Preventative Maintenance Policies and Plan

Northeastern Connecticut Transit District
The objectives of the NECTD Preventative Maintenance Policies and Plan are:

- Ensure that assets are protected and maintained so that they reach their maximum useful life. The facility, vehicles, and equipment used in support of public transit at NECTD will be maintained at or above the specifications provided with the facility operations and equipment manuals.

- Maintain vehicles in safe operating condition

- Ensure each vehicle is operating at peak efficiency

- Maximize vehicle life

- Minimize vehicle service failures (road calls)

- Minimize loss of accessibility due to equipment failure

- Meet or exceed manufacturers’ maintenance requirements

- Maintain vehicle exterior and interior appearance

- Maintain a system of permanent vehicle maintenance records

- Adhere to a strict preventive maintenance schedule

- Administer an aggressive equipment warranty recovery program

- Preserve taxpayers’ investments in the Transit facility. Preventive maintenance can extend the life of building components, thus sustaining buildings’ value and the significant tax dollars they represent.

- Help the facility function as intended and operate at peak efficiency, including minimizing energy consumption.

- Prevent failures of building systems that would interrupt occupants’ activities and the delivery of public services.

- Sustain a safe and healthful environment by keeping the facility and its components in good repair and structurally sound.

- Provide maintenance in ways that are cost-effective.

NECTD subscribes to a philosophy of continuous improvement. The Preventative Maintenance Plan and the procedures detailed in it will be subject to constant review and improvement.
Vehicle Inspection Procedures

The preventive maintenance program at NECTD consists of daily inspections and mileage based inspections.

Pre-Trip and Post-Trip Inspection

Drivers perform a pre-trip inspection prior to the start of their shift. Pre-trip inspections are the responsibility of the driver. It is his/her responsibility to make notations on the pre-trip inspection form of any defects they found during the pre-trip inspection, while driving throughout the day or during the post trip inspection at the end of the day. Upon completion of the pre-trip inspection form, the form is turned in to the dispatch office.

Work Orders - Vehicles

NECTD’s maintenance contractor will provide NECTD with work orders for all work performed on NECTD vehicles. Work orders will state the work performed, the number of hours worked, and any parts used. Work orders will be provided monthly or as work is performed with the invoice to NECTD.

Reactive Vehicle Maintenance

All other vehicle maintenance is performed in response to detected problems. Reactive maintenance cannot be eliminated and is often a function of vehicle miles, fleet age, and preventive maintenance intervals. It is the intent of this maintenance program to minimize this type of maintenance - including road calls. Constantly reviewing and improving upon the existing Vehicle Maintenance Plan will accomplish this. The reactive vehicle maintenance policy is as follows:

- All problems are to be reported, no matter how minor.
- The supervisor, dispatcher, or mechanic shall make an immediate determination whether the vehicle should be removed from service.
- Failures of accessibility equipment shall require prompt resolution. An alternate vehicle or immediate repair will be provided.
- The driver or dispatcher records all detected problems on a Maintenance Card.
- All repairs are documented on the Maintenance Card.

Vehicle Accessibility Equipment

In order to maintain service availability to persons with disabilities, the following procedures
are followed:

- Pre/Post-trip cycling of wheelchair lifts and inspection of securement stations
- Vehicles experiencing equipment failures are removed from service and repaired as soon as possible.
- Replacement of wheelchair lifts occurs when the unit cannot be repaired.

**Fueling Procedures**

Fueling is done at the end of each run at the designated fueling location, with mileage and gallons pumped recorded by the driver. Records received from the fueling location are checked by NECTD to ensure there is no discrepancy.

**Facility and Equipment**

NECTD is the custodian (the facility was constructed with FTA funds) of its facility at 125 Putnam Pike, Dayville, Connecticut. As such it has the responsibility for the upkeep of the building, physical plant and grounds.

> It is the policy of NECTD to maintain the facility and related equipment in a manner that is both cost conscience and a proper reflection of the communities that it serves.

Any capital equipment will be inspected at the manufacturer’s recommended intervals. If offered, NECTD will purchase maintenance plans for capital equipment, provided it is financially reasonable. Any defects will be repaired following inspection by NECTD or a qualified repair person.

**Documentation and Evaluation of Maintenance**

Documentation and evaluation of maintenance activities is the primary means by which the maintenance program can attain its goals. NECTD utilizes the following documentation in its maintenance program:

- Vehicle inspection and repair information is transferred to an electronic format
- Parts Log: A log of the parts used in repairing buses is kept in the parts room.
• Road Call Log: The Dispatch office keeps track of all Road Calls

• Inspection Schedule (vehicles): The dispatcher monitors and schedules preventive maintenance inspections

• Facility Maintenance: The Director initiates/approves all scheduled and necessary actions to maintain the facility and equipment in good condition.
NECTD
Daily Vehicle Condition Report

<table>
<thead>
<tr>
<th>Item</th>
<th>Operational</th>
<th>Defective</th>
<th>Comments</th>
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</thead>
<tbody>
<tr>
<td>Steering</td>
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<tr>
<td>Wipers</td>
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<tr>
<td>Wiper Fluid</td>
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<td>Amount Added:</td>
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<td>Brakes</td>
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<tr>
<td>Head Lights</td>
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<tr>
<td>Tire Condition</td>
<td></td>
<td></td>
<td>Air Added: Yes ___ No ___</td>
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<td></td>
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<td>Amount___</td>
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<tr>
<td>Tire Wear</td>
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<tr>
<td>Turn Signals</td>
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<tr>
<td>Brake Lights</td>
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<tr>
<td>Mirrors</td>
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<tr>
<td>Hoses/Connections</td>
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<tr>
<td>Horn</td>
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<tr>
<td>Wheelchair Belts</td>
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<tr>
<td>Wheelchair Lift <em>(Fully Cycled)</em></td>
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<tr>
<td>Radio (2-way)</td>
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<tr>
<td>Oil Level</td>
<td></td>
<td></td>
<td>Oil Added: Yes ___ No ___</td>
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<td>Amount___</td>
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</tbody>
</table>

Exterior Condition: (note any damage)

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Interior Condition: (cleanliness, damage, etc.)

________________________________________________________________________
________________________________________________________________________

Passenger Postings:  Title VI Statement _____ Route Schedules (not less than 25) _____

Driver's Signature: ________________________________

Note: Pre-Trip Inspection Form MUST be turned into the dispatcher before leaving base and at the end of your shift for the Post-Trip Inspection Form
NECTD
Preventive Maintenance
"A" Inspection @ 3,000 Miles

Bus Number: ___________ Mileage: _______________ Date: _______________

Inspected By: _____________________________________________________________

☐ Tires - Bring To Lbs, Check Tread Depth And Note If Insufficient
☐ Change Engine Oil & Filter
☐ Grease Ball Joints, Front End King Pins, Tie Rod Ends And Steering Shaft
☐ Check & Clean Batteries
☐ Inspect Brake System Including Lining Thickness & Cam Height And Note W Insufficient
☐ Check For Oil, Water & Other Fluid Leaks
☐ Inspect Fan & Check All Belts & Tension When Applicable
☐ Check Restraint System
☐ Check & Repair Lights, Directional Signals; Wiring & Operation Of All Dash Controls
☐ Check Switches, Instruments, Gauges & Warning Signals
☐ Check Horn
☐ Check Door Operations
☐ Check Body, Seats, Floor, Stanchions & Steps & Note Any Damage
☐ Check Mirrors, Arms, Brackets & Windows
☐ Check Muffler & Tail Pipes
☐ Check Fire Extinguisher, Flares & Wheel Blocks For Condition & Mounting
☐ Check Windshield Wipers, Arms & Blades & Repair If Necessary
☐ Check Radiator And Coolant Condition
☐ Cycle Wheelchair Lift, Clean And Lube As Needed
☐ A/C And Heat Checks

Notes:

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Effective May 2010
Preventative Maintenance Policies and Plan
Northeastern Connecticut Transit District
Effective May 2010

NECTD
Preventive Maintenance
"B" Inspection @ 15,000 Miles

Bus Number: ___________ Mileage: _______________ Date: _______________

Inspected By: _____________________________________________________________

Includes ALL "A" Inspection Items, plus:

☐ Inspect All Engine Compartment Components For Unusual Noises, Vibration, Leaks & Other Defects
☐ Inspect Engine Compartment For Any Leak, Frayed Or Broken Wiring, Hoses Or Lines
☐ Check The Exhaust System And Heat Shields
☐ Torque All Wheel Stud Nuts
☐ Inspect All Destination Signs For Condition, Proper Operation & Lighting
☐ Complete Lubrication
☐ Check Hand Brake Adjustment
☐ Inspect Fan, Check All Belts & "Pension When Applicable
☐ Check & Inspect Front End - Tie Rods, Drag Link, King Pins, Steering Box & Shaft
☐ Inspect The Suspension - Torque & Lateral Rods, Shocks, Frame & All Mounting Brackets
☐ Check All Wiring, Tubing & Grommets Under The Vehicle
☐ Check Differential Fluid For Leaks & Fluid Level & Add Fluid If Necessary
☐ Inspect Drive Shaft & U-Joints

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NECTD
PREVENTIVE MAINTENANCE
"C" INSPECTION @ 30,000 MILES

Bus Number: ___________ Mileage: _______________ Date: _______________

Inspected By: _____________________________________________________________

Includes ALL “A” and “B” Inspection Items, plus:

☐ Change Transmission Fluid & Filter
☐ Inspect Brake System Condition & Brake Valves, Lines & Hoses For Leaks

Notes:
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Preventative Maintenance Policies and Plan
Northeastern Connecticut Transit District
Effective May 2010

NECTD
PREVENTIVE MAINTENANCE
"D" INSPECTION @ 50,000 MILES

Bus Number: ___________ Mileage: _______________ Date: _______________

Inspected By: ___________________________________________________________

Includes ALL “A” (May also include “B” and “C”) Inspection Items, plus:

☐ Replace Rear Axle Lubricant

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<thead>
<tr>
<th>NECTD PREVENTIVE MAINTENANCE</th>
<th>&quot;E&quot; INSPECTION @ 100,000 MILES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bus Number: ___________</td>
<td>Mileage: _______________</td>
</tr>
<tr>
<td>Inspected By: __________________</td>
<td></td>
</tr>
</tbody>
</table>

Includes **ALL** "A", "B" and "D" PM Items (May also include "C"), plus:

- [ ] Perform Tune Up, Replace Spark Plugs
- [ ] Inspect Accessory Drive Belt

Notes:

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Preventative Maintenance Policies and Plan
Northeastern Connecticut Transit District
Effective May 2010

NECTD
PREVENTIVE MAINTENANCE
"F" INSPECTION Annually

Bus Number: ___________ Mileage: _______________ Date: _______________
Inspected By: _____________________________________________________________

Fall
☐ Inspect Transmission System and Adjust as Necessary
☐ Replace Engine Air Filter
☐ Replace Fuel Filter

Spring
☐ A/C System Recharge and Inspection

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NECTD
Facility Maintenance Schedule

Scheduled Tasks:

- Insure FULL ADA Compliance in terms of access and use
- Inspect and Service Heating System (annually)
- Inspect and Service Generator (quarterly)
- Fire and Alarm System Check (annually)
- Fire and Alarm System components, Lighting and Extinguishers’ (monthly)
- Building Cleaning (weekly)
- Snow Plowing (contract annually - as needed)
- Lawn Care and Grounds - (every two weeks or as needed)
- Roof (Inspect and Replace as needed -15 years - overdue)
- Painting - exterior (15 years - due 2012)
- Parking Areas - Fix Cracks, Patch and Re-Surface as required
- Inspect and Service AC Units (annually)
- Maintain interior and exterior lighting (as needed)
- Maintain Sanitary Sewer Connections (service as required)
- Inspect and Service Bus Lifts (per manufactures recommendations)
- Overhead Doors (bi-annually)
- Facility Exterior Inspection Bi- Annual (spring and fall)
Maintenance Procedure for Exit and Emergency Lighting
(Monthly)

Check to see that all exit routes are clear and free from obstructions.

Exit Signs:
- Clean
- Make sure sign is securely fastened.

Exit Lights:
- Clean
- Replace missing or nonfunctioning bulbs.
- Test unit following manufacturer’s instructions on fixture.

Emergency Lighting:
- Clean
- Replace missing or nonfunctioning bulbs.
- Test unit following manufacturer’s instructions on fixture.
Fire Extinguisher Inspection Procedure
(Monthly)

The monthly fire extinguisher inspection details the visual condition of the extinguisher.

☐ Verify extinguisher is in the correct location.

☐ Check seals and tamper indicators intact.

☐ Check pressure gauges or indicators to verify they are in proper operating range and position.

☐ Check labels and inspection signs.

☐ Check hoses and nozzles.

☐ Check hydrostatic test date. Hydrostatic testing must be completed every 5 years.

☐ Path to the extinguisher is unobstructed.

☐ Check date of service and verify that it is current
Preventative Maintenance Policies and Plan
Northeastern Connecticut Transit District
Effective May 2010

Maintenance Procedure for Overhead Doors/Motors
Bi-Annual

Check for proper operation

- Buttons on door controller
- Door opens, closes, and stops when buttons are activated.

Check for damaged door panels.

- Check for damaged sections.
- Check rails for wear and mounting to ceiling and walls.
- Guide rollers
  - Check for damaged rollers.
  - Check for missing rollers.
  - Check to ensure rollers are secured.

Rail - Check for damage or wear

Motor

- Motor mounted securely.
- Pulleys mounted securely.
- Gears are secure.
- Check for clutch slippage.
- Check gear sprocket on motor.
- Check motor reset button.
- Check for exposed or damaged wires.
- Electrical cover secure.

Check Door Springs/Shaft/Pulley

- Springs
  - Check for cracks.
  - Check mounting and alignment.

Spring shaft

- Check for damage or wear
- Securely mounted to wall

Spring staff pulley

- Securely mounted
- Check for damage and wear

Lubrication

- Rollers
- Guide rails
- Chains
- Spring shaft pulley
- Springs
- Motor shaft bearing
- Spring shaft bearings
- Motor gear chain
Facility Exterior Inspection
Bi-Annual (spring and fall)

- Building address clearly visible
- Fire department Knox Box unobstructed
- Exterior wall condition - new cracks or other damages
- Windows free from cracks and broken panes
- Stairs, landings and handrails in good repair and fastened securely
- Irrigation covers in place
- Exterior lights
- Parking lot