



Transit Asset Management Plan

Calendar Year 2020



September 2020



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**SHORELINE METRO
TRANSIT ASSET MANAGEMENT PLAN
CALENDAR YEAR 2020**

**Prepared by:
Bay-Lake Regional Planning Commission**

September 2020

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TRANSIT ASSET MANAGEMENT PLAN (TAMP) POLICY

Shoreline Metro has developed this TAMP to aid in: (1) assessing the current condition of capital assets; (2) determining what the condition and performance of its assets should be (if they are not currently in a State of Good Repair); (3) identifying 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

Shoreline Metro is a public transit system owned and operated by the City of Sheboygan since 1973. Partnering municipalities include the City of Sheboygan Falls and the Village of Kohler.

Shoreline Metro provided fixed route bus and paratransit services to nearly 680,000 passengers in the Shoreline Metro service area in 2019. Shoreline Metro's inventory of revenue vehicles and capital assets include the following:

- 22 fixed route buses
- 10 paratransit vehicles
- 5 support vehicles
- Various pieces of equipment
- One (1) facility that houses administration, maintenance, and storage (bus garage); and
- One (1) facility that serves as the transfer station.

INTRODUCTION

In accordance with 49 CFR Parts 625 and 630 for Transit Asset Management (TAM), Shoreline Metro is the TAM sponsor for the Section 5307 Formula Grant in the Sheboygan Urbanized Area as well as any Section 5310, Section 5339, Congestion Mitigation and Air Quality (CMAQ) or other federal grants received by that entity. This document presents Shoreline Metro's methodology for its January 1, 2020, performance targets of capital assets.

Shoreline Metro is currently operating as a Federal Transit Administration (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 TAMP provides a strategy of how Shoreline Metro will assess, monitor, and report the physical condition of assets utilized in the operation of the public transportation system.

TAMP ELEMENTS

As a Tier II public transportation provider, Shoreline Metro has developed and implemented a TAMP 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 Shoreline Metro has direct ownership and capital responsibility
3. Decision Support Tools and Management Approach: A description of the analytical processes and decision-support tools that Shoreline Metro uses to estimate capital investment needs over time and develop its investment prioritization
4. Investment Prioritization: Shoreline Metro's project-based prioritization of investments, developed in accordance with 49 CFR §625.33.

DEFINITIONS

Accountable Executive — A single, identifiable person who has ultimate responsibility for carrying out the safety management system of a public transportation agency; for carrying out transit asset management practices; and for 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 transit asset management plan, in accordance with 49 U.S.C. 5326.

Asset Category — A grouping of asset classes, such as equipment, rolling stock, infrastructure, and facilities.

Asset Class — 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 — A register of capital assets and information about those assets.

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

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

Direct Recipient — An entity that receives federal financial assistance directly from the FTA.

Equipment — An article of nonexpendable, tangible property having a useful life of at least one year.

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

Facility — A building or structure that is used in providing public transportation.

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

Horizon Period — The fixed period within which a transit provider will evaluate the performance of its TAM plan. FTA's standard horizon period is four years.

Implementation Strategy — A transit provider's approach to carrying out TAM practices, including establishing schedules, accountabilities, tasks, dependencies, roles, and responsibilities.

Infrastructure — The underlying framework or structures that support a public transportation system.

Investment Prioritization — A transit provider’s ranking of capital projects or programs to achieve or maintain a state of good repair. This is based on financial resources from all sources a transit provider reasonably anticipates will be available over the TAM plan horizon period.

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

Life-Cycle Cost — The cost of managing an asset over its whole life.

Participant — A Tier II provider that participates in a group TAM plan.

Performance Measure — An expression based on a quantifiable indicator of performance or condition used to establish targets and assess progress toward meeting the established targets. For example, a measure for on-time performance is the percentage of buses that arrive on time, and a corresponding quantifiable indicator of performance or condition is the difference between scheduled and actual arrival time for each bus).

Performance Target: — A quantifiable level of performance or condition, expressed as a value for the measure, to be achieved within a time period required by the FTA.

Public Transportation System — The entirety of a transit provider’s operations, including the services provided through contractors.

Public Transportation Agency Safety Plan — A transit provider’s documented comprehensive agency safety plan that is required by 49 U.S.C. 5329.

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

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

Service Vehicle — 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) — The condition in which a capital asset is able to operate at a full level of performance.

Subrecipient — An entity that receives federal transit grant funds indirectly through a State or a direct recipient.

TERM Scale — The five (5) category rating system used in the FTA’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 — 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 — 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, or (3) any American Indian tribe.

Transit Asset Management (TAM) — 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 — 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 — A transit provider’s documented commitment to achieving and maintaining a state of good repair for all its capital assets. Defines the transit provider’s TAM objectives and assigns roles and responsibilities for meeting those objectives.

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

Transit Asset Management (TAM) System — 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) — 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 — Either the expected life cycle of a capital asset or the acceptable period of use in service determined by FTA.

Useful life benchmark (ULB) — 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 Shoreline Metro SGR policy is as follows:

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

- 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 if other capital assets within a public transportation system are in a SGR
- The asset is able to perform its manufactured design function
- The use of the asset in its current condition does not pose an identified unacceptable safety risk and/or deny accessibility

- The asset’s life-cycle investment needs have been met or recovered, including all scheduled maintenance and rehabilitation.

The TAMP allows Shoreline Metro to predict the impact of its policies and justify investment decisions on the condition of its assets throughout their life cycles, and enhances Shoreline Metro’s ability to maintain a SGR by proactively investing in an asset before its condition deteriorates to an unacceptable level.

Shoreline Metro shall establish annual TAM goals, which are separate from annual SGR performance goals, based upon tangible criteria related to asset performance. TAM goals include monitoring the following criteria, as well as measuring the goal as it compares to actual performance.

Table 1. 2020 Shoreline Metro Asset Performance

Criteria	Measure	FY2020	
		Goal	Actual
Safety Risks	Number of Accidents per Year	5	5
System Reliability	On Time Performance	95%	95%
Maintenance Resources	Number of Vehicles Out of Service for 30 or More Days	1	1
System Performance	Missed Trips Due to Major Breakdown, as % of Total Trips	<5%	<5%

It is the belief of Shoreline Metro that TAMP implementation and monitoring provides a framework for maintaining a SGR by considering the condition of its assets in relation to the local operating environment. Shoreline Metro 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 Shoreline Metro 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 or the acceptable period of use of a capital asset in service for a transit provider’s operating environment. ULB criteria are user defined, considering a provider’s unique operating environment (service frequency, weather, geography). When developing ULBs, Shoreline Metro 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, an asset exceeding its ULB is a strong indicator that it may not be in a state of good repair.

For the purposes of this TAMP, all assets (facilities, equipment, and fixed route rolling stock) were assessed using FTA’s Useful Life Age Benchmark (ULB) set in FTA 5010.1D. This guidance (found on page IV-17 of FTA 5010.1D) indicates that typical useful life of the type of heavy duty buses that Shoreline Metro operates is 12 years or 500,000 miles, medium duty buses is seven years or 150,000 miles, and light duty vehicles is ten years or 100,000 miles. Shoreline Metro has defined each of these vehicle ULBs as whichever (years or mileage) comes last.

Condition

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

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

- Shoreline Metro Comprehensive Preventative Maintenance Program
 - Mechanical Failures/Inspections
- Shoreline Metro Comprehensive Preventative Maintenance Program
 - Facility/Equipment/Vehicle Preventative Maintenance Inspections
- Shoreline Metro Five Year Capital Needs Plan: 2021 - 2025

Methodology

Shoreline Metro (with assistance of Sheboygan MPO staff with the Bay-Lake Regional Planning Commission) reviewed the inventory of federally funded vehicles, equipment, and facilities and used age to ascertain a starting point for the 2020 TAM targets.

ASSET INVENTORY PORTFOLIO

The following capital asset items that Shoreline Metro owns, operates, and has a direct capital responsibility, are comprised of rolling stock, equipment, and facilities and are included in the TAMP asset inventory. At the time of this writing, Shoreline Metro does not operate passenger rail service. Therefore, Shoreline Metro does not have any associated rail infrastructure in its asset portfolio.

Vehicles

Shoreline Metro evaluated the inventory of its vehicle capital items and divided all vehicle types into three categories: heavy duty bus; medium duty bus (cutaways); and light duty bus (auto, pickup truck, minivan, van, SUV, etc.). Shoreline Metro then used FTA's Useful Life Age Benchmark (ULB) set in FTA 5010.1D, page IV-17. Because useful life is measured by both mileage and age for vehicles, condition was not considered in this inventory.

The chart below shows the results of Shoreline Metro's findings:

Table 2. 2020 Shoreline Metro Vehicle Inventory

Vehicle Type	Vehicle Count	Useful Life Age Benchmark (ULB, in years)	Useful Life Mileage Benchmark (in miles)	Vehicles Beyond ULB - Age	Vehicles Beyond ULB - Mileage ¹	Percent of Fleet Beyond ULB ²
Revenue						
Heavy Duty Bus	22	12	500,000	12	8	36%
Medium Duty Bus	10	7	150,000	3	3	30%
<i>Sub-Total</i>	<i>32</i>			<i>15</i>	<i>11</i>	<i>34%</i>
Non-Revenue						
Light Duty (Support) Vehicles	5	10	100,000	0	0	0%
<i>Sub-Total</i>	<i>5</i>			<i>0</i>	<i>0</i>	<i>0%</i>
Total	37			15	11	30%

¹Mileage as of January 1, 2020

²The lesser of number of vehicles beyond ULB age *or* mileage divided by vehicle count (by type)

Target for Vehicles

Shoreline Metro sets the TAM performance target to allow for 35 percent of revenue vehicles to pass beyond useful life. This target was set slightly higher than the 34 percent listed in the above table due to rounding. Shoreline Metro is aggressively attempting to replace its fleet through various grant programs in order to lower the revenue vehicle performance target percentage over time, and the 2020 – 2023 TIP was recently amended to include several of these bus replacements. In addition, Shoreline Metro sets the TAM performance target to allow for 0 percent of non-revenue vehicles to pass beyond useful life.

Equipment

Shoreline Metro evaluated the inventory of its most significant equipment (items with a replacement cost of \$50,000 or more). These items include a bus wash, a forklift, a hoist, and a scrubber, all located at the Shoreline Metro bus garage. Shoreline Metro then used guidance 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. For the equipment types listed below, scrubbers have a useful life of five years, forklifts have a useful life of seven years, and hoists and bus washes have a useful life of 10 years.

The chart below shows the results of Shoreline Metro’s findings:

Table 3. 2020 Shoreline Metro Equipment Inventory

Equipment Type	Useful Life Age Benchmark (ULB, in years)	Age	Years of Remaining Useful Life
Bus Wash	10	19	-9
Forklift	7	51	-44
Hoist	10	45	-35
Scrubber	5	25	-20

Target for Equipment

All of Shoreline Metro’s most significant equipment is beyond its useful life. For now, Shoreline Metro is setting the TAM performance target to allow for 100 percent of its most significant equipment to pass beyond useful life. Shoreline Metro will examine the condition of this equipment in greater detail in future TAM plans; if the condition of this equipment is deemed beyond its “state of good repair” in future TAM plans, then steps will be taken to get replacement equipment programmed in the Transportation Improvement Program (TIP).

Facilities

Shoreline Metro evaluated the condition of its facilities using the useful life standards outlined in FTA 5010.1D, page IV-18, 2(e) as a guide. The guidance indicated that facilities relevant to Shoreline Metro generally have a useful life of 40 years.

The chart below shows the results of Shoreline Metro’s findings:

Table 4. 2020 Shoreline Metro Facility Inventory

Facility Type	Condition	Condition Description	Useful Life Age Benchmark (ULB, in years)	Age	Years of Remaining Useful Life
Administration, Maintenance, and Storage (Bus Garage)	2	Adequate	40	45	-5
Transfer Station	4	Good	40	28	12

Target for Facilities

One of Shoreline Metro’s two facilities is beyond its useful life of 40 years. Shoreline Metro set the TAM performance target to only allow 50 percent of the facilities to pass beyond useful life. Shoreline Metro will continue to examine the condition of these facilities in greater detail in future TAM plans. A roof replacement for the administration, maintenance and storage facility was programmed for 2020 in the *Sheboygan Metropolitan Planning Area TIP: Calendar Years 2020 – 2023* and is in progress; this project should go a long way toward improving the “adequate” condition of that facility. In addition, various improvements to the administration, maintenance and storage facility are programmed for 2021 in the *2020 – 2023 TIP* (as amended).

DECISION SUPPORT TOOLS AND MANAGEMENT APPROACH

The primary management approach utilized to maintain a SGR is risk mitigation. This management philosophy applies risk mitigation strategies (policies and procedures) throughout the asset’s life cycle, both from a maintenance perspective (breakdowns) and a safety and accessibility perspective (accidents and 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 inventory, including age 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. Staff is able to utilize this report to see what is surpassing its useful life, the condition rating and the other investment opportunities that Shoreline Metro has.

INVESTMENT PRIORITIZATION

The Lead Mechanic uses his best judgment and experience to prioritize needs and submits a request of priorities to the Director of Transit & Parking. 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 Shoreline Metro intends to carry out the program or project.

Plan Review

Shoreline Metro shall maintain all supporting TAMP records and documents. Shoreline Metro shall make TAMP records available to federal (FTA), state (WisDOT) and MPO (Bay-Lake Regional Planning Commission) entities that provide(s) funding to Shoreline Metro and/or aid in its planning processes. The TAMP can be considered a “living document” that shall be reviewed at least quarterly, updated, and incorporated into Shoreline Metro’s capital and budget planning and reporting processes. TAMP data shall serve as a “baseline” measure of asset performance management. As more data are collected, additional monitoring categories and goals may be included to support condition and reliability-based decision-making.

NTD Reporting

TAM Targets will be reported to the NTD annually as required.

CONCLUSION

The Sheboygan Transit Commission, management team, staff, and employees of Shoreline Metro firmly believe that by implementing this Transit Asset Management Plan (TAMP), Shoreline Metro will better meet its mission and offer safe, efficient, reliable, and accessible public transportation options to the general public of Shoreline Metro's service area. In addition, Shoreline Metro believes that by implementing this TAMP, the following State of Good Repair (SGR) indicators will be either maintained or improved upon:

- Safety risks
- Investment justifications
- System reliability and accessibility
- Low maintenance costs
- System performance

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Adoption and Revision History

Recommended for approval by the Sheboygan MPO Technical and Policy Advisory Committees on September 3, 2020.

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Approved for Shoreline Metro by the Sheboygan Transit Commission on September 22, 2020.