Date Adopted by Provider

Asset Maintenance Plan

Enter Transit Name

SDDOT 4/2020

.

Table of Contents

[Purpose 2](#_Toc38975973)

[Goals and objectives 2](#_Toc38975974)

[Organization and assignment of responsibility 2](#_Toc38975975)

[Maintenance Schedules and Forms 3](#_Toc38975976)

[Record Keeping 3](#_Toc38975977)

[Record Retention 4](#_Toc38975978)

[Asset Maintenance 4](#_Toc38975979)

[Scheduled Service Intervals 5](#_Toc38975980)

[Vehicle Cleaning 5](#_Toc38975981)

[Facility Cleaning 5](#_Toc38975982)

[Equipment 5](#_Toc38975983)

[Accessible Features 5](#_Toc38975984)

[Asset Inspections 6](#_Toc38975985)

[Vehicle Pre-trip 6](#_Toc38975986)

[Facility Inspection 7](#_Toc38975987)

[Equipment Inspection 8](#_Toc38975988)

[Warrantees 8](#_Toc38975989)

[Safety 9](#_Toc38975990)

[Useful Life Standards 9](#_Toc38975991)

[Spare Ratio 9](#_Toc38975992)

[Transfer & Disposal 10](#_Toc38975993)

[Insurance Requirements 10](#_Toc38975994)

[Training 10](#_Toc38975995)

[Emergency 11](#_Toc38975996)

[Sample Schedules and Inspection Forms 12](#_Toc38975997)

# **Purpose**

Through a system of periodic inspections and preventive maintenance to be performed at certain defined intervals, (agency name) 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. (Agency name) 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 – (Agency Enter Specific employee title)

Maintaining records & records retention – (Agency Enter Specific employee(s) title)

Maintenance of Assets – (Agency Enter Specific employee(s) title)

Pre-trip & post-trip inspections – (Agency Enter Specific employee(s) title)

Preventative maintenance – (Agency Enter Specific employee(s) title)

Repairs – (Agency Enter Specific employee(s) title)

Wheelchair lifts & other equipment - (Agency Enter Specific employee(s) title)

Warranty issues - (Agency Enter Specific employee(s) title)

Safety – (Agency Enter Specific employee(s) title)

Useful life & spare ratio – (Agency Enter Specific employee(s) title)

Transfer & disposal – (Agency Enter Specific employee(s) title)

Insurance – (Agency Enter Specific employee(s) title)

Training – (Agency Enter Specific employee(s) title)

# **Maintenance Schedules and Forms**

When a new asset is purchased by (agency name), the (title of employee responsible) 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 (title of employee responsible) will request recommended maintenance information directly from the manufacturer. (Agency: insert process of how this schedule is created – in the asset management software, on a spreadsheet, etc. Note: schedules can be uploaded to SDDOT asset management software.) This plan will list the service functions and time intervals in months, miles or cycles. (Agency name) 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**

(Agency include how the agency will maintain records, PM schedules, condition ratings, pre-trips, invoices to support maintenance.)

(Agency name) 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, (Agency name) 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 subrecipient. 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, (Agency name) 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**

(Agency name) will use the maintenance plan specifically developed for each asset to perform preventative maintenance. (Job title of employee responsible) will (perform or assure the performance of – depending on if maintenance is performed in house or by a third party) the preventative maintenance using the maintenance plan created by (job title of employee responsible). 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 preventive maintenance schedule. The (job title of employee responsible) will check the (describe your process here - software for generated work orders, the spreadsheet or paper list) 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 (Agency name) 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. The agency 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. The agency 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

(Agency name) has a specific preventative maintenance schedule for wheelchair lifts, ramps or any other accessible features as assets. This plan follows the manufacturers 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**

(Agency name) uses the maintenance plan specifically developed for each asset to perform required inspections. (Job title of employee responsible) will (perform or assure the performance of – depending on if inspection is performed in house or by a third party). 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. The agency 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 (job title of employee responsible) 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 (agency add process - using software, verbally, paper form, etc.)

At the end of their shift, the driver will (describe if you require a post –trip inspection or a walk around to look for damage).

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

## Facility Inspection

(Job title of employee(s) responsible) will complete a monthly inspection of the facility and grounds utilizing the facility inspection checklist. (Enter your agencies’ process here). 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:*

1. *Outside*
	1. *Condition*
	2. *Gutters and down spouts*
	3. *Signs*
	4. *Lighting*
	5. *Roof*
	6. *ADA Ramps and handrails – steps*
	7. *Landscape*
	8. *Sidewalks and parking lot*
	9. *Outside doors – walk in and garage door*
2. *Inside*
	1. *Floors*
	2. *Paint*
	3. *Inside doors*
	4. *Electrical panels*
	5. *Fire Alarm systems, Sprinklers and extinguishers*
	6. *Rest Rooms*
	7. *HVAC Systems, air handlers, etc.*
	8. *Lighting*
	9. *Water heaters*
	10. *Water Softeners*
	11. *Drains and sewer*
	12. *Elevators*
	13. *Security Systems*
	14. *Emergency Lighting*
	15. *First Aid Equipment*
3. *Equipment*
	1. *Air compressor*
	2. *Hoist*
	3. *Jacks and stands*
	4. *Exhaust hoses and CO Detectors*
	5. *Snow removal equipment*
	6. *Lawn care equipment*
	7. *Vacuums*
	8. *Project tools*
	9. *Wash system*

*On Site Fuel Systems*

1. *Dispensers*
	1. *Hoses*
	2. *Nozzles*
	3. *Containment*
	4. *Lights*
2. *Tank*
	1. *Fill Stands*
	2. *Lids*
	3. *Pump’s containment*
	4. *Pipe containment*
	5. *Water sensors*
	6. *Leak Sensors*
	7. *Fill vents*
3. *Electrical*
	1. *Card reader*
	2. *Control panels*
	3. *Printers*
	4. *System Diagnostic Center*

## Equipment Inspection

(Job title of employee(s) responsible) will complete a monthly inspection of the equipment utilizing the equipment inspection checklist specific to equipment. (Enter your agencies’ process here). 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.*

1. *Dispensers*
	1. *Hoses*
	2. *Nozzles*
	3. *Containment*
	4. *Lights*
2. *Tank*
	1. *Fill Stands*
	2. *Lids*
	3. *Pump’s containment*
	4. *Pipe containment*
	5. *Water sensors*
	6. *Leak Sensors*
	7. *Fill vents*
3. *Electrical*
	1. *Card reader*
	2. *Control panels*
	3. *Printers*
	4. *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 the agency’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. (Agency provide their process for safety as part of maintenance only and safety of assets.) Agency should refer to their safety plan.

Useful Life Standards

Each agency is required to 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, agencies need to 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 VEHILCES 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, (agency name) will notify SDDOT. If the asset can still be used for transportation service, SDDOT will give written approval for the transfer of the equipment. (Agency name) 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 (agency name) to dispose of the asset in accordance with the South Dakota State Management Plan.

# **Insurance Requirements**

Subrecipients 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 subrecipient per FTA circular 5010.1E.

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

(Agency provide how the agency meets the minimum requirement.)

# **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, (Agency name) will follow all local, state and federal procedures and guidance provided and will stay abreast daily on the situation.

# **Sample Schedules and Inspection Forms**





|  |  |
| --- | --- |
| 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 |   |
|  |  |
|  |  |
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| Signature of inspector Date |  |
|  |  |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| Mileage |  |