

# City of Billings - MET Transit

## Transit Asset Management Plan

**Kevin Ploehn, Accountable Executive**

Last modified by Rusty Logan on 09 Aug 18 at 14:07

### Introduction

The Metropolitan (MET) Transit System is a division of the Aviation and Transit Department within the City of Billings located in Billings, MT. The system provides public transportation service within city limits, which includes both fixed-route bus services and ADA paratransit services (referred to as MET Plus). MET Transit has served the majority of the city with fixed-route service for over 40 years; ADA paratransit services were incorporated in 1997. The City of Billings has the largest population in the state of Montana at approximately 110,000 people and covers a geographic area of over 41 square miles. Roughly two thirds of the city are located within the Yellowstone River valley with the remainder of the city located north of a sandstone cliff formation above the valley; Billings is also a significant rail hub for the region which presents a number of challenges regarding planning and development of routes where rail and vehicle traffic interact. Regarding demographics, 30 percent of the population is under the age of 18 years while 15 percent is over the age of 65 years with the remaining 55 percent falling between the ages of 18 and 65. Approximately 12.8 percent of the population falls below the federal poverty level. MET Transit utilizes a fleet of twenty-five (25) buses to provide service on nineteen (19) fixed-routes as well as fifteen (15) body-on-chassis paratransit vans providing service across ten (10) demand-response routes. These vehicles operate from approximately 6:00 AM to 7:00 PM on weekdays and 8:00 AM to 5:30 PM on Saturdays. Further, MET Transit has three (3) separate property locations with three (3) separate facilities, consisting of the main operations facility and two transfer centers placed strategically in the city. The METropex, located at 1705 Monad Rd is the main operations facility and consists of a large building combining the administrative offices, bus storage and fueling bays, fleet maintenance bays, and general inventory storage; this facility also has a smaller secondary building which houses the MET Transit bus wash bay. All rolling stock, equipment, and parts inventories are housed at the METropex. The Stewart Park Transfer Center, located on Stewart Park Rd consists of a large bus parking area with passenger shelters for transferring passengers between buses as well as a small outbuilding which serves as a driver break area. The Downtown Transfer Center, located at 220 N. 25th St also consists of a large parking area with passenger shelters and facility containing driver break areas as well as offices for periodic administrative use.

### Performance Targets & Measures

Asset Category - Performance Measure	Asset Class	2019 Target	2020 Target	2021 Target	2022 Target	2023 Target
<b>REVENUE VEHICLES</b>						
<b>Age - % of revenue vehicles within a particular asset class that have met or exceeded their Useful Life Benchmark (ULB)</b>	<b>BU - Bus</b>	47%	42%	37%	32%	26%
	<b>CU - Cutaway Bus</b>	17%	17%	17%	17%	17%
	<b>VN - Van</b>	6%	14%	14%	14%	14%
<b>EQUIPMENT</b>						
<b>Age - % of vehicles that have met or exceeded their Useful Life Benchmark (ULB)</b>	<b>Non Revenue/Service Automobile</b>	66%	66%	66%	66%	66%
	<b>Trucks and other Rubber Tire Vehicles</b>	75%	75%	75%	75%	75%
	<b>Facility Maintenance Vehicles</b>	75%	75%	75%	75%	75%
<b>FACILITIES</b>						
<b>Condition - % of facilities with a condition rating below 3.0 on the FTA Transit Economic Requirements Model (TERM) Scale</b>						
	<b>Passenger Facilities</b>	33%	33%	33%	33%	33%
	<b>Administration and Maintenance</b>	33%	33%	33%	33%	33%

### Target Setting Methodology

**Rolling Stock Objective:** MET Transit is currently in process of purchasing 6 remanufactured 35ft buses in order to assist in mitigating the issue of a large portion of its full-size bus fleet meeting "End of Usable Life" criteria within the next two years. MET also plans to regularly purchase buses in the upcoming years to replace the remaining outdated vehicles, bringing the portion of the fleet which exceeds usable life below a 30% target. In regards to MET's Cutaway Bus fleet, all vehicles are model year 2016 and will be aged less than the minimum usable life standard for the foreseeable future; MET would expect no more than a single Cutaway Bus to reach end of usable life through unforeseen events in any given year, leading to a target of 17% or less for this vehicle type. Further, MET regularly purchases replacement Body-On-Chassis Vans to maintain an updated paratransit fleet; MET plans to continue this process to ensure the vans are replaced timely after exceeding usable life. With regular replacement, MET's target calls for no more than 2 vehicles of the 15 vans to have exceeded usable life at any given time.

**Equipment:** MET Transit has found equipment regularly outlasts the minimum useful life standards set by the FTA and replaces equipment "as needed." With this in mind, MET will most likely only replace one service vehicle of the three total in any given year, leading to 66% of the service vehicles exceeding FTA minimum usable life in any given year. This same principle applies to MET Transit's service pickups, fork lift, and tractor. Of these four vehicles, with a single replacement, any given year would see 75% of the total exceeding the FTA standard for usable life.

**Facilities:** MET Transit regularly maintains its facilities and updates/remodels/refurbishes as needed. As MET Transit has only 3 facility locations, it expects only no single facility out of these 3 would ever fall below a rating of 3 overall as it would move quickly to address any significant repair issues as each facility is critical to service delivery.

## TAM Vision

MET Transit aims to utilize the TAM plan to expand and improve upon its existing asset management policies and procedures in order to ensure assets are kept in a state of good repair and are able to be replaced or refurbished as needed. Maintaining assets in a state of good repair will assist MET Transit in improving service delivery to customers while also expanding its ability to more fully utilize assets in efforts to improve overall system efficiency and performance; this will be realized by decreasing the number of road calls, unplanned repairs, and out-of-service occurrences for rolling stock, equipment, and facilities.

## TAM and SGR Policy

It is the objective of the MET Transit maintenance program to ensure safe, reliable, and clean vehicles and facilities for the operation of the fixed route and paratransit services. The goal of MET Transit is to have maintenance performed in the most efficient and cost effective manner possible, utilizing preventative maintenance in lieu of unscheduled maintenance, thereby minimizing the number of preventable mechanical failures which would result in a disruption of MET Transit services. MET strives to sustain a state of good repair in its assets through this regular maintenance as well as planned replacement and refurbishment of assets as needed.

## TAM Goals and/or Objectives

Goals	
<b>Decrease unplanned maintenance expenses for FY19</b>	Decrease costs through more effective asset management and replacement of aging vehicles and equipment
	Decrease costs through more effective preventative maintenance
<b>Decrease service delays and interruptions for FY19</b>	Decrease road calls through more effective asset management and replacement of aging vehicles and
	Decrease road calls through more effective preventative maintenance
<b>Increase ridership for FY19</b>	Decrease interruptions as stated above thereby increasing system reliability for new and existing passengers
	Modify and improve existing transit routing network through further utilization of increasingly reliable and effective assets maintained in a state of good repair.
<b>Increase fare and bus advertising revenue for FY19</b>	Through increased reliability of revenue vehicles with mobile advertising, increase confidence in ad exposure for advertising customers
	Realize increases in fare revenue through increased ridership and service

## About the TAM Plan

The MET Transit TAM plan currently consists of this document with the following attached supporting documents including the MET Transit Maintenance Policies and Procedures with included maintenance schedules and activities, excerpts from the City of Billings Equipment Replacement Plan, and applicable excerpts from the City of Billings Capital Improvement Plan. This document covers the current state of MET Transit assets and is expected to be updated throughout FY19 with more complete information and practices, with concurrent updates to policies and procedures to more fully utilize the TAM as a tool supporting state of good repair. Applicable projects and procurements mentioned in this document have estimated timelines attached.

In regards to values, Revenue Vehicle and Equipment replacement values are taken directly from the City of Billings Equipment Replacement Plan for each individual vehicle type. Regarding facility values, it is assumed the City would continue to utilize the land should a total loss of a facility occur; with this in mind, the value indicated for each facility reflects the applicable "insured" value of each facility.

## Roles and Responsibilities

Department/Individual	Role (Title and/or Description)
Kevin Ploehn	Director of Aviation and Transit
Rusty Logan	Operations Supervisor - Plan Author, Facilities
Dan Montoya	Operations Supervisor - Fleet Maintenance
Kathy Barr	Paratransit Coordinator
Lynne Arnold	Admin Assistant III - Financial Entry, NTD
Debra Hagel	Transit Planning Coordinator

## Capital Asset Inventory

Please see Appendix A (Asset Register) for the asset inventory listing.

### Asset Inventory Summary

Asset Category	Total Number	Avg Age	Avg Mileage	Avg Value
<b>Revenue Vehicles</b>	<b>40</b>	<b>6.5</b>	<b>148,488</b>	<b>\$253,818.18</b>
<i>BU - Bus</i>	19	11.8	305,918	\$500,000.00
<i>CU - Cutaway Bus</i>	6	2.0	51,556	\$300,000.00
<i>VN - Van</i>	15	3.7	59,689	\$82,000.00
<b>Equipment</b>	<b>8</b>	<b>15.9</b>	<b>45,697</b>	<b>\$45,305.63</b>
<i>Non Revenue/Service Automobile</i>	3	16.3	60,540	\$36,178.67
<i>Trucks and other Rubber Tire Vehicles</i>	2	14.0	23,434	\$60,815.00
<i>Facility Maintenance Vehicles</i>	3	16.7	N/A	\$44,093.00
<b>Facilities</b>	<b>3</b>	<b>23.7</b>	<b>N/A</b>	<b>\$2,796,141.33</b>
<i>Passenger Facilities</i>	2	18.0	N/A	\$1,103,170.00
<i>Administration and Maintenance</i>	1	35.0	N/A	\$6,182,084.00

## Condition Assessment

Please see Appendix B (Asset Condition Data) for individual asset condition listing.

### Asset Condition Summary

Asset Category	Total Number	Avg Age	Avg Mileage	Avg TERM Condition	Avg Value	% At or Past ULB
<b>Revenue Vehicles</b>	<b>40</b>	<b>6.5</b>	<b>148,488</b>	<b>N/A</b>	<b>\$253,818.18</b>	<b>5%</b>
<i>BU - Bus</i>	19	11.8	305,918	N/A	\$500,000.00	5%
<i>CU - Cutaway Bus</i>	6	2.0	51,556	N/A	\$300,000.00	0%
<i>VN - Van</i>	15	3.7	59,689	N/A	\$82,000.00	7%
<b>Equipment</b>	<b>8</b>	<b>15.9</b>	<b>45,697</b>	<b>N/A</b>	<b>\$45,305.63</b>	<b>88%</b>
<i>Non Revenue/Service Automobile</i>	3	16.3	60,540	N/A	\$36,178.67	100%
<i>Trucks and other Rubber Tire Vehicles</i>	2	14.0	23,434	N/A	\$60,815.00	100%
<i>Facility Maintenance Vehicles</i>	3	16.7	N/A	N/A	\$44,093.00	67%
<b>Facilities</b>	<b>3</b>	<b>23.7</b>	<b>N/A</b>	<b>3.0</b>	<b>\$2,796,141.33</b>	<b>N/A</b>
<i>Passenger Facilities</i>	2	18.0	N/A	3.0	\$1,103,170.00	N/A
<i>Administration and Maintenance</i>	1	35.0	N/A	3.0	\$6,182,084.00	N/A

## Decision Support

### Investment Prioritization

In conjunction with the Equipment Replacement Plan (ERP) and Capital Improvement Plan (CIP), MET Transit also utilizes its own historical maintenance, repair, and performance records for determining which assets should be replaced in what order. For instance, rolling stock replacement is generally replaced in accordance with minimum useful life standards, but the overall performance of the vehicle is also considered when replacement occurs. Priorities are set using age, mileage, hours, and other applicable metrics as a baseline but are not the only determining factors; overall condition and performance of the assets is also considered. In regards to facilities, MET Transit ensures the facilities continue to meet the needs of the agency and updates, remodels, repairs, or refurbishes as needed to meet changing demands.

### Decision Support Tools

The following tools are used in making investment decisions:

Process/Tool	Brief Description
City Wide Equipment Replacement Plan (ERP)	Written plan and committee which evaluate vehicle and equipment assets for replacement based upon applicable age, mileage, hours, and overall operating/physical condition.
City Wide Capital Improvement Plan (CIP)	Written plan and committee which evaluates facilities and other related assets for replacement based upon applicable age and overall operating/physical condition.

## Risk Management

Risk	Mitigation Strategy
Loss of significant amounts of federal funds	Increase local sources of funding in areas such as fares, advertising, and investigation of requesting further tax mills; decrease expenditures through improved utilization of available resources
Loss of service due to planned and unplanned rolling stock maintenance	MET Transit currently maintains a spare ratio slightly above 20 percent in accordance with FTA regulations regarding agencies operating less than 50 vehicles in revenue service.

## Maintenance Strategy

Asset Category	Asset Class	Maintenance Activity	Frequency	Avg Duration (Hrs)	Cost
RevenueVehicles	BU - Bus	Preventative Maintenance A	Every 5,000 - 6,500 miles	8	\$260
RevenueVehicles	BU - Bus	Preventative Maintenance B	Every 13,000 - 14,000 miles	4	\$133
RevenueVehicles	BU - Bus	Preventative Maintenance C	Every 35,500 - 36,500 miles	2	\$76
RevenueVehicles	CU - Cutaway Bus	Preventative Maintenance A	Every 5,000- 6,500 miles	8	\$387
RevenueVehicles	CU - Cutaway Bus	Preventative Maintenance B	Every 13,000 - 14,000 miles	4	\$81
RevenueVehicles	CU - Cutaway Bus	Preventative Maintenance C	Every 35,500 - 36,500 miles	2	\$41
RevenueVehicles	VN - Van	Preventative Maintenance A	Every 3000 - 5000 miles	4	\$109
RevenueVehicles	VN - Van	Preventative Maintenance B	Every 11,500 - 12,500 miles	2	\$41
RevenueVehicles	VN - Van	Preventative Maintenance C	Every 29,500 - 30,500 miles	2	\$41
Equipment	Non Revenue/Service Automobile	Preventative Maintenance A	Every 3000 - 5000 miles	4	\$105
Equipment	Non Revenue/Service Automobile	Preventative Maintenance B	Every 11,500 - 12,500 miles	2	\$39
Equipment	Non Revenue/Service Automobile	Preventative Maintenance C	Every 29,500 - 30,500 miles	2	\$39
Equipment	Facility Maintenance Vehicles	Preventative Maintenance A	Hours Vary Per Vehicle; Completed at Least Annually	4	\$106
Equipment	Facility Maintenance Vehicles	Preventative Maintenance B	Hours Vary Per Vehicle	0.5	\$12

## Unplanned Maintenance Approach

When allocating its yearly budget, MET Transit reviews the previous three year's expenditures for parts, labors, repairs, and other maintenance and adjusts accordingly based upon previous trends; in this process, the age, mileage, and hours on each piece of rolling stock or equipment is also taken into consideration. If repairs exceed the anticipated budgeted amount, operating reserve is utilized to address the excess expense.

Disposal Strategy

Asset Category	Asset Class	Disposal Strategy
RevenueVehicles	BU - Bus	Rolling stock at the end of usable life (when finances allow for procurement of replacement vehicles) are re-tired using multiple options: (1) sale to other entities via open advertisements; (2) sale via local auction; (3) direct sale to other city departments; (4) salvage sale. Retired vehicles moved from the indoor storage bays to the vacant lot for storage until disposal occurs.
RevenueVehicles	CU - Cutaway Bus	Rolling stock at the end of usable life (when finances allow for procurement of replacement vehicles) are re-tired using multiple options: (1) sale to other entities via open advertisements; (2) sale via local auction; (3) direct sale to other city departments; (4) salvage sale. Retired vehicles moved from the indoor storage bays to the vacant lot for storage until disposal occurs.
RevenueVehicles	VN - Van	Rolling stock at the end of usable life (when finances allow for procurement of replacement vehicles) are re-tired using multiple options: (1) sale to other entities via open advertisements; (2) sale via local auction; (3) direct sale to other city departments; (4) salvage sale. Retired vehicles moved from the indoor storage bays to the vacant lot for storage until disposal occurs.
Equipment	Non Revenue/Service Automobile	Equipment stock at the end of usable life (when finances allow for procurement of replacement vehicles) are re-tired using multiple options: (1) sale to other entities via open advertisements; (2) sale via local auction; (3) direct sale to other city departments; (4) salvage sale. Retired vehicles moved from the indoor storage bays to the vacant lot for storage until disposal occurs.
Equipment	Trucks and other Rubber Tire Vehicles	Equipment stock at the end of usable life (when finances allow for procurement of replacement vehicles) are re-tired using multiple options: (1) sale to other entities via open advertisements; (2) sale via local auction; (3) direct sale to other city departments; (4) salvage sale. Retired vehicles moved from the indoor storage bays to the vacant lot for storage until disposal occurs.
Equipment	Facility Maintenance Vehicles	Equipment stock at the end of usable life (when finances allow for procurement of replacement vehicles) are re-tired using multiple options: (1) sale to other entities via open advertisements; (2) sale via local auction; (3) direct sale to other city departments; (4) salvage sale. Retired vehicles moved from the indoor storage bays to the vacant lot for storage until disposal occurs.
Facilities	Administration and Maintenance	MET Transit has historically not disposed of any facilities or locations; facility overhauls and remodels, as well as new facility construction, have occurred at various points in the agency's history.
Facilities	Passenger Facilities	MET Transit has historically not disposed of any facilities or locations; facility overhauls and remodels, as well as new facility construction, have occurred at various points in the agency's history.

Asset Category	Asset Class	Acquisition and Renewal Strategy
RevenueVehicles	BU - Bus	5339(A) statutory funds are allocated to projects each year with funds marked for use in bus replacement as needed dependent on the age and mileage of the vehicles; capital reserves are set aside in order to ensure adequate funds to meet local match.
RevenueVehicles	BU - Bus	Current level of 5339(A) funds and capital reserves will allow for the purchase of six (6) remanufactured 35ft Diesel Buses in order to help mitigate the rapidly approaching "End of Usable Life" deadlines on 16 of MET Transit's vehicles
RevenueVehicles	CU - Cutaway Bus	MET Transit has found this type of bus ineffective at meeting the needs of the agency and will seek to replace these buses at the end of their usable life with more appropriate vehicles, potentially consisting of 35ft Transit Buses
RevenueVehicles	VN - Van	MET Transit is eligible to receive 5310 funds on a regular basis in accordance with program requirements and utilizes these funds, along with local capital reserves, to regularly purchase and replace paratransit vans which have reached the end of their usable life.
Equipment	Non Revenue/Service Automobile	MET Transit has found service vehicles to be usable beyond the minimum standards set forth by the Federal Transit Administration and replaces equipment as needed.
Equipment	Trucks and other Rubber Tire Vehicles	MET Transit has found maintenance vehicles to be usable beyond the minimum standards set forth by the Federal Transit Administration and replaces equipment as needed.
Equipment	Facility Maintenance Vehicles	MET Transit has found other wheeled equipment to be usable beyond the minimum standards set forth by the Federal Transit Administration and replaces equipment as needed.
Facilities	Administration and Maintenance	In regards to Admin and Maintenance facilities, MET Transit ensures the facilities continue to meet the needs of the agency and updates, remodels, repairs, or refurbishes as needed to meet changing demands. Facilities are inspected regularly for defects or needed repairs with the yearly budget process accounting for upcoming major repairs requiring capital expenditures.
Facilities	Passenger Facilities	In regards to Passenger facilities, MET Transit ensures the facilities continue to meet the needs of the agency and updates, remodels, repairs, or refurbishes as needed to meet changing demands. Facilities are inspected regularly for defects or needed repairs with the yearly budget process accounting for upcoming major repairs requiring capital expenditures.

### Investment Prioritization

The list of prioritized investment projects is provided in Appendix C.

### Capital Investment Activity Schedules

Document Name	File
MET Transit FY19 to FY23 CIP	PDF
FY2018 Equipment Replacement	PDF
MET Transit Maintenance Plan Rev_07-26-2016	PDF
FY19 Facility Ratings May2018	PDF

### Appendices

[Appendix A](#)

[Appendix B1](#)

[Appendix B2](#)

[Appendix B3](#)

[Appendix C](#)

Asset Register

Revenue Vehicle (Rolling Stock) Condition Data

Equipment Condition Data

Facilities Condition Data

Proposed Investment Project List

Appendix A: Asset Register

Asset Category	Asset Class	Asset Name	Make	Model	Count	ID/Serial No.	Acquisition Year	Vehicle Mileage	Replacement Cost/Val
Equipment	Facility Maintenance Vehicles	1990 Forklift	Toyota	02-5FD30	1	1862	1990	N/A	\$55,272.00
Equipment	Facility Maintenance Vehicles	2004 Floor Cleaner	Nilfisk Advance	Captor 4800	1	1870	2004	N/A	\$47,256.00
Equipment	Facility Maintenance Vehicles	2010 Tractor	Massey Ferguson	GC2600	1	1859	2010	N/A	\$29,751.00
Equipment	Non Revenue/Service Automobile	2000 Minivan	Ford	Windstar	1	1866	2000	75,782	\$49,960.00
Equipment	Non Revenue/Service Automobile	2000 Passenger Car	Chevrolet	Malibu	1	1867	2000	57,205	\$37,952.00
Equipment	Non Revenue/Service Automobile	2005 Passenger Car	Ford	Taurus	1	1865	2005	48,632	\$20,624.00
Equipment	Trucks and other Rubber Tire Vehicles	1999 Ford Pickup	Ford	F350	1	1861	1999	15,067	\$63,825.00
Equipment	Trucks and other Rubber Tire Vehicles	2009 Ford Pickup	Ford	F350	1	1869	2009	31,801	\$57,805.00
Facilities	Administration and Maintenance	METroplex	N/A	N/A	1	MTROPLX	1983	N/A	\$6,182,084.00
Facilities	Passenger Facilities	Downtown Transfer Center	N/A	N/A	1	DWNTWN	2008	N/A	\$2,153,215.00
Facilities	Passenger Facilities	Stewart Park Transfer Center	N/A	N/A	1	STWRTPK	1992	N/A	\$53,125.00
RevenueVehicles	BU - Bus	2004 35ft Transit Bus	Gillig	Phantom	6	1801-1806	2004	328,427	\$500,000.00
RevenueVehicles	BU - Bus	2005 35ft Transit Bus	Gillig	Phantom	10	1807-1816	2005	392,806	\$500,000.00
RevenueVehicles	BU - Bus	2007 35ft Transit Bus	Gillig	Phantom	1	1871	2007	270,882	\$500,000.00
RevenueVehicles	BU - Bus	2009 35ft Low Floor Transit Bus	Gillig	Low Floor	2	1818-1819	2009	231,558	\$500,000.00
RevenueVehicles	CU - Cutaway Bus	2016 30ft Body on Chassis Bus	Champion	LF Transit	6	1820-1825	2016	51,556	\$300,000.00
RevenueVehicles	VN - Van	2010 26ft Paratransit Body on Chassis Van	Startrans	Ford Supreme	1	1883	2010	88,045	\$82,000.00
RevenueVehicles	VN - Van	2012 26ft Paratransit Body on Chassis Van	Startrans	Ford Supreme	3	1885-1887	2012	120,396	\$82,000.00
RevenueVehicles	VN - Van	2014 26ft Paratransit Body on Chassis Van	Elkhart	Coach	1	1888	2014	69,453	\$82,000.00
RevenueVehicles	VN - Van	2015 26ft Paratransit Body on Chassis Van	Eldorado	Aerotech	3	1889-1891	2015	60,766	\$82,000.00
RevenueVehicles	VN - Van	2017 26ft Paratransit Body on Chassis Van	Elkhart	Coach	2	1892-1893	2017	19,476	\$82,000.00
RevenueVehicles	VN - Van	2018 26ft Paratransit Body on Chassis Van	Elkhart	Coach	5	1872-1876	2018		\$82,000.00

Appendix B: Asset Condition Data

B1: Revenue Vehicle Assets

Asset Category	Asset Class	Asset Name	Count	ID/Serial No.	Age (Yrs)	Vehicle Mileage	Replacement Cost/Value	Useful Life Benchmark (Yrs)	Past Useful Life Benchmark
RevenueVehicles	BU - Bus	2004 35ft Transit Bus	6	1801-1806	14	328,427	\$500,000.00	14	Yes
RevenueVehicles	BU - Bus	2005 35ft Transit Bus	10	1807-1816	13	392,806	\$500,000.00	14	No
RevenueVehicles	BU - Bus	2007 35ft Transit Bus	1	1871	11	270,882	\$500,000.00	14	No
RevenueVehicles	BU - Bus	2009 35ft Low Floor Transit Bus	2	1818-1819	9	231,558	\$500,000.00	14	No
RevenueVehicles	CU - Cutaway Bus	2016 30ft Body on Chassis	6	1820-1825	2	51,556	\$300,000.00	10	No
RevenueVehicles	VN - Van	2010 26ft Paratransit Body on Chassis Van	1	1883	8	88,045	\$82,000.00	8	Yes
RevenueVehicles	VN - Van	2012 26ft Paratransit Body on Chassis Van	3	1885-1887	6	120,396	\$82,000.00	8	No
RevenueVehicles	VN - Van	2014 26ft Paratransit Body on Chassis Van	1	1888	4	69,453	\$82,000.00	8	No
RevenueVehicles	VN - Van	2015 26ft Paratransit Body on Chassis Van	3	1889-1891	3	60,766	\$82,000.00	8	No
RevenueVehicles	VN - Van	2017 26ft Paratransit Body on Chassis Van	2	1892-1893	1	19,476	\$82,000.00	8	No
RevenueVehicles	VN - Van	2018 26ft Paratransit Body on Chassis Van	5	1872-1876			\$82,000.00	8	No

Appendix B: Asset Condition Data

B2: Equipment Assets

Asset Category	Asset Class	Asset Name	Count	ID/Serial No.	Age (Yrs)	Vehicle Mileage	Replacement Cost/Value	Useful Life Benchmark (Yrs)	Past Useful Life Benchmark
Equipment	Facility Maintenance Vehicles	1990 Forklift	1	1862	28	N/A	\$55,272.00	14	Yes
Equipment	Facility Maintenance Vehicles	2004 Floor Cleaner	1	1870	14	N/A	\$47,256.00	14	Yes
Equipment	Facility Maintenance Vehicles	2010 Tractor	1	1859	8	N/A	\$29,751.00	14	No
Equipment	Non Revenue/Service Automobile	2000 Minivan	1	1866	18	75,782	\$49,960.00	8	Yes
Equipment	Non Revenue/Service Automobile	2000 Passenger Car	1	1867	18	57,205	\$37,952.00	8	Yes
Equipment	Non Revenue/Service Automobile	2005 Passenger Car	1	1865	13	48,632	\$20,624.00	8	Yes
Equipment	Trucks and other Rubber Tire Vehicles	1999 Ford Pickup	1	1861	19	15,067	\$63,825.00	8	Yes
Equipment	Trucks and other Rubber Tire Vehicles	2009 Ford Pickup	1	1869	9	31,801	\$57,805.00	8	Yes

Appendix B: Asset Condition Data

B3: Facilities Assets

Asset Category	Asset Class	Asset Name	Count	ID/Serial No.	Age (Yrs)	TERM Scale Condition	Replacement Cost/Value
Facilities	Administration and Maintenance	METroplex	1	MTROPLX	35	3	\$6,182,084.00
Facilities	Passenger Facilities	Downtown Transfer Center	1	DWNTWN	10	3	\$2,153,215.00
Facilities	Passenger Facilities	Stewart Park Transfer Center	1	STWRTPK	26	3	\$53,125.00

Appendix C: Proposed Investment Project List

Project Year	Project Name	Asset/Asset Class	Cost	Priority
2018	Remanufactured Diesel Bus Acquisition (6)	RevenueVehicles	\$1,725,000.00	High
2018	METroplex Roof Repair Phase 1	Facilities	\$133,000.00	High
2019	METroplex Interior Lighting LED Upgrade	Facilities	\$30,000.00	Medium
2019	METroplex Security Upgrade (Cameras)	Facilities	\$25,000.00	Medium
2019	26ft Body on Chassis Van Acquisition (1)	RevenueVehicles	\$68,000.00	High
2019	METroplex Roof Repair Phase 2	Facilities	\$190,000.00	High

**CITY OF BILLINGS FY 2019 - FY 2023 CAPITAL IMPROVEMENT PLAN  
APPROVED BY COUNCIL ON MARCH 26, 2018**

PROJECT NUMBER	TITLE	SHORT DESCRIPTION	PROJ. STATUS	7/01/18 - 6/30/19 FY '19	7/01/19 - 6/30/20 FY '20	7/1/20 - 6/30/21 FY '21	7/1/21 - 6/30/22 FY '22	7/1/22 - 6/30/23 FY '23	FY19-23 FUND TOTALS
<b>MET Transit</b>									
	<b>Roof Replacement over Para Transit Van Annex - Phase 3</b>	Replaces 25 year old roof over the parking bays used for the para transit vans. Phase III, Sections C & J.							
	Transit FTA Grant		<i>Approved</i>	\$0	\$0	\$0	\$160,000	\$0	\$160,000
	<b>Total For Project</b>		<b>Total</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$160,000</b>	<b>\$0</b>	<b>\$160,000</b>
	<b>Roof Replacement-Bus Bays - Phase 2</b>	Replaces 35 year old roof over the MET's original Bus Bay Area. Phase II, Sections B, D, & I.							
	Transit FTA Grant		<i>Approved</i>	\$190,000	\$0	\$0	\$0	\$0	\$190,000
	<b>Total For Project</b>		<b>Total</b>	<b>\$190,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$190,000</b>
	<b>Bus Wash Improvements</b>	The current facility is inadequate for the needs of MET. This project would look to add on and enhance the Bus wash facility.							
	Transit FTA Grant		<i>Approved</i>	\$0	\$0	\$300,000	\$0	\$0	\$300,000
	<b>Total For Project</b>		<b>Total</b>	<b>\$0</b>	<b>\$0</b>	<b>\$300,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$300,000</b>
	<b>Exterior Security Enhancements</b>	Due to recent vandalism and theft at the Metroplex, staff wants to incorporate security measures to mitigate these issues.							
	Transit FTA Grant		<i>Approved</i>	\$25,000	\$0	\$0	\$0	\$0	\$25,000
	<b>Total For Project</b>			<b>\$25,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$25,000</b>
<b>Transit Funding Total Approved Projects</b>				<b>FY '19</b>	<b>FY '20</b>	<b>FY '21</b>	<b>FY '22</b>	<b>FY '23</b>	<b>FY19-23 FUND</b>
	Transit FTA Grant		<i>Approved</i>	\$215,000	\$0	\$300,000	\$160,000	\$0	\$675,000
	Transit Local Funds		<i>Approved</i>	\$0	\$0	\$0	\$0	\$0	\$0
				<b>\$215,000</b>	<b>\$0</b>	<b>\$300,000</b>	<b>\$160,000</b>	<b>\$0</b>	<b>\$675,000</b>

# EQUIPMENT REPLACEMENT PLAN

**Fiscal Year 2018**

## *Equipment Replacement Plan*

- The City of Billings Equipment Replacement Plan identifies replacement and funding guidelines for vehicles and equipment with a useful life in excess of three years and a cost of \$5000 or more. Stationary equipment which is part of a facility Such as compressors, generators, air conditioners, etc. are exempt.
- On an annual basis the Equipment Replacement Committee will review vehicles and equipment scheduled for replacement, make required changes and submit recommendations for current or future replacements to the City Administrator.
- Equipment replacement guidelines are not intended to be an automatic replacement indicator. Guidelines are an indicator for consideration to recommend equipment for replacement. Because a piece of equipment is scheduled for replacement in a certain year, does not necessarily mean that it will automatically be replaced. Likewise, because a piece of equipment falls within the age and meter/miles guidelines does not necessarily mean that it will be recommended for replacement. Extended use options will be considered. Departments are required review and adjust replacement schedules annually, prior to committee review. Departmental review for replacement consideration include: Meter/Miles, Age, Usage, Condition, Cost, Obsolescence, Safety and Change of operations.
- The replacement plan will cover a 20-year time period and will be reviewed and updated annually. This would require many pieces of equipment to be replaced several times over the 20 years.
- Each piece of equipment will be assigned a replacement year, salvage value, and replacement cost.
- Salvage value is determined by past market analysis as a percentage of purchase price varied by equipment class. Average salvage values range from 15 to 20% of purchase price. Some exceptions will apply to obsolete, low demand, and high demand equipment.
- Estimated Replacement costs are determined by manufacturer average annual percentage increases ranging from 3 to 5%. Some exceptions will apply.
- Departments should ensure that replacement cost estimates are accurate. The amount entered in the Equipment Replacement Plan (ERP) must match the annual budget request amount. Budget amounts will be determined by taking total estimated replacement cost less estimated salvage value. Instances where the equipment is not traded in but sold through auction or other methods will be handled on a case by case basis. The affected department/division will work with

finance to determine the budget impact if any. Budget amendments if required will need Department Head and City Administrator approval prior to placing on the council agenda.

Any savings from purchase replacements will not be used to purchase other equipment.

- Any piece of equipment which has been approved for replacement must be disposed of unless otherwise approved by the committee for retention. It will be the respective department's responsibility to ensure that all replacement equipment is appropriately disposed of.
- Replacement funding is maintained by annual contributions for each piece of equipment based on the estimated life, salvage value and replacement cost. Internal Service and Enterprise funded equipment are excluded from the annual contribution funding process but are included in the replacement, cost projection and budgeting process of the program.
- The final plan document will total equipment by department, fund and replacement year including a grand total for all city funds.
- Departments requesting additional equipment or upgraded equipment replacements are required to obtain the additional funding through an **approved** Supplemental Budget Request submitted through the ERP committee.
  - *Example of "upgraded equipment"*: If a department presently has a compact car and wishes to replace it with a full size pickup, the replacement funding calculations are based on the replacement cost of the compact car. The additional cost for the pickup will require a Supplemental Budget Request Form to be submitted.
- Change requests after the final plan is submitted will likely be deferred to the next budget year. Any changes to the final plan, such as equipment purchases, transfers, retentions or other revisions must be reviewed by the committee, recommend by majority vote and then requested in writing and submitted to the City Administrator for approval.

## EQUIPMENT REPLACEMENT GUIDELINES

<u>Class Code</u>	<u>Equipment Class</u>	<u>Years</u>	<u>Meter</u>
1001	Autos - General Use	10-12	80-100k
1002	Police Patrol Cars	5-7	80-100k
1003	Pickups and Light trucks	7-12	80-100k
1004	SUVs	7-12	80-100k
1005	Trucks over 1 ton	10-15	60-100k
1006	Dump trucks	10-15	60-100k mi/ 7-12k hrs
1007	Trucks Refuse	7-10	7-12k hrs
1008	Trucks Sewer Jet	7-12	7-12k hrs
1009	Trucks Ariel Bucket	7-10	7-10k hrs
1010	Trucks Sander/Dump	10-12	60-100k
1011	Trucks Fire Aerial ladder	15-20	N/A
1012	Trucks Fire/Pumper	15-20	N/A
1013	Trucks Fire/Rescue	15-20	N/A
1014	Bus MET	12	300-500k
1015	Bus Paratransit	5	80-100k
1016	Bus Misc	10-20	100-500k
1017	Dozers	3-6	8-10k hrs
1018	Tractors	10-20	5-15k hrs
1019	Loaders	10-20	7-10k hrs
1020	Backhoes	7-15	7-10k hrs
1021	Compactor Landfill	3-5	8-10k hrs
1022	Graders	10-20	7-12k hrs
1023	Rollers	10-20	5-8k hrs
1024	Pavers	15-20	5-7k hrs
1025	Misc Const Equipment	10-20	4-15k hrs
1026	Small Equipment	3-15	N/A
1027	Non Powered Equipment	7-20	N/A
1028	Forklifts	15-20	5-10k hrs
1029	Cushman & Enforcement Scooters	10-15	25-35k
1030	Snow Blowers	10-20	N/A
1031	Snow Plows	10-20	N/A
1032	Street Sweepers	7-10	7-12k hrs
1033	Pumps/generators	7-20	N/A
1034	Air Compressors	10-20	N/A
1035	Mowers/Riding	5-10	3-10k hrs
1036	Attachments/accessories	5-20	N/A
1037	Electronic equipment	3-20	N/A
1038	Computer equipment	3-20	N/A
1039	Furniture/office equipment	3-20	N/A
1040	Shop equipment/machines	3-20	N/A

# MET TRANSIT

## MAINTENANCE POLICIES AND PROCEDURES



## *Billings METropolitan Transit*

*Updated 06/17/2016*

## **PROGRAM GOAL & OBJECTIVES**

It is the objective of the vehicle maintenance program to assure safe, reliable, and clean vehicles for operation in the MET Transit fixed route and paratransit service. The goal of the MET is to have maintenance performed in the most efficient and cost effective manner possible, utilizing preventative maintenance in lieu of unscheduled maintenance, thereby minimizing the number of preventable mechanical failures which would result in a disruption of MET fixed routed and paratransit service.

## **PROGRAM DESCRIPTION**

### **SCHEDULED MAINTENANCE**

The preventive maintenance program is performed in cycles as follows:

**A INSPECTIONS** are performed between 5,000 and 6,500 miles on buses (all based on type of power plant OEM and synthetic oil manufacturer guidelines) and 3,000 and 5,000 miles on the paratransit vans which includes oil changes, steering linkage and lines inspections, brake inspections, chassis lubrication, air cleaner inspections, all fluids are checked, filter replacements, hoses and belts are check for wear, bus air tanks drained, visual inspections of major components including electrical systems and cameras are made. Wheelchair ramps and lifts are also inspected, adjusted and lubed. Seating areas including the restraint areas for wheelchairs are inspected.

At every A inspection on a bus, an engine oil sample is drawn and submitted to CITGO labs for analysis. A sample of the transmission fluid is drawn from a bus on the B inspections and it is sent to CITGO Labs, for analysis. CITGO Labs furnishes copy of the reports online to the MET for analysis of the results.

**B INSPECTIONS** are performed between 13,000 and 14,000 miles on buses and on paratransit vans at 11,500 and 12,500 miles which includes transmission fluid and filter changes. In addition to the above, on buses, we also check coolant, drain oil box collector, check retarder accumulator, lifts, knells, and the suspension system. On vans we replace fuel filter, check electrical system, and wheelchair lift mounting system.

**C INSPECTIONS** are performed every 35,500 to 36,500 miles on the buses and for para transit vans at 29,500 to 30,500 miles. On buses we check engine operation, change differential grease, change air dryer, inspect lifts, inspect knells,

and inspect high-pressure lines. On the paratransit vans we check engine operation, check differential grease, and pack wheel bearings if necessary.

All PM maintenance intervals have been established based on work-experience by MET Transit or by manufactures recommendations to optimize the life of the vehicle and its components. All intervals fall within manufacturer recommended levels and/or lubrication standards within the transportation industry.

It is the policy of the maintenance department to inspect and repair all items and or components during PM maintenance, thereby minimizing unscheduled maintenance. Components are rebuilt to OEM specifications to ensure equal or better life. Most major components are tracked by the OEM serial number or are assigned a MET Transit inventory number. This allows the components to be tracked for original miles run and miles to next rebuild. This cycle is tracked for major components life.

A City wide computer system provides an accurate mileage tracking for each vehicle on a weekly basis which in turn triggers the vehicle preventative maintenance program. MET imputes the mileage daily into the program to provide the weekly report.

## **UNSCHEDULED MAINTENANCE**

Unscheduled maintenance is any work necessary due to premature failure, and items that are impractical or impossible to include on a preventative maintenance schedule. These items may include electrical components, turn signals flashers, wiper motors, relays, valves, door motors, glass, and light bulbs. Although many of these items are checked during the PM inspections and are repaired/replaced when it is determined the useful life is nearing completion, many items have minimal indicators or none at all.

A daily review of coach inspection sheets submitted by vehicle operators, and all occurrences of mechanical failures, are analyzed. The analysis serves as the basis for unscheduled vehicle maintenance beyond that which is required for the actual repair of failed vehicles. The daily monitoring of individual vehicle mechanical performance can be effectively accomplished manually. The monitoring identifies deviations from expected component failure rates so adjustments can be made to inspection intervals. In most cases, timely inspections will detect the failure before they occur on the road.

## **PROGRAM PERFORMANCE**

MET Transit operates 26 buses and 15 paratransit vans in revenue service utilizing a service facility with four repair bays. All fueling, cleaning, running repairs, minor

electrical repairs, inspections, and maintenance works is performed at the MET with the exceptions of body work and some technical component work. The MET Transit maintains an automated bus wash facility, which is adjacent to the main terminal complex. Each night vans and buses are fueled, fluids checked and cleaned (windows, floors, and seating).

The MET's fleet consists of NOVA 35' standard floor buses, GILLIG 35' standard floor buses, and Gillig 35' Low floor buses with Detroit or Cummins Diesel Engines, Carrier HVAC systems, and Allison and V-Drive Transmission power plants. In addition to the buses the MET operates a variety of paratransit vans. All of the MET's buses and vans have electronic engines that utilize computers to analyze performance. Power steering has replaced manually steering on all MET vehicles. All of the buses and all paratransit vans have wheelchair lifts or ramps to comply with the needs of the disabled that make use of mobility aids such as wheelchairs and walkers. MET Transit mechanics perform the majority of the maintenance on the vehicles with the exception of work that is farmed out and some of the transmission overhaul work is also farmed out.

## **RECORDS**

All vehicle job orders (includes PM's) and related paperwork to the MET Fleet is keep in files adjacent to the MET Supervisor's office in lateral file cabinets. Also in this area are warranty records which are in separate files to allow MET Personnel to track and ensure that warranties have been satisfied. Past year records are boxed up and stored in a record retention area in a storage area.

Records for the maintenance of the facility and grounds are maintained in both the Transit Service Worker's office and the MET Supervisor's office. These records include PM's, inspections, and repairs.

## **QUALITY CONTROL**

Quality control is accomplished through OEM suggestion, report data, and MET Supervisor's impute. No time frames are established for work performance while a vehicle component is worked on. It is the MET's policy that all jobs are completed in a reasonable amount of time based on problems found, and the amount of work required to complete the task what will enable the vehicle to be placed into revenue service in a safe, and reliable condition without the necessity of further repairs prior to the next scheduled maintenance. It is also MET Transit policy that the vehicle be inspected each and every time it is bought into the shop for any reason as time permits. All items in need of attention/repair are evaluated and either repaired or

noted and scheduled for repair at a future date.

MET Transit utilizes journeymen mechanics with extensive training both from OEM's, Transit/Vendor classes, and years of on-hands experience. MET mechanics perform all most all bus transmission overhauls. All paratransit van engine and transmission overhauls are farmed out to factory authorized outlets. MET mechanics do all AC work, electrical work, brake jobs, suspension/knell work, wheelchair and or ramp repairs, and by doing both scheduled and unscheduled work. MET mechanics take pride to see that their work is of high quality to keep a dependable MET fleet of buses and paratransit vans on the streets of Billings bringing MET passengers a reliable efficient service.

### **MAINTENANCE MANPOWER DISTRIBUTION**

MET Transit operates one AM shift of two mechanics and one mechanic on the afternoon shift that are supervised by a MET Operations Supervisor that in turn reports to the MET Transit Manager. In addition to the three mechanics, the MET employs one service tech to do minor service works such as oil changes, services filters, and basic PM work. Tire work is handled by the mechanics with some assistance from outside tire shops. Most body work and glass repairs are farmed out.

### **MAINTENANCE PROTECTION AND REVIEWS**

On a daily basis the MET Operations Supervisor, the three MET mechanics and the MET service worker meet to discuss equipment problems, workloads, and the scheduling of major component needs such as overhauls. The MET Operations Supervisor meets with the MET Transit Manager on a weekly basis on maintenance issues. A formal operations report is filed with the MET Transit Manager on a monthly basis summarizing the past months major maintenance activities and future maintenance needs. Budget needs are addressed on an annual basis or as unanticipated needs dictate. Labor needs are analyzed on a yearly basis also.

### **NON-REVENUE VEHICLES**

Maintenance on the five non-revenue vehicles is performed by the three mechanics and service worker. Maintenance is performed on a mileage basis. Vehicles that do not operate on the streets, such as forklifts, floor machine, and lawn equipment that accrue low monthly mileage, receive maintenance on a time frame depending on use. All other vehicles receive schedule maintenance based on mileage. It is the

goals of the Maintenance Department to maintain vehicles in a dependable and safe operating condition.

## **NON-ROLLING STOCK**

Non-rolling stock includes building, parking lots, grounds, poles/signs, shelters, and equipment

Maintenance is performed as follows:

1. **Buildings and parking lots are repaired as needed. The MET also adheres to the following preventative maintenance schedule.**
  - Fire Extinguishers inspected monthly by MET personnel  
Inspection performed by ARFF Fireman on a yearly basis  
Stevens Fire Protection does Hydro Test every 10 years
  - Building Emergency Exit Lights checked monthly
  - Waste Oil heater is serviced every 500 hours
  - Bus Wash – PM interval every six months
  - Exhaust Fans – PM interval every six months
  - Shop Compressor – PM interval every six months
  - Pneumatic Compressor (mechanical room) – PM interval every six months.
  - Heating & Cooling unit in day room serviced every six months
  - Air Circulator (boiler room & mechanical room) – annual service
  - Roof top heater and air conditioner (paratransit area)  
PM interval every six months
  - Overhead heaters (garage bays) – PM interval every six months
  - Sumps (garage bays, shop, bus wash) – PM interval every six months
  - Boilers – Daily check of all items on posted log sheet (gauges, circulator pumps, belt, etc.). Boiler water analysis performed every twelve months and closed system treatment added if needed.
  - Underground Fuel Tanks – Perform weekly leak tests. Test line tightness every year and perform cathodic protection check every three years. Test tank tightness every year.
2. **Landscaping and grounds maintenance is performed on a weekly schedule as needed. (Sprinkler system serviced annually)**
3. **Signs are repaired as needed.**
4. **Bus shelters are cleaned and inspected every two months and are repaired as needed.**

5. **Floor Scrubber/Sweeper -**  
**- To be done by 50 hours**  
**Change Oil 10/30 W and Oil Filter**  
**Fuel Lines/Tank/Cap Inspect for Leaks**  
**Hoses/Clamps/Belts Inspect for Condition**  
**Power Steering Inspect Hoses/Lines and Refill Reservoir as Needed**  
**Exhaust System Inspect Connections and for Leaks**  
**Starter Inspect Connections**  
**Battery Inspect Connections/Clean Contacts/Lube Cable Contacts**  
**Park Brake Condition**  
**Brake Peddle Condition**  
**Instruments/Gauges Inspection Condition/Operation**  
**Tires/Wheels Inspect Condition**  
**Body Inspect for Condition**  
**Lights Replace as needed**  
**Lube all Zerts**  
**Steering Components Condition**  
**- To be done by 100 hours**  
**Replace Hydraulic Charge oil Filter**  
**Check Operation and Condition of Debris Dump Box**  
**Check Operation of Safety Features including Operators Seat**  
**Check Condition of Brushes and Replace As Needed**  
**Check Scrubber equipment/fittings/hoses**  
**- To be done by 200 hours**  
**Replace Hydraulic Oil with 10/30 W Oil and the In Tank Filter**  
**Flush Radiator**  
**Inspect Water Pump for Operation/Leaks/Fittings**  
**Replace Primary Air Cleaner Element**  
**Test Drive for Powerplant Performance, Steering, and Braking**

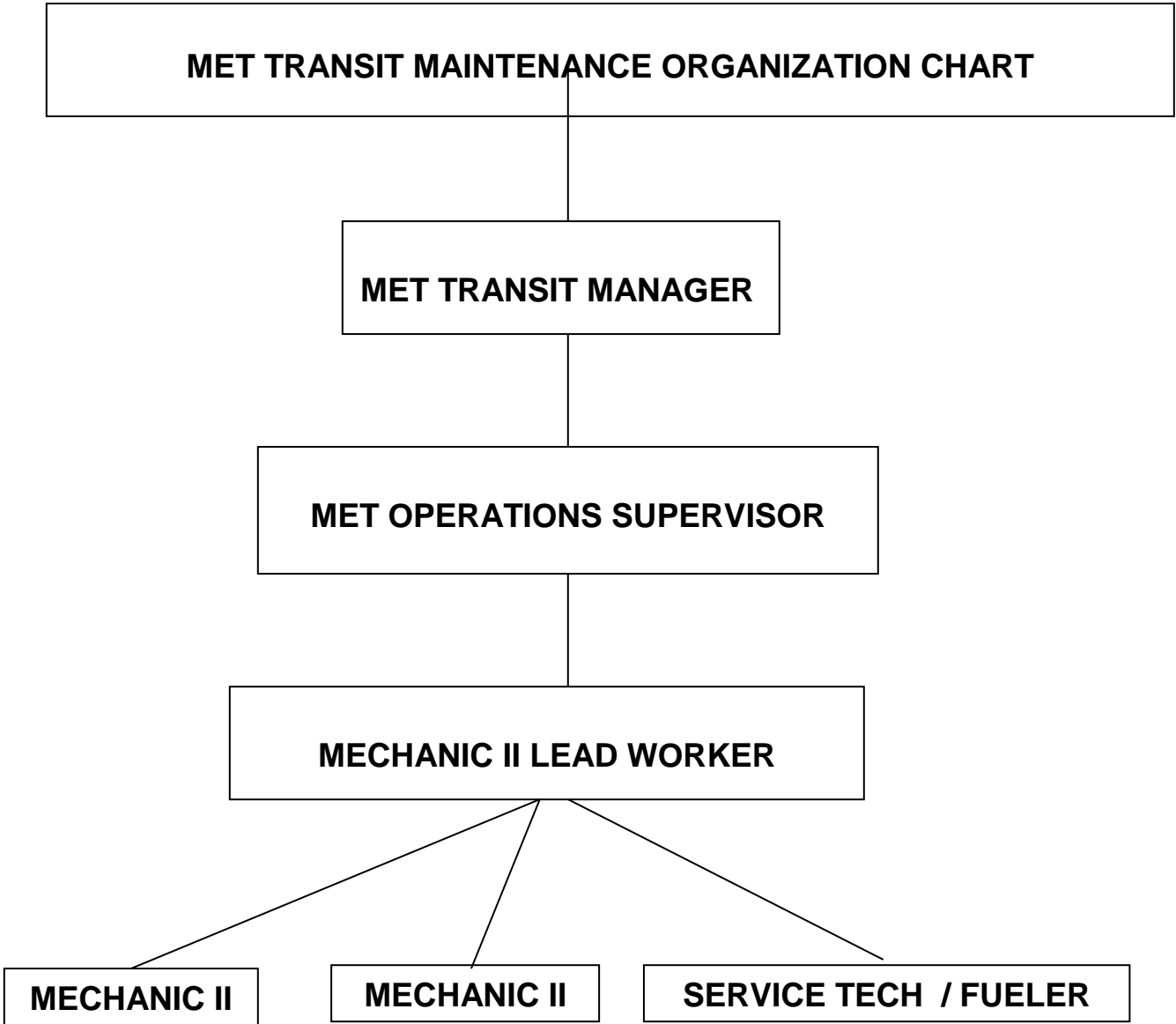
## **MAINTENANCE BUDGET**

The Maintenance Budget consists of salaries, maintenance services, lubricants, fuels, parts, tires, and maintenance operating supplies, tools, training, safety equipment/supplies and building upkeep.

## **WARRANTY PROGRAM**

When the MET Transit receives a new vehicle a separate file is set up to record and store any and all warranty work performed on the vehicle during the warranty period.

**It is the MET's goal to maximize the use of the warranty on each vehicle as stated by the OEM. If a local warranty outlet in Billings is available an appointment is made with the outlet to have the work done and a copy of work order is obtained and filed in the Warranty Folder for the vehicle. If the MET shop performs warranty work the MET contacts the OEM for reimbursement for parts and labor. This situation is rare as most components on the MET vehicles have warranty outlets in Billings to do the work. The MET actively pursues the use of vehicles warranties to see that they are utilized to the fullest extent possible.**



REVISED 06/17/2016

FACILITY NAME: METroplex

OVERALL RATING:

4

<b>Primary Level</b>	<b>Rating</b>	<b>Secondary Level</b>	<b>Rating2</b>	<b>Components</b>	<b>Rating3</b>
Substructure	3.25	Foundation	3.25	Walls	4
				Columns	4
				Slabs	3
				Paint/Sealant	2
Shell	3.540816	Superstructure	4	Columns/Pillars	4
				Walls	4
				Roof rafters	4
		Siding/Façade	3.666667	Surface	4
				Paint	4
				Signage	3
		Bay Doors	3.333333	Glass	4
				Paint/Finish	3
				Seals	3
				Motors	4
				Handles	4
				Trim	2
		Gutter system	4	Gutters	4
				Downspouts	4
		Windows	3.714286	Seals	4
				Glass	4
				Open/close	4
				Paint/Finish	3
				Trim	3
				Hinges	4
				Signage	4
		Personnel Doors	3.5	Seals	3
				Handles	4
				Paint/Finish	3
				Hinges	4
				Locks	4
				Glass	4
				Trim	3
				Signage	3
		Roof	2.571429	Surface	3
				Skylights	2
				Flashings	2
				Chimney Surrounds	3
				Sealants	2

			Hardware	3	
			Paint/Finish	3	
			Age	35	
			Warranty?	N	
			Pooled water?	N	
			Proper drainage?	N	
			Channels/Gutters?	Drain Issues	
Interiors	3.541667	Walls	3.666667	Drywall	3
			Partitions	4	
			Paint/Finish	3	
			Insulation	4	
			Baseboards	4	
			Trim	4	
		Ceiling	3.25	Paint/Finish	3
				Tile condition	3
				Metal Frame	4
				Insulation	3
		Doors	3.833333	Handles	4
				Paint/Finish	4
				Hinges	4
				Locks	4
				Glass	4
				Trim	3
		Signage	3.5	Clearly visible	4
				Paint/Finish	3
		Floors	3	Carpet	4
				Vinyl	3
				Concrete	3
				Paint/Finish	2
		Stairs\Ladders	4	Access issues	None
				Railing	4
				Steps	4
				Paint/Finish	4
				Hardware	4
Plumbing	3.40625	Domestic Water	3.625	Sink Fixtures	3
				Toilet Fixtures	4
				Shower Fixtures	3
				Piping	4
				Insulation	3
				Water Heater (3)	4

			Water Heater Chimney	4
			Electrical and Controls	4
			Water Heat Energy Source	2 Gas, 1 Elec
			Leaks?	2 Backflow Valves
		Waste Water	3.75 Sink Drains	4
			Toilets	4
			Showers	3
			Piping	4
			Leaks?	None
		Grey Water	3.25 Drains	4
			Grates	3
			Sumps	4
			Pumps	2
			Leaks?	None
		Rainwater	3 Roof drains	2
			Grates	3
			Piping	4
			Insulation	3
			Leaks?	Multiple
HVAC	3.8625	Boiler	3.83333333 Heating system	4
			Water System	3
			Controls	4
			Wiring	4
			Chimney	4
			Performance?	4
			Age	10?
			Past repairs	None
			Maintained regularly	Yes
			Warranty	None
			Fuel Used	Natural Gas
		Rooftop AC/Heat (2)	3.8 Cooling system	4
			Heating System	4
			Controls	4
			Wiring	3
			Performance?	4
			Age	10, 20
			Past repairs	Yes
			Maintained regularly	Yes
			Warranty	None
			Refrigerant Used	?
		Heat Pump	4 Heating system	4

		Cooling system	4
		Controls	4
		Wiring	4
		Chimney	4
		Performance?	4
		Age	15
		Past repairs	Yes
		Maintained regularly	Yes
		Warranty	None
		Refrigerant Used	?
	Waste Oil Heater	3.875 Heating system	4
		Pumps	4
		Drain	4
		Air System	4
		Controls	4
		Wiring	4
		Chimney	3
		Performance?	4
		Age	15
		Past repairs	Yes
		Maintained regularly	Yes
		Warranty	None
		Fuel Used	Waste Oil
	Gas Heater	4 Heating system	4
		Controls	4
		Wiring	4
		Chimney	4
		Performance?	4
		Age	15
		Past repairs	None
		Maintained regularly	Yes
		Warranty	None
		Fuel Used	Natural Gas
	Bay Heaters	3.6666667 Heating system	4
		Instruments	3
		Controls	4
		Wiring	4
		Chimney	4
		Performance?	3
		Age	10
		Past repairs	Yes
		Maintained regularly	Yes
		Warranty	None
		Fuel Used	Natural Gas

Fire Protection	3.857143	Sprinkler System	4 Sprinkler Heads	4
			Pipes	4
			Control System	4
			Water Supply	4
		Fire Alarm	3.7142857 Control System	4
			Audible Alarms	4
			Wiring/Eletrical	4
			Extinguishers	4
			Signage	3
			Visible Alarms	4
			Emergency Lighting	3
Electrical	3.995238	Distribution	3.8 Main feeds	4
			Main panels	4
			Sub-panels	3
			Breakers	4
			Feed Switches	4
		Interior Lighting	4 Fixtures	4
			Switches	4
			wiring/conduit	4
		Exterior Lighting	4.6666667 Fixtures	5
			Wiring/Conduit	4
			Housings	5
		Outlets	4 Fixtures	4
			wiring/conduit	4
		Security System	3.5 Sensors	3
			Control Panel	4
			Needs?	Camera System
		Communications	4 Telephone	4
			Network	4
			Interfaces	4
			Needs?	N/A
		Generators	4 wiring/conduit	4
			Mechanical Status	4
			Repairs?	Minor
			Start time	0:02
			Age?	35
Major Equipment	3.864286	In-ground Hoist	3 Hydraulic system	3

		Electrical System	4
		Chains/movement	2
		Age	35
		Functional Level	3
	Parts Washer	3.75 Water line	4
		Electrical system	4
		Gas system	4
		Body and Frame	3
		Age	35
		Functional Level	4
	Compressed Air System	4.2 Piping	4
		Fittings	3
		Compressor	5
		Auto Drains	5
		Reels	4
	Fueling System	4 Pumps	4
		Piping	4
		Tanks	4
		Electrical	4
	Lubrication System	3.8 Pumps	4
		Air System	4
		Reels	4
		Fittings	4
		Nozzels	3
	Bus Wash	3.8 Piping	4
		Pumps	4
		Tanks	3
		Wash system	4
		Electrical	4
		Leaks?	Yes, tanks
	Exhaust Systems	4.5 Bay Units	4
		Pit Unit	5
Site	3.75 Parking	3.75 Surface/structure	3
		Paint	4
		Signage	4
		Drains	4
	Sidewalks	3.75 Wheelchair ramps/access	3
		Surface	4
		Paints	4

	Signage	4
Other Development	3.5 Fencing	3
	Signage	4
Landscaping	4 Surface	4
	Sprinkler System	4
	Drainage Problems	None

FACILITY NAME: Downtown Transfer		OVERALL RATING: 4					
<u>Primary Level</u>	<u>Rating</u>	<u>Secondary Level</u>	<u>Rating2</u>	<u>Components</u>	<u>Rating3</u>		
Substructure	4	Foundation	4	Walls	4		
				Columns	4		
				Slabs	4		
				Paint/Sealant	4		
Shell	4.245	Superstructure	4	Columns\Pillars	4		
				Walls	4		
				Roof rafters	4		
		Siding/Façade	4	Surface	4	Surface	4
						Paint	4
						Signage	4
		Windows	4.6	Seals	4	Seals	4
						Glass	5
						Paint/Finish	5
						Trim	5
						Signage	4
		Personnel Doors	4.625	Seals	4	Seals	4
						Handles	5
						Paint/Finish	4
Hinges	4						
Locks	5						
Glass	5						
Trim	5						
Signage	5						
Roof	4	Surface	4	Surface	4		
				Eaves	4		
				Flashings	4		
				Chimney Surrounds	4		
				Sealants	4		
				Hardware	4		
				Paint/Finish	4		
				Age	10		
				Warranty?	None		
				Pooled water?	None		
Proper drainage?	Yes						
Channels/Gutters?	Ok						
Interiors	4.238095	Walls	4	Drywall	4		
				Paint/Finish	4		
				Insulation	4		
				Baseboards	4		

		Trim	4
	Ceiling	5 Paint/Finish	5
		Insulation	5
	Doors	4.4285714 Seals	4
		Handles	5
		Paint/Finish	4
		Hinges	4
		Locks	5
		Glass	5
		Trim	4
	Signage	4 Clearly visible	4
		Paint/Finish	4
	Floors	4 Carpet	4
		Vinyl	4
		Concrete	4
		Paint/Finish	4
	Ladder	4 Rungs/Structure	4
		Hatch	4
		Paint/Finish	4
		Hardware	4
Plumbing	4.05 Domestic Water	4.2 Sink Fixtures	4
		Toilet Fixtures	4
		Piping	4
		Insulation	4
		Water Heater	5
		Water Heat Energy Source	Electric
		Electrical and Controls	4
		Leaks?	None
	Waste Water	4 Sink Drains	4
		Toilets	4
		Piping	4
		Leaks?	None
	Grey Water	4 Drains	4
		Grates	4
		Leaks?	None
	Rainwater	4 Roof drains	4
		Grates	4
		Piping	4

		Leaks?	None		
HVAC	4 Heat Pump	4 Heating system	4		
		Cooling system	4		
		Instruments	4		
		Controls	4		
		Wiring	4		
		Performance?	4		
		Age	10		
		Past repairs	Yes		
		Maintained regularly	Yes		
		Warranty	None		
		Refrigerant Used	?		
Fire Protection	4 Fire Alarm	4 Audible Alarms	4		
		Wiring/Eletrical	4		
		Extinguishers	4		
		Signage	4		
		Visible Alarms	4		
		Emergency Lighting	4		
Electrical	3.791667 Distribution	4 Main feeds	4		
		Main panels	4		
		Sub-panels	4		
		Breakers	4		
		Feed Switches	4		
		Lighting	4 Fixtures	4	
			Switches	4	
			wiring/conduit	4	
			Outlets	4 Fixtures	4
				wiring/conduit	4
			Security System	3 Sensors	3
		Control Panel	3		
		Needs?	Camera Fixes, additional sensors		
	Communications	4 Telephone	4		
		Network	4		
		Interfaces	4		
		Needs?	Wifi		
	Solar Panels	3.75 Face/cell status	4		

		wiring	4
		conduit	4
		Monitoring System	3
Site	4.3125 Parking	4 Surface/structure	5
		Paint	3
		Signage	4
		Drains	4
	Sidewalks	4.5 Wheelchair ramps/access	4
		Surface	5
		Paints	4
		Signage	5
	Other Development	4.75 Canopies	5
		Shelters	5
		Benches	5
		Signage	4
	Landscaping	4 Surface	4
		Drains	4
		Sprinkler System	4
		Drainage Problems	None

FACILITY NAME: Stewart Park OVERALL RATING: 4

<u>Primary Level</u>	<u>Rating</u>	<u>Secondary Level</u>	<u>Rating2</u>	<u>Components</u>	<u>Rating3</u>		
Substructure	3.625	Foundation	3.25	Walls	4		
				Columns/Pads	4		
				Slabs	3		
				Paint/Sealant	2		
		Basement	4	Insulation	4	Insulation	4
						Floor Underpinnings	4
						Crawl Space	4
		Shell	4.027778	Superstructure	4	Walls	4
						Roof rafters	4
				Siding/Façade	4	Surface	4
Paint	4						
Gutter system	4			Gutters	4	Gutters	4
						Drains	4
						Downspouts	4
Windows	3.8333333			Seals	4	Seals	4
						Glass	4
						Open/close	4
						Paint/Finish	3
						Trim	4
						Hinges	4
Personnel Doors	4.3333333			Seals	4	Seals	4
						Handles	5
						Paint/Finish	4
						Hinges	4
						Locks	5
						Trim	4
Roof	4			Surface	4	Surface	4
		Eaves	4				
		Flashings	4				
		Chimney Surrounds	4				
		Sealants	4				
		Hardware	4				
		Paint/Finish	4				
		Age	25?				
		Warranty?	None				
		Pooled water?	No				
Proper drainage?	Yes						
Channels/Gutters?	Ok						

Interiors	3.95 Walls	4 Drywall	4
		Paint/Finish	4
		Insulation	4
		Baseboards	4
		Trim	4
	Ceiling	4 Paint/Finish	4
		Insulation	4
	Doors	3.8 Handles	4
		Paint/Finish	3
		Hinges	4
Locks		4	
Trim		4	
Floors	4 Vinyl	4	
	Paint/Finish	4	
Plumbing	3.916667 Domestic Water	4 Sink Fixtures	4
		Toilet Fixtures	4
		Piping	4
		Insulation	4
		Water Heater	4
	Water Heat Energy Source	Electric	
	Electrical and Controls	4	
	Leaks?	None	
	Waste Water	4 Sink Drains	4
		Toilets	4
Piping		4	
Leaks?		None	
Grey Water	3.75 Drains	4	
	Grates	3	
	Sumps	4	
	Pumps	4	
	Leaks?	None	
HVAC	4 Electric AC	4 Cooling system	4
		Controls	4
		Wiring	4
		Performance?	4
		Age	10
		Past repairs	None
		Maintained regularly	yes
Warranty	None		

		Refrigerant Used	??
	Baseboard Heat	4 Heating system	4
		Controls	4
		Wiring	4
		Performance?	4
		Age	25
		Past repairs	None
		Maintained regularly	Yes
		Warranty	None
		Refrigerant Used	??
Fire Protection	3.25 Fire Alarm	3.25 Audible Alarms	1
		Extinguishers	4
		Signage	4
		Emergency Lighting	4
Electrical	4.083333 Distribution	4 Main feeds	4
		Main panels	4
		Sub-panels	4
		Breakers	4
		Feed Switches	4
	Lighting	4.3333333 Fixtures	5
		Switches	4
		wiring/conduit	4
	Outlets	4 Fixtures	4
		wiring/conduit	4
	Security System	Needs?	Cameras
	Communications	4 Radio	4
		Needs?	Phone/Netw
Site	3.6 Parking	3.75 Surface/structure	4
		Paint	3
		Signage	4
		Drains	4
	Sidewalks	3.25 Wheelchair ramps/access	4
		Surface	3
		Paints	3
		Signage	3
	Other Development	3.4 Kiosk	4
		Shelters	2

	Fencing	4
	Benches	4
	Signage	3
Landscaping	4 Surface	4
	Sprinkler System	4
	Drains	4
	Drainage Problems?	No