



Asset Maintenance Plan

City of Mitchell/Palace Transit

Adopted 7/16/2020

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Purpose

Through a system of periodic inspections and preventive maintenance to be performed at certain defined intervals, City of Mitchell/Palace Transit assures all assets are properly maintained. The plan provides goals and objectives of a maintenance program and establishes how the recipient will meet such goals and objectives. The maintenance schedule will be updated with the purchase of assets to account for new technology, new manufacture's recommended maintenance intervals and programs, and incorporate actions to maintain each asset on a specific cycle. These actions will help ensure proper care, maximize longevity and provide proper maintenance of assets.

Goals and objectives

Public transit requires a considerable investment in facilities, equipment and vehicles. City of Mitchell/Palace Transit believes in keeping their assets in proper working order. Proper maintenance of assets is key to protecting the Federal Transit Administration (FTA) and local investment, reducing overall expenses and increasing the longevity of the asset. An asset is considered as substantial if:

1. The asset has an original cost of \$5,000 or more.
2. The asset has an estimated useful life over a year.

The vehicles, equipment and facilities will be maintained at a high level of cleanliness, safety, and mechanical soundness. The State and FTA will conduct periodic inspections to confirm proper maintenance.

Organization and assignment of responsibility

Overall implementation of this policy – Community Services Director

Maintaining records & records retention – Transit Supervisor

Maintenance of Assets – Transit Supervisor

Pre-trip & post-trip inspections – Transit Supervisor & Transit Operators

Preventative maintenance – Transit Supervisor & Street Department

Repairs – Street Department

Wheelchair lifts & other equipment – Transit Supervisor

Warranty issues – Transit Supervisor

Safety – Transit Supervisor

Useful life & spare ratio – Community Services Director

Transfer & disposal – Transit Supervisor

Insurance – Human Resources

Training – Transit Supervisor & Human Resources

Maintenance Schedules and Forms

When a new asset is purchased by City of Mitchell/Palace Transit, the transit supervisor will review the maintenance schedule in the owner's manual to create a maintenance plan for the asset. If no owner's manual is included with the asset, the transit supervisor will request recommended maintenance information directly from the manufacturer. These items are entered into through Thing Tech. This plan will list the service functions and time intervals in months, miles or cycles. Palace Transit follows this schedule to complete the maintenance on the asset and records the maintenance in the SDDOT approved asset management software. Any repairs, including repairs made under warranty, will be recorded in the asset management software as well. All agency schedules and forms are to be incorporated into the agency's asset maintenance plan.

Record Keeping

Thing Tech and each vehicle has individual binder with repairs/maintenance information.

Palace Transit will use the SDDOT provided asset management software to maintain detailed records for all assets to ensure the asset is inspected and maintained on a routine basis per manufacturer specifications and SDDOT guidelines. If asset is less than \$49,999 and greater than \$5,000 Agency is to keep records on file. Records will include:

- a) description of the asset;
- b) identification number or serial number;
- c) entity or individual that holds title to the asset;
- d) source of funding (the FAIN number under which it was procured);
- e) acquisition date;
- f) asset cost;
- g) percentage cost of federal participation;
- h) location;
- i) use and condition;
- j) useful life; and
- k) the disposition data, including the date of disposal and sale price, whom sold to, or where applicable, method used to determine fair market value.

Record Retention

Per CFR200.333, City of Mitchell/Palace Transit will retain financial records, supporting documents, statistical records, and all other non-Federal entity records pertinent to a Federal award for a period of three years from the date of submission of the final expenditure report or, for Federal awards that are renewed quarterly or annually, from the date of the submission of the quarterly or annual financial report, respectively, as reported to the Federal awarding agency or pass-through entity in the case of a sub recipient. If any litigation, claim, or audit is started before the expiration of the 3-year period the records must be retained until all litigation, claims, or audit findings involving the records have been resolved and final action taken. When notified in writing by the awarding agency, City of Mitchell/Palace Transit will retain the records for the period of the extension. All levels of service, inspections, replacement, and/or repairs and preventive maintenance performed must be recorded and maintained electronically or on paper.

Asset Maintenance

City of Mitchell/Palace Transit will use the maintenance plan specifically developed for each asset to perform preventative maintenance. Transit supervisor will assure the performance of the preventative maintenance using the maintenance plan created by the Transit Supervisor. Preventive maintenance schedules are developed as a guide to ensure maintenance personnel accomplish the proper maintenance. Detailed procedures and tolerance are contained in the manufacturer's maintenance manual for each individual equipment item.

Timeliness of preventative maintenance is important. The following standards will be used to gauge on the on-time performance of the preventative maintenance schedule. The transit supervisor will check the pre & post trip inspections and Thing Tech. All needed maintenance is filled out on Palace Transit vehicle defect and correction report and emailed to Street Department Supervisor for needed action on a weekly basis to make sure all preventative maintenance is being handled and repairs are made in a timely manner.

- Weekly Inspection: must be completed between the date issued and 7 days after the due date. Some weekly inspections require daily actions; daily actions are checked off as accomplished.
- Monthly Inspections: must be completed between the date issued and 15 days after the due date.

- Quarterly Inspections: must be complete between the date issued and 30 days after the due date.
- Semi-annual Inspections: must be completed between the date issued and 30 days after the due date.
- Annual Inspections: must be completed between the date issued and 30 days after the due date.

Scheduled Service Intervals

Following a preventative maintenance plan created from the manufacturer's recommendations for each asset, the Palace Transit performs this maintenance on a regular basis depending on the recommendation, either by time periods, miles lapsed, cycles or hours. Service intervals may vary depending on vehicle use, weather or road conditions and topographical considerations.

Vehicle Cleaning

Vehicles will be regularly cleaned inside and out. Palace Transit is responsible to have standards to address cleaning activities and intervals to maintain asset for cleanliness. Regular cleaning helps prevent premature vehicle aging, protects exterior paint, extends the life of protective coatings, and helps prevent rust. It also increases passenger comfort and maintains a positive agency image.

Facility Cleaning

Facilities and grounds are regularly cleaned. Palace Transit is responsible to have standards to address cleaning activities and intervals to maintain cleanliness. Regular cleaning helps prevent premature aging, protects and extends the life of the asset. It also increases the public and passenger comfort and maintains a positive agency image.

Equipment

Request from vendor or research the equipment for the manufacture recommendation to develop the maintenance schedule.

Each agency is required to follow manufacture recommendations to create maintenance schedule for equipment purchased \$5,000 and over.

Accessible Features

Palace Transit has a specific preventative maintenance schedule for wheelchair lifts, ramps or any other accessible features as assets. This plan follows the manufacturer's recommendations on intervals for inspection, lubrication and adjustment.

To achieve the goals and objectives of the agency and assure proper care and longevity of ADA accessible equipment, the following preventive maintenance plan (PM) and schedules listed below are followed. Preventive Maintenance Plan and Schedule is designed to provide an adequate level of preventive maintenance for all ADA accessible equipment. The recommended intervals are based on the manufacturer recommendations.

Preventive maintenance is performed as suggested by the manufacturer. Cycle intervals on vehicles may vary according to high usage and therefore scheduled according to frequency of use.

Asset Inspections

Palace Transit uses the maintenance plan specifically developed for each asset to perform required inspections. The Transit Supervisor will assure the performance of the inspection. Inspection checklists are developed for inspections as a guide to ensure that the designated personnel accomplish the important aspects. Note: the inspection forms can be uploaded to the SDDOT asset management software. For equipment, this would apply for equipment costing more than \$5,000. Palace Transit would be responsible for keeping the documentation for equipment less than between \$49,999 and \$5,000.

On an annual basis, any revenue service vehicles that have a capacity of 16 persons or more (including the driver) must pass a safety inspection by the Motor Carrier division of the South Dakota Highway Patrol per SDCL 32-21-3.1. The only exception to this is if your transit agency is owned and operated by a governmental agency.

Vehicle Pre-trip

It is required that all revenue service vehicles funded through assistance with FTA funds will have a detailed pre-trip inspection performed each day the vehicle is used. The pre-trip inspection form shall note any maintenance and repair issues discovered during the pre-trip inspection. At the minimum, the inspection sheet must include all applicable items listed on the sample inspection sheet provided on the SDDOT website.

At the beginning of their shift, every driver will complete an inspection of the vehicle and equipment following the agency checklist prior departing garage or parking area. The checklist can be completed electronically or by paper. The driver will record the results of the inspection and report any deficiencies. The inspection form must be signed and dated by the inspector.

If there is a deficiency causing the vehicle to be unsafe for use, the driver will inform the Transit Supervisor and the vehicle will be taken out of service until the deficiency has been repaired.

Anytime throughout their shift when a mechanical or usability issue arises with an asset, the driver will report it verbally to Transit Supervisor and by filling out vehicle defect report and also give to transit supervisor.

At the end of their shift, the driver will fill out post inspection sheet and submit to Transit Supervisor.

Daily pre-trip and post-trip inspections forms will become part of each individual vehicle's maintenance records.

Facility Inspection

City of Mitchell building inspector will complete a monthly inspection of the facility and grounds utilizing the facility inspection checklist. The documentation of the inspection and any maintenance or repairs performed during this inspection will be recorded in the SDDOT asset management software. It is required to have signed documentation of the inspections conducted on file.

Reference material of what should be on a facility inspection as it pertains:

- A. *Outside*
 - a. *Condition*
 - b. *Gutters and down spouts*
 - c. *Signs*
 - d. *Lighting*
 - e. *Roof*
 - f. *ADA Ramps and handrails – steps*
 - g. *Landscape*
 - h. *Sidewalks and parking lot*
 - i. *Outside doors – walk in and garage door*
- B. *Inside*
 - a. *Floors*
 - b. *Paint*
 - c. *Inside doors*
 - d. *Electrical panels*
 - e. *Fire Alarm systems, Sprinklers and extinguishers*
 - f. *Rest Rooms*
 - g. *HVAC Systems, air handlers, etc.*
 - h. *Lighting*
 - i. *Water heaters*
 - j. *Water Softeners*
 - k. *Drains and sewer*
 - l. *Elevators*
 - m. *Security Systems*
 - n. *Emergency Lighting*
 - o. *First Aid Equipment*
- C. *Equipment*
 - a. *Air compressor*
 - b. *Hoist*
 - c. *Jacks and stands*

- d. Exhaust hoses and CO Detectors
- e. Snow removal equipment
- f. Lawn care equipment
- g. Vacuums
- h. Project tools
- i. Wash system

On Site Fuel Systems

- A. *Dispensers*
 - a. *Hoses*
 - b. *Nozzles*
 - c. *Containment*
 - d. *Lights*
- B. *Tank*
 - a. *Fill Stands*
 - b. *Lids*
 - c. *Pump's containment*
 - d. *Pipe containment*
 - e. *Water sensors*
 - f. *Leak Sensors*
 - g. *Fill vents*
- C. *Electrical*
 - a. *Card reader*
 - b. *Control panels*
 - c. *Printers*
 - d. *System Diagnostic Center*

Equipment Inspection

City of Mitchell building inspector will complete a monthly inspection of the equipment utilizing the equipment inspection checklist specific to equipment. The documentation of the inspection and any maintenance or repairs performed during this inspection will be recorded in the SDDOT asset management software for equipment \$50,000 and over. If the equipment cost was \$5,000 and \$49,999 keep documentation of inspections on file. It is required to have signed documentation of the inspections conducted on file.

On Site Fuel Systems inspection example.

- D. *Dispensers*
 - a. *Hoses*
 - b. *Nozzles*
 - c. *Containment*
 - d. *Lights*
- E. *Tank*
 - e. *Fill Stands*
 - f. *Lids*
 - g. *Pump's containment*
 - h. *Pipe containment*
 - i. *Water sensors*
 - j. *Leak Sensors*
 - k. *Fill vents*
- F. *Electrical*
 - l. *Card reader*
 - m. *Control panels*
 - n. *Printers*
 - o. *System Diagnostic Center*

Warrantees

The warranty recovery and preventive maintenance is performed as suggested by the manufacturer. Cycle intervals on vehicles may vary according to high usage and therefore scheduled according to frequency of use. Warranties need to be addressed as they arise such as recall notice from vendor, as an issue occurs or found during inspection. It is Palace Transit's responsibility to obtain the warranty process and recovery from vendors. Warranty information should be reviewed at the time of purchase to determine this process and document for per asset.

Warranty activity must be performed and documented according to the guidelines of the manufacturer, supplier or builder. Documentation must be retained according to record keeping guidelines

Safety

It is pertinent that safety practices are implemented and followed when inspecting and maintaining assets. Palace Transit will refer to the City of Mitchell's safety plan.

Useful Life Standards

Palace Transit will maintain assets to ensure it meets minimum useful life requirements. Refer to the SDDOT Transit Asset Management (TAM) plan.

Spare Ratio

In order to maintain services without disruption when regularly assigned vehicles are down for maintenance servicing or repair, Palace Transit will maintain an appropriate number of back-up/spare vehicles. One published rule-of-thumb suggests that 85% of an agency's total fleet should be available for active revenue service (passengers on board), with 15% assigned as back-up vehicles for maintenance service and accident downtime.

More specific guidelines have been published for assisting agencies to determine the appropriate ratio of back-up vehicles for their fleet. Agencies should note these are general guidelines, not hard-and-fast rules. Some other factors the agency should consider in determining appropriate back-up vehicle capacity include geography, type of terrain traveled, road conditions, harsh weather conditions, length of routes, and condition of the current fleet.

SIZE OF AGENCY'S REGULAR SCHEDULED FLEET

MINIMUM NO. OF BACK-UP VEHICLES REQUIRED

1 - 7 vehicles	1
8 - 13 vehicles	2
14 - 20 vehicles	3
21 - 29 vehicles	4
30 - 39 vehicles	5

Transfer & Disposal

At such a time when the asset is withdrawn from transportation service, Palace Transit will notify SDDOT. If the asset can still be used for transportation service, SDDOT will give written approval for the transfer of the equipment. Palace Transit may transfer ownership of the equipment to another private nonprofit organization and receive a payment of twenty percent (20%) of the estimated equipment value from the receiving organization. SDDOT will establish the estimated equipment value and may permit Palace Transit to dispose of the asset in accordance with the South Dakota State Management Plan.

Insurance Requirements

Sub recipients are required to have at a minimum the equivalent insurance coverage for real property and equipment acquired or improved with federal assistance used to acquire the property owned by the sub recipient per FTA circular 5010.1E.

Also, see SDCL 32-40-9 for minimum insurance requirements for any agency hired to provide prearranged passenger rides.

Palace Transit vehicles are insured through the City of Mitchell's fleet insurance.

Training

To achieve the goals and objectives of the maintenance plan, orientation training is provided to all applicable staff.

The training will include the following concepts:

- Asset familiarization, including training on all equipment for which employees have responsibility, such as including engine compartment, driver controls and passenger safety devices.
- Drivers should be trained to recognize unusual noises and to communicate basic mechanical problems to the designated staff within agency.
- Recognizing when an asset requires service, maintenance, or inspection and how to notify the appropriate vendor to perform needed work.
- Asset safety training including hazard identification, location of fire and life safety equipment, facility power emergency disconnect location, safety exits, and emergency incident procedures.
- Vehicle maintenance requirements, processes and objectives.
- Policy training, including safety and maintenance policies.
- Training on forms and procedures used in the agency's asset management information system, including all inspection checklists.
- Instruction on the safe operation and maintenance of all asset safety equipment, and ADA equipment.
- Specialized certification training if required by state, federal, or municipal regulations, and/or as a condition of employment (example ASE Certification, CDL license holder).

Maintenance training should cover all assets operated by the transit agency. Training manuals, maintenance manuals, and all updates/revisions should be provided at the central location, or in a shared electronic format for each asset type being used by the transit agency.

Manufacturers or component companies that manufacture the engine, transmission, or heating and air conditioning for the vehicle often offer specialized maintenance training. This might take place at their facility, or they may offer to travel to your location for training sessions. In addition to training, manufacturers commonly provide regularly updated manuals and bulletins to keep mechanics informed of the latest recommendations and guidelines.

Emergency

If an emergency/public health crisis/disaster has been declared or announced, Palace Transit will follow all local, state and federal procedures and guidance provided and will stay abreast daily on the situation.

Sample Schedules and Inspection Forms

Preventive Maintenance Schedules

Innovative Maintenance Systems

5000 mile service

Task Name	Track?	Priority	Interval (Date)	Fixed Expire (Dates)	Adv. Notify (Days)	Interval (Units)	Fixed Expire (Units)	Adv Notify (Units)
Normal								
2-Way Radio Operation	Yes	HIGH	-----	-----	-----	5,000	-----	500
Anti-Freeze Added	Yes	HIGH	-----	-----	-----	-----	-----	-----
Check Brake Pads	Yes	HIGH	-----	-----	-----	5,000	-----	500
Check E-Pad Power Source	Yes	HIGH	-----	-----	-----	5,000	-----	500
Check Exhaust System	Yes	HIGH	-----	-----	-----	5,000	-----	500
Check Onboard Camera System	Yes	HIGH	-----	-----	-----	5,000	-----	500
Check Steering Linkage	Yes	HIGH	-----	-----	-----	5,000	-----	500
Emergency Equipment	Yes	HIGH	-----	-----	-----	5,000	-----	500
Lap Belts & Shoulder Straps	Yes	HIGH	-----	-----	-----	5,000	-----	500
Oil Added	Yes	HIGH	-----	-----	-----	-----	-----	-----
Oil Filter	Yes	HIGH	-----	-----	-----	5,000	-----	500
Safety Inspection	Yes	HIGH	-----	-----	-----	5,000	-----	500
Tire Rotation	Yes	HIGH	-----	-----	-----	10,000	-----	500
Transmission Serviced	Yes	HIGH	-----	-----	-----	-----	-----	500
W/C Lift Lube & Inspection	Yes	HIGH	-----	-----	-----	5,000	-----	500
Wheel Chair Securements	Yes	HIGH	-----	-----	-----	5,000	-----	500
air filter	Yes	NORMAL	-----	-----	-----	20,000	-----	-----

Facility Preventive Maintenance Tracking													
Director of Maintenance													
Year:													
VPT Preventive Maintenance	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	
Date Completed													
Air Handler	annual												
Air conditioner	quarterly												
Furnace	quarterly												
Fire Extinguishers	monthly												
1st aide/ eye wash	monthly												
Garage Doors	bi annual												
Outside of Building	annual												
Parking Lot	annual												
Roof Inspection	annual												
Water Heater	monthly												
Emergency Lights	monthly												

Comments

Transit Operator Vehicle Assistant													
Year													
VPT Preventive Maintenance	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	
Date Completed													
Sewer Lines	quarterly												
Power Washer	monthly												
Air compressor	monthly												
Restrooms													
Water Softener	NA												

Comments

Annual ADA Equipment Inspection
Vehicle _____

	Completed
Abnormal noises as lift operates	
Inspect underside of vehicle to verify nothing is out of the ordinary	
Check that control pendant is not damaged and cable connectors are tight	
Inspect electrical wiring for frayed wires, chaffed wires, loose connectors, etc.	
Place vehicle in non-interlock mode and attempt to operate lift	
Verify that all lift decals are affixed, visible and legible and replace	
Verify that all handrail fasteners are properly tightened	
Verify that all lift mounting and support points are in proper order & free of damage	
Verify that all mounting bolts are tight	
Verify all travelling frame pins are installed properly, free of damage & locked in position	
Verify platform operates properly during lift functions with obstructions	
Verify that inner rollstop operates properly during lift functions without obstructions	
Verify that rollstop operates properly without obstructions when it contacts the ground	
Verify platform rollstop operates properly without obstructions when it contacts the ground	
Check for visible hydraulic leakage	
Verify backup pump manual release valve is lightly-snug	
Verify that all handrail fasteners are properly tightened	
Rub all surfaces with a light oil and soft cloth and wipe excess	
When platform is on the ground, check hydraulic fluid level	
Check hydraulic cylinder for leaks	
Inspect hydraulic hoses for damage	
Verify all fittings are tightly secured	

Track anchorage fittings	
Track fittings insertion	
Track fittings securement	
Track fittings plunger	
Plunger cleaning	
Tie-down retractors	
Retractor inspection	
Red release lever (functioning)	
Webbing inspection	
retractor damage	
Retractor inspection	
Pin connector bushing	
Occupant restraints	
Restraint anchorages	
Upper fixed anchorages	

Upper adjustable anchorages	
Upper anchorage fittings insert	
Lower fixed anchorage	
Lower adjustable anchorage	
Lower anchorage fitting insert	
Occupant restraint Height adjusters	
Manual height adjuster	
Retractable height adjuster	
Webbing inspection	
Occupant restraint style & operation	
Manual shoulder belt	
Manual lap belt	
Webbing inspection	
Retractable lap/shoulder	
Lap belt extension	
Webbing inspection	

Signature of inspector

Date

Mileage