



Transit Asset Management Plan



January 2023

Transit Asset Management (TAM) Plan

Green Bay Metro "GBM" has developed this TAM to aide in:

- (1) assessment of the current condition of capital assets;
- (2) determine what condition and performance of its assets should be (if they are not currently in a State of Good Repair);
- (3) identify the unacceptable risks, including safety risks, in continuing to use an asset that is not in a State of Good Repair; and
- (4) deciding how to best balance and prioritize reasonably anticipated funds (revenues from all sources) towards improving asset condition and achieving a sufficient level of performance within those means.

Agency Overview

Green Bay Metro Transit is a public transit system owned and operated by the City of Green Bay since 1973. Partnering municipalities include the City of De Pere and the Villages of Allouez, Ashwaubenon, and Bellevue.

GBM's inventory of revenue vehicles and capital assets, include the following:

- 36 Fixed route buses
- 20 pieces of equipment ≥ \$50,000
- One facility that includes administration/operations/vehicle storage/refueling & maintenance.

Currently GBM contracts with a private provider for paratransit and microtransit services. The private provider owns and maintains all vehicles used for the service.

Introduction

In accordance with 49 CFR Parts 625 and 630 for Transit Asset Management (TAM), Green Bay Metro (GBM) is the TAM sponsor for the Section 5307 Formula Grant in the Green Bay Urbanized Area, 5339 Bus and Bus Facilities, 5310 Enhanced Mobility for Seniors and Individuals with Disabilities sub-recipients (*Appendix A - TAM Subrecipient List*), or other federal grants received by GBM. This document presents Green Bay Metro's methodology for its performance target of capital assets.

GBM is currently operating as an FTA-defined *Tier II* transit operator in compliance with (49 CFR § 625.45 (b) (1)). Tier II transit providers are those transit agencies that do not operate rail fixed-guideway public transportation systems and have either 100 or fewer vehicles in fixed-route revenue service during peak regular service or have 100 or fewer vehicles in general demand response service during peak regular service hours.

This TAM provides an outlay of how GBM will assess, monitor, and report the physical condition of assets utilized in the operation of the public transportation system. The Transit Director serves as the Accountable Executive.

TAM Plan Elements

As a Tier II public transportation provider, GBM has developed and implemented a TAM containing the following elements:

- (1) Asset Inventory Portfolio: An inventory of the number and type of capital assets to include Rolling Stock, Facilities, and Equipment.
- (2) Asset Condition Assessment: A condition assessment of those inventoried assets for which GBM has direct ownership and capital responsibility.
- (3) Decision Support Tools & Management Approach: A description of the analytical processes and decision-support tools that GBM uses to estimate capital investment needs over time and develop its investment prioritization.
- (4) Investment Prioritization: GBM's project-based prioritization of investments, developed in accordance with §625.33.

Definitions

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

Asset Category: Means a grouping of asset classes, including a grouping of equipment, a grouping of rolling stock, a grouping of infrastructure, and a grouping of facilities.

Asset Class: Means a subgroup of capital assets within an asset category. For example, buses, trolleys, and cutaway vans are all asset classes within the rolling stock asset category.

Asset Inventory: Means a register of capital assets and information about those assets.

Capital Asset: Means a unit of rolling stock, a facility, a unit of equipment, or an element of infrastructure used for providing public transportation.

Decision Support Tool: Means an analytic process or methodology: (1) To help prioritize projects to improve and maintain the state of good repair of capital assets within a public transportation system, based on available condition data and objective criteria; or (2) To assess financial needs for asset investments over time.

Direct Recipient: Means an entity that receives federal financial assistance directly from the Federal Transit Administration.

Equipment: Means an article of nonexpendable, tangible property having a useful life of at least one year.

Exclusive-Use Maintenance Facility: Means a maintenance facility that is not commercial and either owned by a transit provider or used for servicing their vehicles.

Facility: Means a building or structure that is used in providing public transportation.

Full Level of Performance: Means the objective standard established by FTA for determining whether a capital asset is in a state of good repair.

Horizon Period: Means the fixed period of time within which a transit provider will evaluate the performance of its TAM plan. FTA standard horizon period is four years.

Implementation Strategy: Means a transit provider's approach to carrying out TAM practices, including establishing a schedule, accountabilities, tasks, dependencies, and roles and responsibilities.

Infrastructure: Means the underlying framework or structures that support a public transportation system.

Investment Prioritization: Means a transit provider's ranking of capital projects or programs to achieve or maintain a state of good repair. An investment prioritization is based on financial resources from all sources that a transit provider reasonably anticipates will be available over the TAM plan horizon period.

Key Asset Management Activities: Means a list of activities that a transit provider determines are critical to achieving its TAM goals.

Life-Cycle Cost: Means the cost of managing an asset over its whole life.

Participant: Means a tier II provider that participates in a group TAM plan.

Performance Measure: Means an expression based on a quantifiable indicator of performance or condition that is used to establish targets and to assess progress toward meeting the established targets (e.g., a measure for on-time performance is the percent of trains that arrive on time, and a corresponding quantifiable indicator of performance or condition is an arithmetic difference between scheduled and actual arrival time for each train).

Performance Target: Means a quantifiable level of performance or condition, expressed as a value for the measure, to be achieved within a time period required by the Federal Transit Administration (FTA).

Public Transportation System: Means the entirety of a transit provider's operations, including the services provided through contractors.

Public Transportation Agency Safety Plan: Means a transit provider's documented comprehensive agency safety plan that is required by 49 U.S.C. 5329.

Recipient: Means an entity that receives federal financial assistance under 49 U.S.C. Chapter 53, either directly from FTA or as a subrecipient.

Rolling Stock: Means a revenue vehicle used in providing public transportation, including vehicles used for carrying passengers on fare-free services.

Service Vehicle: Means a unit of equipment that is used primarily either to support maintenance and repair work for a public transportation system or for delivery of materials, equipment, or tools.

State of Good Repair (SGR): Means the condition in which a capital asset is able to operate at a full level of performance.

Subrecipient: Means an entity that receives federal transit grant funds indirectly through a state or a direct recipient.

TERM Scale: Means the five (5) category rating system used in the Federal Transit Administration's Transit Economic Requirements Model (TERM) to describe the condition of an asset: 5.0—Excellent, 4.0—Good, 3.0—Adequate, 2.0—Marginal, and 1.0—Poor.

Tier I Provider: Means a recipient that owns, operates, or manages either (1) one hundred and one (101) or more vehicles in revenue service during peak regular service across all fixed route modes or in any one non-fixed route mode, or (2) rail transit.

Tier II Provider: Means a recipient that owns, operates, or manages (1) one hundred (100) or fewer vehicles in revenue service during peak regular service across all non-rail fixed route modes or in any one non-fixed route mode, (2) a subrecipient under the 5311 Rural Area Formula Program, (3) or any American Indian tribe.

Transit Asset Management (TAM): Means 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.

Transit Asset Management (TAM) Plan: Means a plan that includes an inventory of capital assets, a condition assessment of inventoried assets, a decision support tool, and a prioritization of investments.

Transit Asset Management (TAM) Policy: Means a transit provider's documented commitment to achieving and maintaining a state of good repair for all of its capital assets. The TAM policy defines the transit provider's TAM objectives and defines and assigns roles and responsibilities for meeting those objectives.

Transit Asset Management (TAM) Strategy: Means the approach a transit provider takes to carry out its policy for TAM, including its objectives and performance targets.

Transit Asset Management (TAM) System: Means a strategic and systematic process of operating, maintaining, and improving public transportation capital assets effectively, throughout the life cycles of those assets.

Transit Provider (provider): Means a recipient or subrecipient of federal financial assistance under 49 U.S.C. Chapter 53 that owns, operates, or manages capital assets used in providing public transportation.

Useful life: Means either the expected life cycle of a capital asset or the acceptable period of use in service determined by FTA.

Useful life benchmark (ULB): Means the expected life cycle or the acceptable period of use in service for a capital asset, as determined by a transit provider, or the default benchmark provided by FTA.

State of Good Repair (SGR) Standards Policy

The GBM SGR policy is as follows:

A capital asset is in a state of good repair (SGR) when each of the following objective standards are met:

- (1) If the asset is in a condition sufficient for the asset to operate at a full level of performance. An individual capital asset may operate at a full level of performance regardless of whether or not other capital assets within a public transportation system are in an SGR;
- (2) The asset is able to perform its manufactured design function;

- (3) The use of the asset in its current condition does not pose an identified unacceptable safety risk and/or deny accessibility; and
- (4) The asset's life-cycle investment needs have been met or recovered, including all scheduled maintenance, and rehabilitation.

The TAM allows GBM to predict the impact of its policies and investment justification decisions on the condition of its assets throughout the asset's life cycle and enhances the ability to maintain an SGR by proactively investing in an asset before the asset's condition deteriorates to an unacceptable level. (*Appendix B -TAM Goals*)

It is the belief of GBM that TAM implementation and monitoring provides a framework for maintaining an SGR by considering the condition of its assets in relation to the local operating environment. GBM has developed its SGR policies to account for the prevention, preservation, maintenance, inspection, rehabilitation, disposal, and replacement of capital assets. The goal of these policies is to allow GBM to determine and predict the cost to improve asset condition(s) at various stages of the asset life cycle, while balancing prioritization of capital, operating and expansion needs. The two foundational criteria of SGR performance measures are *Useful Life Benchmark* (ULB) and *Condition*.

Useful Life Benchmark:

The Useful Life Benchmark (ULB) is defined as the expected lifecycle of a capital asset for a particular transit provider's operating environment, or the acceptable period of use in service for a particular transit provider's operating environment. ULB criteria are user defined, taking into account a provider's unique operating environment (service frequency, weather, geography). When developing Useful Life Benchmarks (ULB), GBM recognized and took into account the local operating environment of its assets within the service area, historical maintenance records, manufacturer guidelines, and the default asset ULB derived from the FTA. In most cases, if an asset exceeds its ULB, then it is a strong indicator that it may not be in a state of good repair.

Methodology

GBM has reviewed the inventory of federally funded vehicles, equipment, and facilities and used age to ascertain a starting point for **2023** TAM targets.

1. ASSET INVENTORY PORTFOLIO

The following capital asset items that GBM owns, operates, and has a direct capital responsibility, included in the TAM asset inventory, are comprised of: Rolling Stock, Equipment, and Facilities (see below). At the time of this writing, GBM does not operate passenger rail service. Therefore, GBM does not have any associated rail infrastructure in its asset portfolio.

Vehicles (*Appendix C*)

GBM evaluated its inventory, including sub-recipient inventory of vehicle capital items and divided all vehicle types into three categories: heavy duty bus, medium duty bus (cutaway), and light duty vehicles (auto/minivan/van/SUV). GBM then used FTA's Useful Life Age Benchmark (ULB) set in 2017-2018 Asset Inventory Module Reporting Guide, pages 35 and 36.

Target for Vehicle

GBM and its sub-recipients set the TAM performance target to only allow for 25 percent of the vehicles to pass beyond useful life.

Equipment *(Appendix D)*

The equipment evaluated (per FTA requirements) within this TAM is all non-revenue service vehicles (regardless of value) and any GBM-owned equipment with a cost of over \$50,000 in acquisition value. Equipment includes non-revenue service vehicles that are primarily used to support maintenance and repair work for a public transportation system, supervisory work, or for the delivery of materials, equipment, or tools. GBM does not utilize or operate any third-party, non-revenue service vehicle equipment assets. All non-revenue service vehicle equipment assets are owned and operated by GBM.

Target for Equipment

GBM currently has nine (9) pieces of equipment that are beyond its useful life. The condition of these items has been examined in greater detail in the 2021 GBM Transit Asset Management Conditional Assessment Report; if the condition of this equipment is deemed beyond its "state of good repair" in the TAM, then steps will be taken to get replacement equipment programmed in the Transportation Improvement Program (TIP). Items are forecasted in the current TIP, as required. Seven (7) of the nine pieces of equipment beyond its useful life are current projects GBM is working on.

Facilities *(Appendix E)*

GBM evaluated the condition of the facilities in its sponsored TAM plan using the TERM Condition Rating (as shown below). GBM will use the FTA minimum useful life standard for facilities of 40 years, as stated in FTA Circular 5010.1E, page IV-26.

TERM Rating	Condition	Description
Excellent	4.8–5.0	No visible defects, near-new condition.
Good	4.0–4.7	Some slightly defective or deteriorated components.
Adequate	3.0–3.9	Moderately defective or deteriorated components.
Marginal	2.0–2.9	Defective or deteriorated components in need of replacement.
Poor	1.0–1.9	Seriously damaged components in need of immediate repair.

Facility Targets

GBM's transit facility is in good condition. GBM set the TAM performance target based on the TERM rating scale above. The TERM rating of the facility shall not be rated less than 3.0.

2. ASSET CONDITION ASSESSMENT

GBM assesses the condition of its assets on an annual basis by utilizing the FTA TERM (Transit Economic Requirements Model) condition rating assessment scale (see above). This rating scale assigned a numerical value or rank based on the physical condition(s) presented by each individual asset throughout its life cycle. The rating scale is based on numbers 1 to 5, with five being new and one being poor. Assets with a rating of 2.5 or higher are considered to be in an SGR. All completed asset inspection forms are documented, and ratings are recorded on the GBM Fixed Asset List.

The inspection process and documentation forms utilized to assess facility and vehicle assets are detailed in the following TAM companion documents:

- (1) GBM Maintenance Policy and Procedure Manual
 - Facility/Building/Equipment Inspection Procedures & Inspection Assessment Standards
 - GBM Revenue & Non-Revenue Vehicle Inspection Procedures & Inspection Assessment Standards
- (2) GBM Fleet Replacement Schedule
- (3) GBM TAM Assessment Guidelines

3. DECISION SUPPORT TOOLS & MANAGEMENT APPROACH

Management Approach

The primary management approach utilized to maintain an SGR is risk mitigation. This management philosophy applies risk mitigation strategies (policies and procedures) throughout the assets life cycle, both from a maintenance perspective (breakdowns) and a safety & accessibility perspective (accidents/ADA requirements).

Decision Support Tools

The following tools are used in making investment decisions:

Process/Tool	Brief Description
Inspection Reports	Individual inspection reports documenting the condition of the asset.
Rolling Stock Report	Inventory report that is used to track all rolling stock inventories, including age, cost, and mileage. This assists in decisions by providing the ability to compare details about the various rolling stock vehicles.
Fixed Asset Inventory Report	Inventory report that shows rolling stock and all other equipment. GBM is able to utilize this report to see what is surpassing its useful life, the condition rating and the other investment opportunities GBM has.

4. INVESTMENT PRIORITIZATION

Maintenance Manager uses best judgment and experience to prioritize needs and submits a request of priorities to the Transit Director. Projects are then ranked based on need. Consideration is given to estimation of funding levels from all sources that are reasonably expected.

The ranking of programs and projects will be expressed as: *High Priority, Medium Priority, or Low Priority*. Each investment prioritization program or project ranked shall contain a year and/or date in which the GBM intends to carry out the program or project.

Plan Review

GBM shall maintain all supporting TAM records and documents. GBM shall make TAM records available to federal (FTA), state (WisDOT) and MPO (Brown County Planning) entities that provide(s) funding to GBM and to aid in the planning process. The TAM can be considered a “living document” that shall be reviewed on at least a quarterly basis, updated, and incorporated into GBM’s capital and budget planning, and reporting processes. Beginning in 2018, TAM data served as a “baseline” measure of asset performance management. As more data is collected, additional monitoring categories and goals may be included to support condition and reliability-based decision-making.

NTD Reporting

TAM Targets are reported to NTD annually as required; effective 2018.

Conclusion

The Green Bay Transit Commission, management team, staff, and employees of Green Bay Metro firmly believe that by implementing this *Transit Asset Management (TAM) Plan*, that it will allow the transportation system to meet its mission and offer safe, efficient, reliable, and accessible public transportation options to the general public of the Green Bay metropolitan area.

In addition, GBM believes that by implementing this TAM, the following *State of Good Repair (SGR)* indicators will be either maintained or improved upon:

- Limit safety risks;
- Justify investments;
- Increase system reliability & accessibility;
- Lower maintenance costs; and/or
- Increase system performance.

Contact

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Adoption and Revision History

Adopted and approved by the Green Bay Transit Commission on July 18, 2018.
Revised and updated by the Green Bay Transit Commission on August 21, 2019.
Revised and updated by the Green Bay Transit Commission on June 17, 2020
Revised and updated by the Green Bay Transit Commission on, April 21, 2021
Appendixes updated by the Green Bay Transit Commission on, June 15, 2022
Revised and updated by the Green Bay Transit Commission on, January 18, 2023

Appendix A – 5310 SUBRECIPIENT LIST

DAV – Disabled American Veterans – Dept. of Wisconsin
 Richard Marbes, Treasurer
 1253 Scheuring Road, Suite A
 De Pere, WI 54115-1070

Curative Connections
 Steve McCarthy, President and CEO
 PO BOX 8027
 Green Bay, WI 54308

Appendix B – TAM Goals

GBM shall establish annual TAM goals, which are separate from annual SGR performance goals, based upon tangible criteria related to asset performance. GBM has established the following baseline measures. TAM goals include monitoring the following criteria: the means of measuring and the goal as it compares to actuals.

CRITERIA	MEASURE	FY 2021		FY 2022	FY2023
		GOAL	ACTUAL	GOAL	GOAL
Safety Risks	Number of preventable accidents per 100,000 revenue miles – (FR)	.25	.81	.25	.25
System Reliability	On time performance, by mode – (FR)	90%	90.15	90%	90%
Maintenance Resources	Number of vehicles out of service for 30 or more days – (FR)	1	*7	1	1
System Performance	Missed trips due to major breakdown - (FR)	<5	2	<5	<5

- Number of vehicles out of service for 30 or more days is higher due to parts being backordered.

Appendix C - Vehicles

The chart below shows the results of GBM's 2022 findings:

Vehicle Type	Vehicle Count	Useful Life Age Benchmark (ULB)	Percent of Fleet Beyond ULB
Heavy Duty Bus	36	12	27.8%
Light-Duty Mid-Sized Bus	0	5	0.0%
Light-Duty Vehicles (Revenue Vehicles)	10	4	60.0%
Total	46		

GBM and sub-recipient owned vehicles were also divided into the NTD categories that made up the A-90 form. While GBM typically uses the categories above in TrAMS to enter application information, the NTD A-90 form uses alternative categories:

Vehicle Type	Percent of Fleet Beyond ULB
BU (36)	27.8%
CUTAWAY (8)	50.0%
VAN – MINIVAN (2)	100%
Grand Total	34.8%

Appendix D – Equipment

GBM evaluated the inventory of its most significant equipment (items with a replacement cost of \$50,000 or more). These items are listed below and are all located at the GBM facility. The guidance used was from the FTA and from various reports that discuss useful life for these types of equipment to determine if these pieces of equipment were beyond their useful life. Conditional Rating is based on useful life and

Equipment Type	ULB	Years of Remaining Useful Life	Age	Years Equipment Acquired	Conditional Rating
Vacuum Equipment	15	(6)	21	2001	3-Adequate
Lift – Door 7	15	(6)	21	2001	2-Marginal
Lift – Door 6	15	(6)	21	2001	2-Marginal
Lift – Door 5	15	(6)	21	2001	1-Poor
Lift – Service Bay	15	(6)	21	2001	2-Marginal
Parallelogram Lift – Wash Bay	15	3	12	2010	2-Marginal
Bus Wash	15	6	9	2013	3-Adequate
Driveway Expansion	15	11	4	2018	5-Excellent
Tennant Ride-On Floor Scrubber	7	(2)	9	2013	3-Adequate
Bobcat – Tool cat w/ broom & spreader	10	4	6	2016	5-Excellent
GFI Odyssey Farebox System	10	(2)	12	2010	2-Marginal
Motorola Radio System	10	0	10	2012	2-Marginal
Baycom Video Surveillance System	5	0	5	2017	3-Adequate
Double Map AVL/GPS System	5	1	4	2018	2-Marginal
Dually 4WD Truck	7	(13)	20	2002	1-Poor
F-350 Service Vehicle w/ Spreader & Plow	7	0	7	2015	5-Excellent
Ford Explorer – Service Vehicle	7	3	4	2018	5-Excellent
Ford Edge – Service Vehicle	7	3	4	2018	5-Excellent
Ford Edge – Service Vehicle	7	3	4	2018	5-Excellent
Fuel System	15	(6)	21	2001	4-Good

*20 pieces of equipment * 45% exceeded ULB * Average age of equipment 10 years * Average Rating 3

Appendix E – Facility

The chart below shows the results of our findings:

Facility Type	Condition	Years of Remaining Useful Life	Age	Completion Year	Condition
Transit Facility (all)	4	19.0	21.0	2001	Good
Averages		20.0	20.0		