

## CHAPTER 4

### FLEET MANAGEMENT

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#### 4-1.0 INTRODUCTION

Fleet Management is not simply about operating the equipment and keeping it fixed. Fleet Management is very wide in scope and includes the full circle of justification, specification, acquisition, assignment, scheduling, utilization and disposal.

Mn/DOT's fleet of equipment represents a large investment, exceeded only by buildings, structures and the highways themselves. It is the policy of the Department to provide ample and adequate up-to-date equipment for the performance of all routine maintenance and construction functions.

Mn/DOT employees are charged with the safe operation, proper maintenance and efficient use of all equipment they operate. Operating equipment requires continuous self-learning, both on the job and at special training courses offered by the Department. Operators are required to know and understand all laws, regulations and policies pertaining to the operation of Mn/DOT equipment, especially those related to safety.

The Equipment Section of the Office of Maintenance has the general overall fleet management responsibility of administering, acquiring, issuing, and repairing equipment. A substantial part of Department funds are used to purchase and operate this equipment, which necessitates economical administration.

All equipment operating out of the Central Office is under the maintenance control of the Central Shop. All other units are under the direct maintenance control of the Districts and Maintenance Areas in which they are operating, either on temporary or permanent assignment.

By definition, this chapter refers to "fleet" equipment, often referred to as "mobile" equipment, "road" equipment, "vehicle" equipment, etc. Equipment not included in "fleet" is scientific equipment, laboratory equipment, surveying equipment, office equipment, etc. Neither does "fleet" include testing equipment used to repair fleet equipment. Included in the "fleet" are those pieces of equipment purchased out of the Mn/DOT Road Equipment Budget, where each is identified by an equipment unit number and an equipment class number. (Exception: Units costing less than \$2000 do not have assigned unit/class numbers unless Shop Supervisor wants to manage its cost in the Equipment Management System M5).

Mn/DOT's fleet is as varied in composition and as wide as the Department's scope of responsibilities. Included are road and off-road, motorized and non-motorized, self-propelled and pull-type, licensed and non-licensed, two-wheeled drive and multi-wheeled drive, single axle and dual axle, etc. Some are often rated as "heavy" and others as "light". The fleet provides transportation for the administration and inspection of maintenance and construction projects as well as for the production of the activity itself.

As of 2006, Mn/DOT has about 11,700 equipment units in the fleet, valued at nearly \$215 million. About 3500 of the units are licensed as road vehicles. Mn/DOT expends over \$16 million annually on equipment maintenance and repair and invests about \$11.7 million

each year on new purchases to keep it up-to-date.

## **4-2.0 GUIDELINES STATEMENT**

### **4-2.01 Role of Office of Maintenance**

The [Office of Maintenance](#)'s primary responsibilities include corporate oversight of maintenance functions, national and international coordination of maintenance functions, and customer support for the eight Mn/DOT Districts. One of Mn/DOT's three Strategic Directions is to Safeguard What Exists. In essence, Mn/DOT's most important priority is to operate, maintain and preserve Minnesota's existing transportation systems and infrastructure.

The [Office of Maintenance](#) is organized into five sections in order to carry out its responsibilities. Those sections are:

1. Equipment
2. Facilities
3. Operations and Research
4. Information Resources
5. Performance and Financial

The [Equipment Section](#) has specific responsibilities that include fleet management, equipment purchasing, plow truck fabrication, equipment maintenance, inventory/supplies management, etc.

### **4-2.02 Role of Districts and Offices**

Mn/DOT is divided into eight regional areas, i.e., Districts. This includes seven Greater Minnesota Districts and one Metro District (Minneapolis-St. Paul Metropolitan Area). These districts are further divided into Maintenance Areas and Maintenance Sub-Areas.

Most day-to-day operations are managed at the district level, including highway construction project development & administration, as well as maintenance of existing state highways.

To carry out the operations, each district is provided with a fleet of equipment. In fact, the vast majority of Mn/DOT's total fleet is assigned directly to the districts. Included in their district responsibility is the preventive maintenance and repair of that equipment.

Several offices of the Central Office also have significant numbers of equipment assigned to them, including the Offices of Materials, Maintenance (including Central Office Motor Pool), Electrical Services, etc. These offices receive preventive maintenance and repair service from the Equipment Section of the [Office of Maintenance](#).

#### 4-2.03 Role of Department of Administration (DOA)

The Department of Administration provides oversight and direct services to all State Departments, including Mn/DOT. Included are:

1. State of Minnesota [Fleet Safety Management Standards](#), a policy which sets forth the general standards for motor vehicle safety operation and covers the use of state owned, leased, rental and personal vehicles used to conduct state business is written and administered by DOA.
2. All advertisement of bids for Mn/DOT equipment purchases are processed through [Materials Management Division](#) of DOA.
3. The M5 Maximus Equipment Management System used by Mn/DOT is a standard for other major State Agencies, with oversight provided by DOA.
4. Mn/DOT disposes of surplus equipment through the State Auctions, administered by [Materials Management Division](#) of DOA.
5. Assigned vehicle rental services for state and local government entities are available through [Travel Management Division](#) of DOA.
6. Liability and accident insurance for Mn/DOT's fleet is provided by the [Risk Management Division](#) of DOA.

#### 4-2.04 Role of Governor's Executive Orders

During every Administration, the Governor often uses the power of Executive Orders to lead and drive his Administration's new or focused directions. While Executive Orders are rescinded as the election process changes the Administration, the programs initiated under Executive Order often become well established and are continued, albeit in modified form, from one administration to another.

Minnesota's Shared Service Initiative, part of a Governor's [Drive to Excellence](#) program, is aimed at pooling and sharing the over 8,000-unit equipment resources between state agencies, providing greater agency fleet accountability and saving costs.

[Executive Order 04-10](#), issued September 27, 2005, states that all agencies, using 2005 as a base, shall reduce the usage of gasoline by 25% by 2010 and by 50% by 2015 and reduce petroleum diesel usage by 10% by 2010 and 25% by 2015. This program drives the effort to purchase alternative, cleaner fuel vehicles and purchase high efficiency vehicles that exceed 30 mpg/city or 35 mpg/hwy. It promotes the use of alternative fuels such as ethanol, biodiesel and hydrogen from agricultural products as well as promoting the use of more electronic information technologies to reduce Agency reliance on fleets to deliver products and services.

[Executive Order 06-03](#), issued March 10, 2006, directs Agencies and state employees to use E85 and biodiesel fuel “whenever practical” and directs Agencies to strengthen the infrastructure for E85 and biodiesel availability throughout the state.

#### **4-2.05 Role of Federal Motor Carrier Safety Administration**

[Federal Motor Carrier Safety Administration \(FMCSA\)](#) of the U. S. Department of Transportation (USDOT) has a primary mission of reducing crashes, injuries, and fatalities involving large trucks and buses. To achieve this, the FMCSA develops, maintains, and enforces Federal regulations that promote carrier safety, industry productivity, and new technologies. The FMCSA establishes safe operating requirements for commercial vehicle drivers, carriers, vehicles, and vehicle equipment. The FMCSA regulations, known as the [Federal Motor Carrier Safety Regulations \(FMCSR\)](#), are provided in pocketbook form to all Mn/DOT operators of Commercial Motor Vehicles.

Commercial Motor Vehicle (CMV) is clearly defined in FMCSR (§382.107). Generally speaking, a CMV includes a) a motor vehicle greater than 26,000 pounds GVWR, b) a combination of motor vehicles greater than 26,000 pound GVWR inclusive of a towed unit with a GVWR of greater than 10,000 pounds, c) a vehicle designed to transport 16 or more passengers, including driver, and d) any vehicle used to transport hazardous materials. In Mn/DOT, this includes, among other equipment, all snow plow trucks.

All Mn/DOT operators of CMV’s are governed in part by the FMCSR regulations. This includes Commercial Drivers License (CDL) requirements, random drug testing, Pre-Trip and Post-Trip daily inspections, training session attendance, etc. Class A licenses are required to operate truck/trailer combinations. Class B licenses are required for single units and trailers under 10,000 pounds GVWR.

All Mn/DOT operators of CMV’s must learn and know about federal as well as state laws, regulations and policies and must maintain access to the FMCSA pocketbook.

### **4-3.0 OPERATIONS PERFORMANCE MEASURES**

#### **4-3.01 Introduction**

Mn/DOT is committed to making business decisions using customer expectations and performance measures. Mn/DOT conducts extensive market research to identify customer satisfaction and expectations. As a result of market research, as well as professional expertise, Mn/DOT has developed performance measures and associated performance targets that help Mn/DOT work better.

There are several key performance measures with set targets that operating units within Mn/DOT are monitored and measured against. Five of these are:

1. [Utilization Rate Goals](#)

- 2. Units within Life Cycle Goals
- 3. Fleet Size Measures
- 4. Scheduled vs. Non-Scheduled Maintenance Goals
- 5. 4WD Count Measures

While they are listed as individual goals, they are all related. Making progress toward meeting one goal may affect the progress in meeting another. For example, increasing average Utilization may reduce Fleet Size. If reducing Fleet Size leads to surplus units rather than replacing them, Life Cycle is enhanced. Increasing Scheduled Maintenance may reduce downtime and permit lower Fleet Size. Effectively monitoring and scrutinizing high cost add-on features, like the 4WD Count, may free up equipment investment funds to improve Units within Life Cycle.

These Operation Performance Measures are valuable in terms of providing direction and motivation to fleet managers. They can be monitored as individual targets or as a set of targets together. Furthermore, an individual fleet manager can monitor progress, one year to the next, or compare his operation against another District/Office.

The goals are set by management as attainable targets to strive for. Districts/Offices can be compared against similar Districts/Offices. As a continuous improvement strategy, when Districts/Offices apply creative and progressive measures and achieve the assigned targets, the “bar is raised” and targets may be adjusted. As times change, so do targets.

District Engineers and Office Directors need to understand that for a fleet manager to be successful in managing its fleet against these performance goals, it needs the entire organization, including, in particular, the operators of equipment and their supervisors, to work together in concert in order to reach the targets.

**4-3.02 Utilization Rate Goals**

The purpose of acquiring equipment is to produce work or provide a service. Idle equipment does neither. Idle equipment still incur costs in the form of depreciation, obsolescence, storage costs, cost of tied up money, etc, not only in the asset itself but in spare parts as well. Limited replacement funds expended on low usage equipment take away from the ability to invest in equipment that is needed more often. To replace an underutilized vehicle is particularly counterproductive to good fleet management principles.

Minimum utilization targets have been set for selected classes of equipment:

- 1. Single Axle Plow Trucks ..... 6,000 miles/yr
- 2. Tandem Axle Plow Trucks ..... 8,000 miles/yr
- 3. Cars, Pickups & Medium Duty Vehicles .....12,000 miles/yr
- 4. Tractors over 30 hp w/attachments (Mowers, Loaders, etc) ...350 hours/yr
- 5. Loaders, non-Articulated .....125 hours/yr
- 6. Loaders, Articulated ..... 250 hours/yr

7. Skid Loaders & Wheel Type Backhoes ..... 250 hours/yr

Equipment utilization and optimization can be improved in several ways, for example:

1. Double shifting of equipment
2. Combining its use with other units, resulting in one or more units being disposed of as surplus
3. Encouraging use of central motor pool
4. Reorganizing operation at the district vs. area or sub-area level
5. Assigning units (and accountability of its care) to crews, areas, districts or offices as opposed to individuals
6. Sharing equipment between operating units/districts
7. Local renting/leasing for seasonal needs
8. Lower need for business travel (less meetings, video conferencing, etc)
9. Centralized purchase with lease to district/office
10. Taking advantage of the Shared Service Initiative where other state agencies utilize a common M5 Equipment Management System leading to more options of shared ownership and shared usage of equipment between agencies

From a fleet management perspective, vehicle assignments to individual employees should be minimized. Assigning vehicles to individuals decreases the opportunity for maximized utilization on individual vehicles and places greater pressure on growth in fleet size to accommodate all employees' needs. Fleet size is the number one contributor to overall fleet cost to Mn/DOT. Pooling and open sharing of the equipment resource assures higher average utilization.

#### **4-3.03 Units within Life Cycle Goals**

It is generally understood that to minimize costs and maximize vehicle availability and top utilization potential, older vehicles need to be replaced when their cost to operate and maintain is higher than a new one. New units have high front end investment and depreciation costs but even if they break down, Warranties may cover it during early life. Older units may not depreciate much but they may break down, leading to high maintenance and downtime costs.

Mn/DOT's M5 Equipment Management Information System is used to provide average life-cycle cost information, including running repair costs of parts, labor, downtime, etc. This information, together with changing needs and technological advancements, defines the most economical life-cycle for different classes of equipment. Life-cycle cost information is particularly useful in long and short range planning and budgeting purposes, like for putting together a budget presentation to the central office or the legislature for establishing an adequate road equipment budget for a biennium. In changing times, optimum life-cycles change as well.



This measurement in effect measures how well operating Districts/Offices invest their available equipment replacement funds to improve average fleet age or life cycle targets.

#### **4-3.04 Fleet Size Measures**

The purpose of this measurement is to recognize the tendency of District/Office fleets that have the least number of equipment units in a specific class per unit of work produced are often the fleets that have the highest annual utilization rate per unit in a class.

The Operations Performance Measure of Fleet Size does not have a goal or target per se. Instead, it is comparing the number of units, perhaps by class, of one District/Office compared to a similar District/Office. It is comparing numbers of units per mile or per unit of work performed, one organization to another. It is comparing Fleet Size one year compared to previous years.

#### **4-3.05 Scheduled Vs Unscheduled Maintenance Goals**

There are two kinds of maintenance activities: Scheduled and Unscheduled.

1. Scheduled maintenance is planned component repair or replacement, often triggered by preventive maintenance inspections, Pre-trip and Post-trip inspections, regular oil changes and grease jobs, etc, all of which are scheduled maintenance activities themselves.
2. Unscheduled maintenance is work that results from breakdowns, surprise failures, often triggering road calls and usually causing expensive downtime of labor crews.

This measure is intended to compare the portion of the work done in repair shops that is considered preventive maintenance, inspection or modification as opposed to reactionary, operator reported or breakdown maintenance or repair.

Targets have been set on the percentage of total shop work that was preventive (as opposed to reactionary) maintenance.

#### **4-3.06 4WD Count Measures**

The Equipment Section will report on the inventory of four-wheel-drive (4WD) vehicles annually. The Equipment Section will provide periodic updated information on life cycle costs of 4WD vs. 2WD vehicles.

Districts/offices should base all decisions on purchasing a 4wd vehicle on a need/benefit/cost analysis i.e., the vehicle's intended application against its higher annual ownership costs. Consideration should also be made for provisions of Governor's [Executive Order 04-10](#) regarding alternative fuel and fuel efficiency.

Districts/offices that currently have high numbers of 4WD vehicles should re-evaluate past decisions and justifications for existing 4WD units. Do not automatically assume that future replacements of 4WD vehicles must be 4WD. Follow [Mn/DOT Guidelines: Four-Wheel Drive \(4wd\) Vehicles](#) and the questions listed in [Four Wheel Drive Considerations](#).

If, following the procedure described in [Mn/DOT Procedure: 4wd Vehicle Requests](#), a higher cost can be justified by need, the district/office may be justified in purchasing a 4WD vehicle. Once a need is established, submit the [Equipment Request Form](#) to Central Office for approval.

#### **4-4.0 EQUIPMENT MANAGEMENT SYSTEM**

##### **4-4.01 Equipment Management System**

Mn/DOT's fleet of equipment and vehicles is managed by the Office of Maintenance Equipment Section utilizing M5, an Equipment Management System from Maximus, Version 5. The M5 fleet system tracks every aspect of the fleet, including evaluating a need, budgeting, acquisition, in-service, maintenance schedules, repair history, fuel, lifecycle and disposal.

In addition, M5 tracks work flow in the mechanical shops, work order costing including labor, parts, and commercial charges. Mn/DOT's motor pool locations can use M5 for tracking motor pool units.

The Office of Maintenance Equipment Section supports M5 for all of the districts and offices.

The integrity of the data going into M5 is critical to Mn/DOT's operation as it supplies all the data for daily operations as well as management reporting needs at all levels. For example, M5 uses data entered by operators when fueling up vehicles for a variety of purposes, including accumulating operation costs, triggering the reordering of fuel, monitoring fuel theft/loss, scheduling Lube and Service reminders, etc.

##### **4-4.02 Life Cycle Cost Analysis**

For replacement purposes, individual pieces of equipment have three lives:

1. Economic life, the length of time over which the average total unit cost is the lowest
2. Technological life, the length of time before it is considered obsolete and no longer efficient or effective given new technology currently available
3. Service life, the length of time before the unit is no longer able to perform (because it is simply wore out) or is no longer serviceable (because of unavailability of replacement parts)

In the case of economic life, several cost factors need to be taken into consideration when determining whether to buy vs. lease vs. rent, purchase new vs. used, whether to keep the unit another year or replace it, etc. It costs something a) just to own the equipment, b) to operate it and c) to repair it. Some of these individual costs include:

1. Depreciation
2. Operations
3. Maintenance
4. Downtime
5. Obsolescence
6. Operator Training
7. Parts Inventory
8. Value of Money Tied Up
9. Insurance
10. Storage

During the life of the unit, these costs vary; some will increase with time, some will remain level and others will decline. Together, they comprise the total cost of the unit.

Life Cycle Costing calculates ownership, operating and repair costs throughout the working life of the units. Life Cycle Costing includes the valuation of costs associated with things like availability, service, resale value, downtime or rental costs for replacing units “down” for service. Typically, as a unit ages, average maintenance costs go up but as units get older, investment costs decrease. If a unit receives a major repair, is overhauled or is rebuilt, the investment goes up accordingly but the economic life is extended.

The Equipment Management System M5 is designed to track various costs associated with owning, operating and maintaining Mn/DOT equipment. This information is used to conduct life cycle cost analysis for both long range planning and short range decision making. Long term, it helps set age/mileage/time criteria for the statewide Mn/DOT fleet in order to project biennial budgetary needs and justifying budgetary requests to Legislature. It can assist in determining how available funds are best distributed to individual Districts/Office for optimum return on investment. It can be used at the local level to determine which units are most economical to replace in a given year.

It should be noted however that life cycle cost analysis applies best to equipment whose replacement cycle is governed mostly by economic life.

In the case where the equipment’s replacement is governed by service life, operating or maintenance cost is not the issue so the Equipment Management System M5 and life cycle costing data is not applicable in the decision making process.

Likewise in the case where technological life governs. In this case, even though the unit can be kept serviceable, the unit becomes obsolete technologically before it begins to cost too much to continue to own, operate and maintain.

In summary, life cycle cost analysis applies to equipment where the replacement cycle is best determined by costs. It does not have an application to units where service life and obsolescence are the primary factor in replacement decision-making.

#### 4-5.0 EQUIPMENT OPERATIONS STANDARDS

Referenced in this section are several Equipment Operational Standards that are important to know, understand and follow dealing with the operation and maintenance of Mn/DOT equipment. This listing is not all-inclusive.

1. Generally speaking, the State of Minnesota [Fleet Safety Management Standards](#) define several operational policies and procedures that apply to all state employees who operate Mn/DOT owned or rented vehicles and equipment or are driving personal vehicles while conducting official state business. In some cases, Mn/DOT has added to or modified the definition to tailor it to its needs.
2. The [Fleet Safety Management Standards](#) define vehicle operator's responsibilities such as license requirements, minimum age limitations, driving under the influence, insurance coverage when using personal vehicles, seat belt use requirements, using headlights at all times, personal liability for traffic violations and fines, etc. The [Minnesota Driver's Manual](#) explains the safety rules and state laws you need to follow in order to drive safely and legally in Minnesota.
3. Mn/DOT [Equipment Operator's Manual](#) contains guidance more specifically directed at Mn/DOT operators and procedures including equipment assignments, vehicle operator responsibly, service and maintenance, etc.
4. The [Fleet Safety Management Standards](#) defines agency responsibilities such as maintaining driving records of all employees who operate state vehicles, reviewing vehicular accidents, assuring employees are licensed, providing operator training, maintaining safe equipment, etc.
5. All drivers of passenger vans with a capacity of 10 or more occupants must read and comply with special requirements covered in the pamphlet entitled *Tips for Van Drivers* published by [Risk Management Division](#) of DOA.
6. Any person towing a trailer behind a State vehicle must read and comply with the guidelines outline in the pamphlet entitled *Fleet Safety Standards for Towing Trailers*, published by the [Risk Management Division](#) of DOA.

7. It is the policy of Mn/DOT to comply with all state laws governing Oversize/Overweight loads using equipment owned or used by Mn/DOT.
8. The policy on Take-Home Vehicles is governed by [Minnesota Statute 16 B.55](#) which states that a state vehicle may be used only for authorized state business. Specifically, a state vehicle may not be used for transportation to and from the residence of a state employee except as noted in Mn/DOT Human Resources Administration policy entitled Take-Home Vehicles. Qualifying criteria and eligibility are included on [Mn/DOT Take-Home Vehicle Authorization](#) form which must be approved by a Division Director. Mn/DOT tracks vehicles/operators authorized as take-home units using the [Take Home Vehicle Tracking Process](#) of the M5 Equipment Management System.
9. Mn/DOT [Strobe Light Policy](#) requires the deadlining of any snow plow truck from being dispatched for snow and ice operations unless at least one strobe light is operational.
10. Mn/DOT [Assisting Disabled Vehicles during Winter Storms Policy](#) provides guidelines and limits the use of state employees and equipment to assist private disabled vehicles during snow and ice removal operations.
11. Mn/DOT [Secured Load Policy](#) defines the need to cover loose loads unless certain conditions are met.
12. Mn/DOT [Mud Flap Policy](#) defines when mud flaps are required on state vehicles.
13. Mn/DOT [Policy on Parking Use of Chock Blocks](#) defines when and how chock blocks must be used when parking certain equipment.
14. Any property damage or personal injury accident involving state employees using state mobile equipment must be reported according to policies and procedures included in the [Risk Management Loss Control Policy](#) administered by DOA.
15. Maintenance Bulletin No.03-3 defines the [Vehicle Assignment Guidelines](#) that restricts assignment of vehicles to individual employees. Individual assignments are acceptable when a vehicle is equipped with specialized equipment that is required by an individual employee to carry out his work (like a Field Mechanic) or when the assigned vehicle will meet minimum daily business usage need per year or portion of a year.

#### 4-6.0 PREVENTIVE MAINTENANCE & INSPECTION

##### 4-6.01 Purpose of Mn/DOT's Preventive Maintenance & Inspection Policy

The purpose of Mn/DOT's Preventive Maintenance & Inspection Policy is to provide and establish a consistent program of inspecting, adjusting, lubricating, servicing, cleaning and repairing of equipment and to identify and correct deficiencies before they develop into major repairs.

Regular inspections will provide a safe vehicle for the operator and others in the travel or work area. When inspections are properly performed, equipment downtime will be decreased and cost of maintaining the vehicle will be lowered.

The operator is the first line of defense of any preventive maintenance program. How well operators perform preventive maintenance guidelines and how accurately and timely they convey issues to others determines whether or not PM programs succeed.

##### 4-6.02 General Daily Operator's Inspection

It is the responsibility of all vehicle and equipment operators to read and understand the Mn/DOT's [Equipment Operator's Manual](#) which defines the operation inspection and policies and procedures governing all Mn/DOT vehicles and equipment.

All employees operating Mn/DOT vehicles shall also adhere to the requirements of the [Mn/DOT Travel Procedures Manual](#).

##### 4-6.03 Operators' Daily Inspection and Maintenance on Commercial Motor Vehicles (CMV)

Mn/DOT employees holding a Class A or B Commercial Drivers License (CDL) are required by [Federal Motor Carrier Safety Regulations \(FMCSR\)](#) and State of Minnesota Motor Vehicle and Traffic Laws to conduct a Pre-Trip and Post-Trip inspection before and after using the equipment, every day they are operating a Commercial Motor Vehicle (CMV). A CMV is defined by FMCSR in its pocketbook, under §382.107.

The [Operator's Daily Checklist Book](#) (Form Mn/DOT TP-03050-2A) shall be used to verify that the inspection has been made and to record any deficiencies corrected by the operator or referred to others to be corrected.

1. A copy of this book should be available in the cab of every CMV.
2. The book includes both a Pre-Trip Report and a Post-Trip Report along with instructions as to what procedures are to be followed.

#### 4-6.04 Operator Performed Lubrication & Service

It is the responsibility of the operator to adhere to the schedule of lubrication and service of equipment as recommended by manufacturer's lubrication and service instructions. Districts and offices, through their Shop Supervisors, may set different intervals. Lubrication and services procedures also require certain checks at proper intervals.

By definition, LUBRICATION (also referred to as PML or preventive maintenance lubrication) includes the greasing of the equipment; SERVICE (also referred to as PMA or preventive maintenance oil change & grease job) includes greasing plus changing oil and filter.

Recommended service intervals are as follows:

1. Light and Medium Duty Vehicles
  - A. Lubrication (PML) interval: 4,000 miles
  - B. Change Oil/Filter (PMA) interval: 4,000 miles
  
2. Plow Trucks and Heavy Duty Vehicles
  - A. Lubrication (PML) interval: 1,000 miles
  - B. Change Oil/Filter (PMA) interval: 10,000 miles or semi-annually (varies by district)
  - C. Complete 1,000 mile check using the [1000-Mile Service Record – Snow Plow Truck](#)
  
3. Off Road and Miscellaneous Units
  - A. Lubrication (PML) interval: Follow manufacturer's recommendations except heavy 4WD Loaders, lubricate daily.
  - B. Change Oil/Filter (PMA) interval:
    - i. Over 40 hp: every 200 hours or annually
    - ii. Under 40 hp: follow mfg recommendations or annually

All services performed and discrepancies found by operators during any inspection, are to be recorded and reported in the [Unit Service Book](#) (Form 1743).

#### 4-6.05 Winter Equipment Inspection

Following individual district developed guidelines, all snow and ice control equipment should be inspected thoroughly before the winter season. Trucks should be in good working order with necessary parts available. Snow plows and wings should be mounted on the trucks and inspected for proper operation. Auxiliary equipment, such as tire chains, shovels, lights, etc., should be available and operational.

In addition, prior to every winter maintenance operation, each piece of equipment should be inspected for proper operation and to determine if any deficiencies exist.

#### **4-6.06 Operator Routine Equipment Maintenance Responsibility**

Passenger vehicle drivers are expected to assume personal responsibility for the care and appearance of the unit. Both the interior and the exterior of passenger cars are to be kept clean. During the winter, particular care is to be exercised in removing road chemicals regularly at either Mn/DOT or contract facilities. Drivers and car pool dispatchers shall use the [Unit Service Book](#) (Form 1743) to report to the Shop Supervisor any unsatisfactory performance or any item on the vehicle requiring attention in the form of repair or scheduled servicing. This applies to cars, pickups, vans and other passenger vehicles assigned, whether it is maintenance, contract administration or any other office in Mn/DOT.

Maintenance equipment operators are responsible for ascertaining that the following is performed: daily inspection, scheduled Lubrication and Service, proper care of tires and lug nuts, cleanliness and appearance of vehicles, keeping the cooling system in good order and adding anti-freeze when required, checking all belts for cracks and tension, keeping battery clean and adding water to proper level, keeping accessible chassis bolts and nuts tight, etc. Operators shall use the [Unit Service Book](#) (Form 1743) to record services performed or to inform the Shop Supervisor of items needing attention. Seasonal activities involving the use of chemicals requires frequent cleaning and re-oiling of all contaminated delivery mechanisms. Salt, slush and scum accumulations are to be removed from truck, sander hopper and dump body after each ice removal period and prior to being sent into shop for repairs.

Services, inspections and repairs needed to be performed by the Equipment Shops shall be arranged for and scheduled in advance by contacting the Shop Supervisor at the nearest maintenance shop or Central Shop. If, for some reason, it is impossible to bring the unit in when scheduled, the Shop Supervisor shall be notified immediately. The amount of work scheduled vs. non-scheduled is measured and used to monitor the performance of a District operation.

Operators, supervisors or mechanics are urged to offer constructive criticism of the performance of each piece of equipment, either verbally or in written form, to the Shop Supervisor.

Nothing in this manual or any other instructions pertaining to equipment operations and maintenance shall in any way limit or restrict the prompt reporting and correction of faulty functioning of a unit, whether or not the trouble is specifically covered by instructions.



#### **4-6.07 Repair Shop Preventive Maintenance**

Trained mechanic personnel perform Preventive Maintenance Inspections (PMI) on specific vehicles at prescribed intervals for the purpose of identifying and fixing deficiencies.

The following forms are used:

1. [PMI Record Sheet for Light Duty Vehicles](#)
2. [PMI Record Sheet for Snow Plow Trucks](#)
3. [PMI Record Sheet for Loaders](#)
4. [PMI Record Sheet for Trailers](#)

#### **4-6.08 Manufacturer Service and Warranty**

Dealer or warranty inspections including minor adjustments required on new equipment shall be made at Department facilities. Only actual warranty work is to be furnished by the dealer.

All warranty work is to be requested through the Shop Supervisor only.

The equipment warranty is subject to adjustment when equipment is modified after being procured. Where questions arise, the Shop Supervisor should be consulted.

#### **4-6.09 Annual Commercial Vehicle Inspection (CVI)**

An Annual Commercial Vehicle Inspection (CVI) shall be performed by certified mechanics on all Commercial Motor Vehicles (CMV) as defined by FMCSR. No vehicle shall be operated without the [Vehicle Inspection Report](#) completed and a numbered Inspection Decal properly affixed to the vehicle.

The CVI can only be performed by trained, certified mechanics. The forms used must be approved by the Minnesota State Patrol who also issues the Inspection Decals.

### **4-7.0 REPAIR SHOP OPERATIONS**

#### **4-7.01 Shop Orders**

All shop work of any nature, including field service calls and Annual Inspections, shall be covered by a written Unit Service Request form in the [Unit Service Book](#) (Form 1745), signed by the Shop Supervisor or other employee duly authorized by the Area Maintenance Engineer. No shop work may be performed without such an order. All repair work performed on a unit which incurs labor or parts, whether performed in-house or done commercially, needs to be documented on a work order in the fleet management program M5.

In order to ensure that the desired repair is cost-effective, the Shop Foreman will obtain approval from the Area Maintenance Engineer (AME) when the repair cost seems high when compared to full replacement value. High investment in repairs, overhauls, rebuilding, etc, affect life cycle costing and should provide cause for extending replacement cycle in order to recover such investment costs. The AME is encouraged to seek concurrence from the Equipment Section prior to authorizing such work.

#### **4-7.02 Research Requests to Improve Equipment**

To make an improvement to a piece of equipment by adding an external function to it, a research proposal has to be created. The research proposal(s) is then to be sent to the Maintenance Operations Research Engineer at Central Office. Once the proposal is received, it will be reviewed by either the NTREC (New Technology, Research and Equipment Committee) if the total cost is greater than \$12,000 or by MOR (Maintenance Operations Research) if the total cost is less than \$12,000.

A guide as to how to write the Project Proposal and additional information regarding research proposals can be found in the [Maintenance Operations Research Fund \(MOR\) web site](#).

### **4-8.0 ACQUISITION OF EQUIPMENT**

#### **4-8.01 Justification for Additions and Replacements**

The justification for additions and replacement of equipment is established by the District Shop Supervisor.

Additions must be justified on the basis of increased work load or meeting new expectations by the public. Additions may be also justified because of availability of new technology that reduces overall costs or improves response time of providing Mn/DOT products and services.

Timely replacement is essential to good fleet management. But replacement decision-making is a complex task for fleet managers. Perhaps the most critical factor is availability of funds but even then, needs change, cost of repairs change, available technology changes, etc. Budgets may be built on average age/mileage/hour replacement criteria, but these are just averages and some units below that level are justified for replacement early and some units not justified until higher age/mileage/hour levels are reached. Each replacement decision is a separate decision based on current projected utilization, costs, availability and return on investment. Alternatives of renting, leasing, purchasing used, repair/rebuild, all have to be made at this point in the life cycle of every unit. Opportunities for fleet reductions are never better than at replacement time. “Wants” need to be separated out from “needs”. Not unlike the private sector, fleet managers are always working under budget restrictions which enhance the importance of good decision making.

For Mn/DOT equipment purchases, appropriate [Mn/DOT Equipment Request Form](#) needs to be completed.

#### **4-8.02 Annual Equipment Budget**

Each biennium, the legislature establishes budgets for funding the cost of new and replacement of old, obsolete or worn out equipment. Separate funds are set up by type of equipment:

1. Road Equipment consisting of all equipment in the “fleet”, like passenger cars, trucks, tractors, mowers, motor graders, portable generators and compressors, etc.
2. Electronic Equipment consisting of mobile radios, portable radios, base/repeater and remote consoles used in support of the electronic communications activity.
3. Shop Equipment consisting of the tools necessary for servicing and maintaining the department’s mobile fleet, buildings and bridges.
4. Office Equipment including the office machines, engineering and drafting equipment, photographic an audio visual equipment and office furniture.
5. Data Processing Equipment including mini and micro computers, desktop computer stations, automated road design work stations and data entry machines.

The Road Equipment Fund is administered within Mn/DOT by the Office of Maintenance. Allocation of equipment funds is established by an allocation formula.

Equipment acquisitions and expenditures are documented in M5.

#### **4-8.03 Equipment Procurement Methods**

The Equipment Section in cooperation with the Materials Management Division of the Department of Administration shall use the guidelines and procedures as documented in the Materials Management Divisions Procurement Manual.

Types of purchasing methods include contracts, requests for proposals, requests for bids, phone quotes.

The annual equipment budget specifies the amount of money available for the purchase of equipment each year. The Equipment Manager, after receiving recommendations from the maintenance areas, is responsible for the preparation of specifications and requisitioning of all equipment for purchase. After the requisitions have received the proper administrative approval, they are forwarded to the State Purchasing Division for purchase and

delivery. Delivery is made to the destination specified in the requisition. At that point, the newly purchased equipment is inspected by the Shop Supervisor, or his delegate to check its condition and compliance with the specifications and is accepted, or rejected, for use by the Department.

It is critical that all equipment purchased with Highway Systems Operations Plan (HSOP) funds are appropriately tracked, using the following guidelines:

1. If the equipment is to be purchased by the Equipment Section, follow the [Mn/DOT Procedure: Equipment Requests](#) and using the [Mn/DOT Equipment Request Form](#).
2. If the equipment is to be purchased at the district level, follow the [Local Purchases of Equipment](#) procedure.
3. Either way, make sure to indicate that it is to be purchased with HSOP funds and the Central Office administrative staff will make the necessary indications in M5.
4. All HSOP coding requirement in M5 and accounting coding requirements in MAPS must be met to ensure the accuracy of the HSOP reporting.

#### **4-8.04 Betterments**

Betterments are defined as major modifications or improvements that increase the value of the equipment and where the cost is distributed over the remaining life of the unit.

Betterments are an improvement that is not merely a repair but that also adds to the value of real property. The key is that it has to add value to the original unit. An example would be adding a lift gate to a pickup truck.

When betterments are purchased at the District level, the procedure provided in [Local Purchasing of Betterments to Equipment](#) needs to be followed. Betterments are reported on the [Mn/DOT Equipment Request Form](#) and checking the appropriate box.

#### **4-8.05 Renting/Leasing Equipment**

Renting is generally done to acquire use of another owner's equipment on a short term basis generally on daily, weekly, monthly basis. The owner assumes the responsibility for costs and risks of normal wear and tear, routine maintenance and repair, depreciation, insurance, etc. The renter is responsible for fuel, preventive maintenance and operator.

Leasing is generally acquiring the use of another owner's equipment for longer time periods, like seasonally or a specific number of years. During the lease, the lessee is responsible for routine maintenance to keep the unit in satisfactory condition and is generally required to stay below prescribed usage limits. At the end of the leasing period, the lessee may

or may not retain the option to purchase the vehicle at a price pre-determined at the time the original contract is written and agreed upon.

As a service within Mn/DOT, the Equipment Section purchases some mid-size sedans, pickups and sedans and leases them to Districts/Offices on a fiscal year by year basis. Rates vary from year to year. Lease periods can be for 12 months/12,000 miles or 36 months/36,000 miles. The 12 month leases can be extended 12 months at a time. Usage exceeding 12,000 miles per year are invoiced an extra \$0.16 per mile. The District/Office is responsible for covering a \$1000 physical damage deductible. These and other provisions may vary from year to year. Details regarding the leasing procedure are provided on the Equipment Section web site under [Lease Program](#).

Equipment funds can be used to lease/rent equipment in lieu of purchasing equipment but most often, local operating funds are used to rent equipment.

Rent and leases require a minimum of three (3) bids and using Mn/DOT [Informal Bid for Services and Rentals](#) (Form TP-01726-03). Equipment is usually rented without operator but equipment can also be rented with operator.

#### **4-8.06 Vehicle Markings & License Plates**

Vehicles owned or leased by the department will be clearly marked as State of Minnesota vehicles unless specifically exempted from [Marking Requirements](#) by state law. This generally is achieved by the use of either the Mn/DOT Logo or with Mn/DOT lettering.

All vehicle licenses will be identified with a tax-exempt [Minnesota State Vehicle License Plate](#) unless specially exempted by state law.

#### **4-8.07 Sharing & Partnerships**

Sharing of equipment continues to be a practice that is endorsed at all levels within Mn/DOT. In some instances the sharing of equipment is done on an informal basis. This effort may include sharing equipment with another governmental agency at the truck station level. Informal sharing does not require a contract; however the rationale for entering into this type of arrangement assumes a mutual return on the effort.

Some things to consider when determining whether a written agreement is advisable:

1. Funding - is there a need for a dedicated receivables account?
2. Liability - what are the liability implications? For example, who pays for damaged or lost equipment?
3. Accountability – how can we ensure Mn/DOT gets the results it is paying for?

Depending on the circumstances, it may be determined that a formal contract is needed to provide for partnering efforts. The basic premise of “partnerships” is that most citizens don’t particularly care which governmental entity is delivering desired services, they just want those services provided in a dependable, effective, and cost-efficient manner. Minnesota has a partnership statute that allows and encourages Mn/DOT and other governmental entities to break down some barriers and deliver services in a more effective and seamless manner.

Minnesota Statutes § 174.02 provides Mn/DOT with broad authority to engage in intergovernmental “partnerships”. The statute also provides districts and offices with a means to be reimbursed for money spent on partnership activities. The purpose of such partnerships is to promote efficiencies in providing governmental services and to further the development of innovation in transportation for the benefit of the citizens of Minnesota. Partnerships can cover a wide range of activities, from occasional lending or borrowing of equipment, to construction and operation of joint-use facilities. Partnerships can involve in-kind or monetary exchanges. The only basic legal constraint on a partnership is that the parties must have the legal authority to engage in the activities contemplated by the partnership.

Partnerships are generally formalized in a “partnership agreement.” Partnership agreements are especially important when Mn/DOT will be receiving money from the other party. Entering into a partnership agreement allows a district to establish a dedicated receivable fund. This will allow any funds received to be placed in a segregated fund at the district or office level to be used for the purposes of the partnership, rather than having those funds go directly into the trunk highway fund.

Mn/DOT has undertaken efforts to establish “master” partnership agreements with local governments, making it easier to receive compensation for routine services provided by districts, without committing the time and resources necessary to prepare an agreement specific to each type of service.

#### **4-8.08      Placing Vehicles in Service**

The [Vehicle in Service Form](#) and the [Unit Items Form](#) is filled out at the point of delivery at the time the new unit is initially delivered.

1. The Mn/DOT Vehicle in Service Form is a listing of vehicle specific items including make, model, serial number of vehicle and individual components, receiving date, door and ignition key codes, etc. Fill out one form for each vehicle.
2. The Mn/DOT Unit Items Form does the same thing as the Vehicle in Service Form except it can be used as a single form for each group of similar vehicles. Fill out this form for each group of similar vehicles.
3. These forms must be turned in to the Shop Supervisor who in turn will see that the Equipment Management System M5 is kept current.

It is recommended that each Commercial Motor Vehicle have a [Unit Data Sheet](#) prepared and permanently installed in a standard location somewhere in the cab that is easily accessible by the operator both when inspecting and servicing the unit as well. Mounting location should be safe and protected from being damaged or ripped off.

1. The Unit Data Sheet shall include, when applicable, the unit number, the unit numbers of attachments (like plow, wing, sander), types and grades of fluids used (like for coolant, power steering fluid, engine oil, transmission, front hubs, power take off, hydraulic system, differential, etc.), special grades of grease used, tire specifications (sizes, load range, air pressure), brakes (maximum strokes).
2. The preparation and installation of the Unit Data Sheet should be done under the direction of the Shop Supervisor or his designee.

Whenever a unit is assigned, transferred, traded-in or disposed of, the Mn/DOT [State Unit Assignment – Transfer or Trade-In](#) (Form 17-135) must be prepared by the Shop Supervisor in the district, area or division from which the equipment unit is being transferred from.

#### **4-9.0 DISPOSAL OF EQUIPMENT**

Equipment can be disposed of using several methods:

1. Trade in on purchase of new or used unit.
2. Advertised and sold direct by sealed bid
3. Public auction
4. Transfer to other district/office within Mn/DOT
5. Negotiated sale to other governmental agency
6. Parts out with remainder sold as scrap
7. Donate to non-profit organization

During the decision-making process, the unit should be inspected and appropriate actions taken to assure maximum return on investment. This includes possible actions like making minor repairs, cleaning the unit, etc. and deciding on inclusion/non-inclusion of attachments, accessories, manuals, surplus spare parts, maintenance records, etc. A written summary of the unit's condition and list of extras may lead to increased market value.

After the District has determined which unit(s) it has selected for disposal they will follow the [Direct Sales Procedure](#) and submit to the Equipment Section a completed [Property Disposition Form](#) (Form 761) listing the unit number, description, serial number and meter reading, six weeks prior to the estimated sale date. The Equipment Section will forward the form to the Surplus Services section of DOA Material Management Division for approval. Upon receiving approval the Equipment Section will notify the district to flag the units in the Equipment Management System (M5) for disposal. The district will be responsible for flagging

the units for disposal and note any known defects.

In addition, whenever a unit is disposed of, the [State Unit Assignment – Transfer or Trade-In](#) (Form 17-135) must be prepared by the Shop Supervisor in the district, area or division from which the equipment unit is being transferred from.

#### **4-10.0 MOTOR FUEL**

Motor fuel for department vehicles and equipment can be drawn from Mn/DOT sites as well as purchased at commercial fueling stations.

Several district maintenance facilities use an in-house bulk fueling system. Most of these sites utilize an automated fuel delivery system which is integrated with the Equipment Management System (M5). To dispense fuel the operator will be required to enter the unit number, the unit's meter reading and the operator's fuel card number. In areas that are not automated, [Field Stock Report](#) (Form 1705), will be used to report the issuance of all petroleum items. Therefore, a complete entry must be made on the form by the operator each time material is issued from area stock.

Fuel may be purchased at any commercial fueling station which accepts the contracted fuel purchasing card.

Whenever practicable, E85 fuel is to be used when operating flexible-fuel vehicles. See [Executive Order 06-03](#). "Whenever practicable" means if it is available within 5 miles round trip of normal activity. Seek out [E85 retail sites](#) using the Internet.

#### **4-11.0 VEHICLE INCIDENT AND ACCIDENT REPORTING**

##### **4-11.01 Vehicle Incident and Accident Reporting**

For purposes of this section, accident and incident will be used interchangeably. Accidents are any circumstance that causes equipment damage or injury to an operator, passenger or pedestrian. All vehicle accidents will be investigated and reported. Accident reports will be immediately filed with Risk Management of the Department of Administration (DOA). Risk Management will support agencies to determine incident trends and develop risk assessment reports developed for the incident data-base. Auto accidents and abuse will be looked at on a case-by-case basis and appropriate employee accountability actions will be taken.

#### **4-12.0 SAFETY & SECURITY**

Special care must be taken to secure all Mn/DOT equipment or asset. Be aware that Mn/DOT equipment and vehicles, especially those having Mn/DOT logos on them, are often sought after by criminals and terrorists in an effort to pose as "government officials" while committing a crime. Special care must also be taken to prevent Mn/DOT logos, State of Minnesota license plates and other official identification and insignia from getting into illicit hands.



It is essential that any stolen vehicles, equipment, logos, etc be reported immediately to the law enforcement agency. Also, call the Equipment Section of the Office of Maintenance immediately to report stolen equipment and fax a completed [Mn/DOT Stolen Vehicle/Equipment/Logo Report](#).

The ignition keys should be removed when the unit is parked, except when safe on highway property and transmission is in “park” position and emergency brake on.

No motor should be idled in excess of three (3) minutes except when necessary for warm up, and never unattended. Warm-up of automotive equipment is best accomplished by low speed driving.

## List of Referenced Website Links and Hyperlinks

Below are the URL's for the hyperlinks in the chapter. This section is intended to be used as a resource if the hyperlinks are not working correctly.

### 4-2.01

1. Office of Maintenance  
<http://www.dot.state.mn.us/maintenance/index.html>
2. Equipment Section  
<http://www.dot.state.mn.us/maintenance/equipment/fleet.html>

### 4-2.03

1. Fleet Safety Management Standards  
[http://www.finance.mnscu.edu/CFFO\\_Meetings/2006/JUN2006/ALL\\_MATERIALS/FINANCE/ALL%20FINANCE.pdf](http://www.finance.mnscu.edu/CFFO_Meetings/2006/JUN2006/ALL_MATERIALS/FINANCE/ALL%20FINANCE.pdf)
2. Materials Management Division  
<http://www.mmd.admin.state.mn.us/>
3. Travel Management Division  
<http://www.state.mn.us/portal/mn/jsp/home.do?agency=Travelmgmt>
4. Risk Management Division  
<http://www.mainserver.state.mn.us/risk/>

### 4-2.04

1. Drive to Excellence  
<http://www.governor.state.mn.us/priorities/initiatives/drivetoexcellence/index.htm>
2. Executive Order 04-10  
<http://www.governor.state.mn.us/priorities/governorsorders/executiveorders/2004/PROD005586.html>
3. Executive Order 06-03  
<http://www.governor.state.mn.us/priorities/governorsorders/executiveorders/PROD005613.html>

- 4-2.05 1. Federal Motor Carrier Safety Administration (FMCSA)  
<http://www.fmcsa.dot.gov/>
2. Federal Motor Carrier Safety Regulations (FMCSR)  
<http://www.fmcsa.dot.gov/rules-regulations/rules-regulations.htm>

## 4-3.06

1. Mn/DOT Guidelines: Four-Wheel Drive (4wd) Vehicles  
<http://ihub.dot.state.mn.us/maintenance/equipment/forms/4wdGuidelines20060125.doc>
2. Four Wheel Drive Considerations  
<http://ihub.dot.state.mn.us/maintenance/equipment/forms/4wdConsiderations20060125.doc>
3. Mn/DOT Procedure: 4wd Vehicle Requests  
<http://ihub.dot.state.mn.us/maintenance/equipment/forms/4wdRequest%20Procedure20060313.doc>
4. Equipment Request Form  
<http://ihub.dot.state.mn.us/maintenance/equipment/forms/Equipment%20Request%20Form%20Interactive20060309.dot>

## 4-5.0

1. Minnesota Driver's Manual  
<http://www.dps.state.mn.us/dvs/DLTraining/DLManual/DLManual.htm>
2. Equipment Operator's Manual  
<http://ihub.dot.state.mn.us/training/maintenancetraining/documents/equipmentOperatorManual.pdf>
3. Minnesota Statute 16 B.55  
<http://www.revisor.leg.state.mn.us/stats/16B/55.html>
4. Mn/DOT Take-Home Vehicle Authorization  
<http://ihub.dot.state.mn.us/maintenance/equipment/forms/TakeHomeVehicleAuthorization.doc>
5. Take Home Vehicle Tracking Process  
<http://ihub.dot.state.mn.us/maintenance/equipment/forms/M5OperatorAssignment.doc>
6. Strobe Light Policy  
<http://www.dot.state.mn.us/maint/bulletins.html>
7. Assisting Disabled Vehicles During Winter Storms Policy  
<http://www.dot.state.mn.us/maint/bulletins.html>
8. Secured Load Policy  
<http://www.dot.state.mn.us/maint/bulletins.html>

9. Mud Flap Policy  
<http://www.dot.state.mn.us/maint/bulletins.html>
  10. Policy on Parking Use of Chock Block  
<http://www.dot.state.mn.us/maint/bulletins.html>
  11. Risk Management Loss Control Policy  
<http://www.mainserver.state.mn.us/risk/>
  12. Vehicle Assignment Guidelines  
<http://www.dot.state.mn.us/maint/bulletins.html>
- 4-6.03
1. Operator's Daily Checklist Book  
<http://ihub.dot.state.mn.us/maintenance/equipment/forms.html>
  2. 1000-Mile Service Record – Snow Plow Truck  
<http://ihub.dot.state.mn.us/maintenance/equipment/forms.html>
  3. Unit Service Book  
<http://www.dot.state.mn.us/equipment/equipment-forms.html>
- 4-6.07
1. PMI Record Sheet for Light Duty Vehicles  
<http://ihub.dot.state.mn.us/maintenance/equipment/forms.html>
  2. PMI Record Sheet for Snow Plow Trucks  
<http://ihub.dot.state.mn.us/maintenance/equipment/forms.html>
  3. PMI Record Sheet for Loaders  
<http://ihub.dot.state.mn.us/maintenance/equipment/forms.html>
  4. PMI Record Sheet for Trailers  
<http://ihub.dot.state.mn.us/maintenance/equipment/forms.html>
- 4-6.09
1. Vehicle Inspection Report  
<http://ihub.dot.state.mn.us/maintenance/equipment/forms.html>
- 4-7.02
1. Maintenance Operations Research Fund (MOR)  
<http://www.dot.state.mn.us/maintenance/research/index.html>
- 4-8.03
1. Mn/DOT Procedure: Equipment Requests

<http://ihub.dot.state.mn.us/maintenance/equipment/forms/EquipmentRequestProcedure20060313.doc>

2. Local Purchases of Equipment  
[http://ihub.dot.state.mn.us/maintenance/equipment/forms/PurchasingprocessandflowchartAug%2008\\_1.doc](http://ihub.dot.state.mn.us/maintenance/equipment/forms/PurchasingprocessandflowchartAug%2008_1.doc)

## 4-8.04

1. Local Purchasing of Betterments to Equipment  
<http://ihub.dot.state.mn.us/maintenance/equipment/forms.html>  
[Local Purchasing of Betterments to Equipment](#)

## 4-8.05

1. Lease Program  
<http://ihub.dot.state.mn.us/maintenance/equipment/forms/LeaseProgramLeaseAgreementforFY08Revised20060905.doc>
2. Informal Bid for Services and Rentals  
<http://ihub.dot.state.mn.us/maintenance/equipment/forms.html>

## 4-8.06

1. Marking Requirements  
<http://www.revisor.leg.state.mn.us/stats/16B/581.html>
2. Minnesota State Vehicle License Plate  
<http://www.revisor.leg.state.mn.us/stats/16B/581.html>

## 4-8.08

1. Vehicle in Service Form  
<http://ihub.dot.state.mn.us/maintenance/equipment/forms.html>
2. Unit Items Form  
<http://ihub.dot.state.mn.us/maintenance/equipment/forms.html>
3. Unit Data Sheet  
<http://ihub.dot.state.mn.us/maintenance/equipment/forms.html>
4. State Unit Assignment – Transfer or Trade-In  
<http://ihub.dot.state.mn.us/maintenance/equipment/forms.html>

## 4-9.0

1. Direct Sales Procedure  
<http://ihub.dot.state.mn.us/maintenance/equipment/forms/DirectSaleProcedure.doc>

Property Disposition Form

<http://ihub.dot.state.mn.us/maintenance/equipment/forms.html>

4-10.0 1. Field Stock Report

<http://ihub.dot.state.mn.us/maintenance/equipment/forms.html>

4-12.0 1. Mn/DOT Stolen Vehicle/Equipment/Logo Report

<http://ihub.dot.state.mn.us/maintenance/equipment/forms/VehicleTheftReport.dot>

**References:**

**Below are the sources that were used during the research portion of this chapter.**

1. Office of Maintenance. Minnesota Department of Transportation. 23 Sept. 2006 <<http://www.dot.state.mn.us/maintenance/index.html>>.
2. Office of Maintenance: Equipment Section. Minnesota Department of Transportation. 23 Sept. 2006 <<http://www.dot.state.mn.us/maintenance/equipment/fleet.html>>.
3. Mn/DOT Districts. Minnesota Department of Transportation. 23 Sept. 2006 <<http://www.dot.state.mn.us/information/districts.html>>.
4. State of Minnesota Fleet Management Standards. 12 June 2006. 23 Sept. 2006 <[http://www.finance.mnscu.edu/CFFO\\_Meetings/2006/JUN2006/ALL\\_MATERIALS/FINANCE/ALL%20FINANCE.pdf](http://www.finance.mnscu.edu/CFFO_Meetings/2006/JUN2006/ALL_MATERIALS/FINANCE/ALL%20FINANCE.pdf)>.
5. Minnesota's Materials Management Division Web Site. Minnesota Department of Administration. 23 Sept. 2006 <<http://www.mmd.admin.state.mn.us/>>.
6. Travel Management Division. Minnesota Department of Administration. 23 Sept. 2006 <<http://www.state.mn.us/portal/mn/jsp/home.do?agency=Travelmgmt>>.
7. Risk Management Division. Minnesota Department of Administration. 23 Sept. 2006 <<http://www.mainserver.state.mn.us/risk/>>.
8. Minnesota Statewide Highway Systems Operation Plans. April 2005. 23 Sept. 2006 <<http://www.oim.dot.state.mn.us/Final-HSOP.pdf>>.
9. Use of State Vehicles. 2005. Minnesota Office of the Revisor of Statutes. 23 Sept. 2006 <<http://www.revisor.leg.state.mn.us/stats/16B/55.html>>.
10. About Maintenance Operations. Minnesota Department of Transportation. 23 Sept. 2006 <<http://www.dot.state.mn.us/maint/bulletins.html>>.