Transit Asset Management Plan

Calendar Year 2019



September 2019

BAY LAKE
Regional Planning Commission | Since 1972

This page is intentionally left blank.

SHORELINE METRO
TRANSIT ASSET MANAGEMENT PLAN
CALENDAR YEAR 2019

Prepared by:
Bay-Lake Regional Planning Commission

September 2019

Principal Author:
Jeffrey C. Agee-Aguayo (with assistance from Harry Graham)
Bay-Lake Regional Planning Commission
425 South Adams Street, Suite 201
Green Bay, WI 54301
Phone: (920) 448-2820
FAX: (920) 448-2823
E-Mail Address: jagee@baylakerpc.org

The preparation of this report was financed in part through a joint planning grant from the U.S. Department of Transportation, Federal Highway Administration, Federal Transit Administration and the Wisconsin Department of Transportation, under the provisions of Section 112 of the Federal Highway Act of 1973 and the Federal Transit Act of 1964 (as amended). Local funding was provided by Sheboygan County and by the Sheboygan Parking and Transit Utility.

The contents of this report reflect the views of the Bay-Lake Regional Planning Commission, which is responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the official views and policies of the U.S. Department of Transportation. This report does not constitute a standard, specification or regulation.

This page is intentionally left blank.

TABLE OF CONTENTS

Title Page i
Transit Asset Management Plan (TAMP) Policy 1
Agency Overview 1
Introduction 1
TAMP Elements 1
Definitions 2
State of Good Repair (SGR) Standards Policy 4
  Useful Life Benchmark 5
  Methodology 6
Asset Inventory Portfolio 6
  Vehicles 6
    Target for Vehicles 7
  Equipment 7
    Target for Equipment 7
  Facilities 7
    Target for Facilities 8
Asset Condition Assessment 8
Decision Support Tools and Management Approach 8
  Decision Support Tools 9
Investment Prioritization 9
  Plan Review 9
  NTD Reporting 9
Conclusion 10
  Contacts 10
  Adoption and Revision History 10

This page is intentionally left blank.

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 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 600,000 passengers in the Shoreline Metro service area in 2018. Shoreline Metro's inventory of revenue vehicles and capital assets include the following:

- 23 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, 2019, 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; and
4. Investment Prioritization: Shoreline Metro'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 FTA.

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's 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 percentage of buses that arrive on time, and a corresponding quantifiable indicator of performance or condition that is an arithmetic difference between scheduled and actual arrival time for each bus).

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 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 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: 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, or (3) 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 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 whether or not 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; and
- 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 investment justification decision on the condition of its assets throughout the asset's life cycle, and enhances the ability to maintain a SGR by proactively investing in an asset before the asset's 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. Shoreline Metro has established the following baseline measures. TAM goals include monitoring the following criteria, as well as the means of measuring the goal as it compares to actual performance.

Criteria	Measure	FY 2020	
		Goal	Actual
Safety Risks	Number of Accidents per 100,000 Revenue Miles	0.6	TBD
System Reliability	On Time Performance	95%	TBD
Maintenance Resources	Number of Vehicles Out of Service for 30 or More Days	1	TBD
System Performance	Missed Trips Due to Major Breakdown, as % of Total Trips	< 5%	TBD

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 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, whereas ULB takes into account 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, if an asset exceeds its ULB, then it 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 by 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, that the typical useful life of

medium duty buses is seven years or 150,000 miles, and that the typical useful life of 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.

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 2019 TAM targets.

ASSET INVENTORY PORTFOLIO

The following capital asset items that Shoreline Metro owns, operates and has a direct capital responsibility, included in the TAMP asset inventory, are comprised of: Rolling Stock, Equipment, and Facilities (see below). 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.

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

Revenue 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]
Heavy Duty Bus	23	12	500,000	13	8	35%
Medium Duty Bus	10	7	150,000	2	1	10%
Total	**33**			**15**	**9**	**27%**

[1]Mileage as of July 31, 2019.

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

Non- Revenue 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]
Light Duty Vehicles (Support Vehicles)	5	10	100,000	0	0	0%

[1]Mileage as of July 31, 2019.

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

Target for Vehicles

Shoreline Metro sets the TAM performance target to allow for 28 percent of revenue vehicles to pass beyond useful life. This target was set slightly higher than the 27 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. 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 scrubber, a hoist and a bus wash, 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, while hoists and bus washes have a useful life of 10 years.

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

Equipment Type	Useful Life Age Benchmark (ULB, in years)	Years of Remaining Useful Life	Age	Year Equipment Acquired
Scrubber	5	(19.00)	24.00	1995
Hoist	10	(34.00)	44.00	1975
Bus Wash	10	(8.00)	18.00	2001
Averages		**(20.33)**	**28.67**	

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 remaining 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 forty (40) years.

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

Facility Type	Condition	Years of Remaining Useful Life	Age	Year of Completion	Condition
Administration, Maintenance and Storage (Bus Garage)	2	(4.00)	44	1975	Marginal
Transfer Facility/Station	4	13.00	27	1992	Good
Averages	**3**	**4.50**	**35.50**		

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 has been programmed for 2020 in the *Sheboygan Metropolitan Planning Area TIP: Calendar Years 2020 – 2023*; this project should go a long way toward improving the "marginal" condition of that facility. In addition, various improvements to the administration, maintenance and storage facility are listed as an "illustrative" project for 2023 in the *2020 – 2023 TIP*.

ASSET CONDITION ASSESSMENT

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 (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 from 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 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: 2020 - 2024

DECISION SUPPORT TOOLS AND 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 asset's life cycle, both from a maintenance perspective (breakdowns) and a safety and 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 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 on at least a quarterly basis, 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:

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

Contacts

Derek Muench
Director of Transit & Parking
Shoreline Metro
(920) 459-3140
derek.muench@shorelinemetro.com

Jeffrey Agee-Aguayo
Transportation Planner
Bay-Lake Regional Planning Commission
(920) 448-2820, Ext. 103
jagee@baylakerpc.org

Adoption and Revision History

Recommended for approval (with changes recommended by the Director of Shoreline Metro) by the Sheboygan MPO Technical and Policy Advisory Committees on September 5, 2019.

Approved for the MPO by the Bay-Lake Regional Planning Commission on September 13, 2019.

Approved for Shoreline Metro by the Sheboygan Transit Commission on October 22, 2019.