible and if there are any major repairs required, GO bg Transit will seek new plans to move forward with planning an assessment of repairs and transition to a temporary location owned by the city if needed. |

Work Plans & Schedules

Proposed Investments

| Project Year | Project Name | Asset/Asset Class | Cost | Priority |
|--------------|-----------------|-------------------|-----------|----------|
| 2022 | Bus Replacement | Cutaway | \$175,000 | High |
| 2022 | Bus Replacement | Cutaway | \$175,000 | High |
| 2022 | Bus Replacement | Cutaway | \$175,000 | High |
| 2022 | Bus Replacement | Cutaway | \$175,000 | High |
| 2022 | Bus Replacement | Cutaway | \$175,000 | High |
| 2022 | Bus Replacement | Cutaway | \$175,000 | High |

Capital Investment Activity Schedules

None at this time

Attachments

B.1



Default Useful Life Benchmark (ULB) Cheat Sheet

Source: 2017 Asset Inventory Module Reporting Manual, Page 53

Transit Agencies will report the age of all vehicles to the National Transit Database. FTA will track the performance of revenue vehicles (Rolling Stock) and service vehicles (Equipment), by asset class, by calculating the percentage of vehicles that have met or exceeded the useful life benchmark (ULB).

FTA has set a default ULB as the expected service years for each vehicle class in the table below. ULB is the average age-based equivalent of a 2.5 rating on the FTA Transit Economic Requirements Model (TERM) scale. Transit agencies can adjust their Useful Life Benchmarks with approval from FTA.

| Vehicle Type | Default ULB (in years) |
|---|------------------------|
| AB Articulated bus | 14 |
| AG Automated guideway vehicle | 31 |
| AO Automobile | 8 |
| BR Over-the-road bus | 14 |
| BU Bus | 14 |
| CC Cable car | 112 |
| CU Cutaway bus | 10 |
| DB Double decked bus | 14 |
| FB Ferryboat | 42 |
| HR Heavy rail passenger car | 31 |
| IP Inclined plane vehicle | 56 |
| LR Light rail vehicle | 31 |
| MB Minibus | 10 |
| MO Monorail vehicle | 31 |
| MV Minivan | 8 |
| Other rubber tire vehicles | 14 |
| RL Commuter rail locomotive | 39 |
| RP Commuter rail passenger coach | 39 |
| RS Commuter rail self-propelled passenger car | 39 |
| RT Rubber-tired vintage trolley | 14 |
| SB School bus | 14 |
| Steel wheel vehicles | 25 |
| SR Streetcar | 31 |
| SV Sport utility vehicle | 8 |
| TB Trolleybus | 13 |
| TR Aerial tramway | 12 |
| VN Van | 8 |
| VT Vintage trolley | 58 |