Guide to Federal Fleet Management

Section 1

Guide Organization and How to Navigate

Federal fleet management incorporates five areas of competency that Fleet Managers require to perform as professionals:

- Legal Requirements
- General Management
- Fleet Asset Management
- Fleet Operations Management
- Risk Management

In turn, each competency incorporates numerous sub-competencies, and the sub-competencies incorporate an array of tasks that Fleet Managers must either know about or be able to perform. Broadly defined, "competencies" are the knowledge, skills, attitudes, values, motivations, and beliefs people must have to do their jobs. More specifically, everything you do rests upon the legal basis for fleet management within the Federal Government, and we address that subject first, because that competency establishes the foundation for your job and many of its key responsibilities.

The organization of this *Guide* follows this design (competencies and sub-competencies), and you can click on any Table of Contents topic to jump directly to the related discussion. You will find a complete listing of the contents of the *Guide* following this introduction; and at the start of each competency section, you will find the same type of table to enable you to move within a section.

We have tapped public and private sector electronic resources in preparing the *Guide*, and we include links to many of these source documents and information on fleet management. To enable you to find the information you seek more easily, we have grouped all these links into a single table, which follows this introduction; at the start of each competency section, you will find the same type of table. We have also provided brief descriptions of the content the links take you to. Where useful, we have also inserted links into the content of the *Guide*. Links to private sector information sources should not be interpreted as promotion or acceptance of the content by the General Services Administration or the Federal Government.

This is not a legal document or an encyclopedia; rather, it is a *Guide to Federal Fleet Management* (GFFM), a map designed to point you in the right direction while providing you with some description of the landscape. Our intention is to add information over time based upon your requests, upon new (or changes in) laws and regulations, and upon developments affecting the fleet management profession. Let us know what topics you would like to see added so that this *Guide* can better meet your needs.

This *Guide* is part of a comprehensive training and education program for Federal Fleet Managers; consequently, it is one tool in GSA's educational support system for managers with fleet responsibilities. Design, content, and means of delivery to you, the user, are meant to meet immediate informational needs in concrete (as opposed to abstract) subject

matter for individuals, not to replace interactive training (whether conference, classroom or on-line).

Table of Sections

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Table of Links

Click on any link to jump to the site. Note that this master table contains some links not found in the following sections of the Guide.

FirstGov.gov ™ is the U.S. Government's official web portal.
http://www.firstgov.gov/
GSA.gov is the official web portal for the General Services Administration.
http://www.gsa.gov/Portal/gsa/ep/home.do?tabId=0
Motor Vehicle Management programs and policies, which fall under GSA's Office of Governmentwide Policy, can be accessed via this direct link, or you can reach it through GSA's web portal by placing your cursor over Policy on the menu bar of the home page. At this site, you have links to key information, including regulations, bulletins, fleet services, reports, FAST, EPAct, alternative fuels, and more.
http://www.gsa.gov/Portal/gsa/ep/channelView.do?pageTypeId=8203&channelPage=/ep/channel/gsaOverview.jsp&channelId=-13175
GSA Fleet Drive-thru is a web portal that allows GSA customers to report vehicle mileages, generate vehicle inventory reports, and input information and accounting classifications for vehicles to expedite billing. Access to this system is available via this link.
http://gsaa0.fss.gsa.gov/milexpw/
GSA Federal Supply Schedule 751 - Provides commercial lease options or open market leases for automobiles and light trucks.
http://www.gsaelibrary.gsa.gov/ElibMain/ScheduleSummary?scheduleNumber=751&id=139
This link takes you to the portal for the Surface Deployment and Distribution Command (SDDC) where you can access many military transportation and logistics links.
http://www.sddc.army.mil/Public/Home
In 1986, SDDC was tasked with managing the rental car program for the Federal Government. SDDC implemented the U.S. Government Rental Car Agreement. Because of this agreement, travelers with a travel order or Government-sponsored charge card receive superior rates when renting for official business. The agreement has many benefits other than rates, such as unlimited mileage, reduced age restriction and collision damage waiver insurance.
http://www.sddc.army.mil/public/Passenger/
Obtain official U.S. Government tags from the U.S. Department of Justice, UNICOR, Federal Prison Industries, Inc. The UNICOR portal describes the transportation services available through the organization.
http://www.unicor.gov/index.cfm
NISH is a national nonprofit agency whose mission is to create employment opportunities for people with severe disabilities by securing Federal contracts through the Javits-Wagner-O'Day (JWOD) Program for its network of community-based, nonprofit agencies. The JWOD Program is a coordinated effort by the Committee for Purchase From People Who Are Blind or Severely Disabled, National Industries for the Blind (NIB) and NISH-Creating Employment Opportunities for People with Severe Disabilities
www.nish.org
Working through a national network of more than 600 local service providers, many of which already have security clearances and onsite operations at Federal facilities and military installations, NISH and its JWOD partners assist U.S. military and Federal fleet and logistics management organizations.
https://www.nish.org/NISH/Rooms/DisplayPages/LayoutInitial?Container=com.webridge.entity.Entity%5BOID%5B9A02124F29C97944AB7B1087148E434F%5D%5D
The gateway to statistics from over 100 U.S. Federal agencies.
http://www.fedstats.gov/
The U.S. Government Printing Office disseminates official information from all three branches of the Federal Government. This link provides access to the United States Code, the Code of Federal Regulations, and more.
http://www.gpoaccess.gov/index.html
The link below provides an alternative site for accessing the United States Code. This version is generated from the most recent *official* version made available by the U.S. House of Representatives. Search capabilities enable users to locate any Code citation in this *Guide*. The *Guide* cites specific sections of the Code throughout, but does not provide specific links to the sections.

http://www4.law.cornell.edu/uscode/
Administrative law is published in the Code of Federal Regulations (CFR).
http://www.access.gpo.gov/nara/cfr/cfr-table-search.html
Congress enacted the repeatedly amended Federal Property and Administrative Services (FPAS) Act in 1949 (40 U.S.C. 471-535 and other U.S.C. sections), establishing GSA as a central organization to provide an economic and efficient system for the procurement, supply, and disposal of surplus property, and performance of related functions. The Act sets forth requirements for the management and disposal of Government property, including excess property (property under the control of any Federal Agency, but which it no longer needs) and surplus property (excess property not required for the needs of any Federal Agency). It provides a foundation for fleet management through property management law.
http://epw.senate.gov/fpasa49.pdf
The FMR is the successor regulation to the Federal Property Management Regulation (FPMR). It contains updated regulatory policies originally found in the FPMR. However, it does not contain FPMR material that described how to do business with the GSA.
http://www.gsa.gov/Portal/gsa/ep/programView.do?pageTypeId=8199&ooid=14205&programPage=%2Fep%2Fprogram%2FgsaDocument.jsp&programId=8922&channelId=-14864
On passenger use of Government-provided vehicles, go to this link.
http://www.gsa.gov/Portal/gsa/ep/channelView.do?pageTypeId=8199&channelId=-16529&specialContentType=FMR&file=FMR/FMRTOC102-__5.html#wp436256
Title 36 Part 1192 - provides ADA accessibility guidelines for transportation vehicles.
http://www.access.gpo.gov/nara/cfr/waisidx_03/36cfr1192_03.html
This edition of the FTR is the "working copy" of the official 41 Code of Federal Regulations (CFR), chapters 300-304, which implements statutory requirements and Executive branch policies for travel by federal civilian employees and others authorized to travel at Government expense.
http://www.gsa.gov/Portal/gsa/ep/programView.do?pageTypeId=8199&ooid=14161&programPage=%2Fep%2Fprogram%2FgsaDocument.jsp&programId=8955&channelId=-14863
Published by the Office of the Federal Register, National Archives and Records Administration (NARA), the *Federal Register* is the official daily publication for rules, proposed rules, and notices of Federal Agencies and organizations, as well as Executive Orders and other presidential documents.
http://www.gpoaccess.gov/fr/
The FAR was established to codify uniform policies for acquisition of supplies and services by Executive Agencies. Statutory authorities to issue and revise the FAR have been delegated to the Procurement Executives in DOD, GSA and NASA. The GSA Federal Acquisition Policy Division maintains the FAR Secretariat to act as the publication and administrative support arm of the FAR.
http://www.arnet.gov/far/
The reporting procedures of Standard Form 82, Agency Report of Motor Vehicle Data are now accomplished through use of the Federal Automotive Statistical Tool (FAST) System. Per the requirements of OMB Circular A-11 Exhibit 33 Section 33.9, Federal Agencies must report annually on their motor vehicles in the Motor Vehicle Exhibit (also referred to as Exhibit 33). Agencies use FAST to report their planned vehicle acquisitions and disposals as well as their vehicle acquisition and fleet operating costs.
http://fastweb.inel.gov/
Executive Orders are official documents, numbered consecutively, through which the President of the United States manages the operations of the Federal Government. The text of Executive Orders appears in the daily *Federal Register*. All Executive Orders, including #13149, Greening the Government Through Federal Fleet and Transportation Efficiency, can be found via the link below.
http://www.archives.gov/federal-register/executive-orders/disposition.html
For the Executive Order and detailed information on EPAct and #13149, a link to FAST, and helpful guidance relating to alternative fuels and alternative fuel vehicles, click on the following EPA link.
http://www.eere.energy.gov/vehiclesandfuels/epact/federal/index.shtml
EO 12764 - Standards of Ethical Conduct.
http://www.usoge.gov/pages/laws_regs_fedreg_stats/lrfs_files/exeorders/eo12674.html
Title 41 Chapter 101 - Guidance for performing lease versus purchase calculations.
http://www.access.gpo.gov/nara/cfr/waisidx_98/41cfr101-25_98.html
OMB Circular A-94 - provides guidance for lease-purchase analysis.
http://www.whitehouse.gov/omb/circulars/a094/a094.html
Clean Air Act as amended in 1990.
http://www.epa.gov/oar/oaq_caa.html/

H.R.776, Energy Policy Act of 1992.
http://thomas.loc.gov/cgi-bin/query/z?c102:H.R.776.ENR:
Public Law 103-62 - Government Performance and Results Act of 1993 (GPRA) - establishes need for strategic planning and performance measurement in the Federal Government.
http://www.orau.gov/pbm/links/PL103_62.pdf
To learn more about light and heavy-duty alternative fuel vehicles available, go to the Vehicle Buyer's Guide.
http://www.ccities.doe.gov/vbg
To identify stations in user's geographic areas, go to the AFV Fueling Station Locator.
http://www.eere.energy.gov/afdc/infrastructure/locator.html
To gather data on average costs for all fuel types, go to the Alternative Fuel Price Report.
www.afdc.doe.gov/documents/pricereport/pricereports.html
The National Association of Fleet Administrators, Inc. (NAFA) is a not-for-profit, individual membership professional society serving the needs of Members who manage fleets of automobiles, SUVs, trucks, vans, and a wide range of specialized mobile equipment for organizations in the United States and Canada. NAFA's Full and Associate Members are responsible for the specification, acquisition, maintenance and disposal of more than 3.5 million vehicles. More "traditional" fleet vehicles of passenger cars, vans, and SUVs managed by members total 1.4 million and account for $45 billion dollars in assets, plus a quarter million police sedans; 58,000-plus emergency vehicles; and 386,000 pieces of specialty equipment used by public service fleets, as well as commercial ones.
http://www.nafa.org/
The National Truck Equipment Association (NTEA), established in 1964, currently represents over 1,600 companies that manufacture, distribute, install, buy, sell and repair commercial trucks, truck bodies, truck equipment, trailers and accessories. Buyers of work trucks and the major commercial truck chassis manufacturers also belong to the Association.
http://www.ntea.com/
Each week, AutomotiveDigest.com delivers multiple newsletters to key executives in the automotive industry. You can subscribe online to these free electronic fleet and automotive industry publications.
http://www.automotivedigest.com/
This link takes you to numerous articles written by the fleet consultants of Mercury Associates Inc. (e.g., "Understanding Your Fleet Costs" and "Effective Ways for Increasing Fleet Utilization").
http://www.mercury-assoc.com/resources/#fleet%20management
This link takes you to fleet information and free electronic newsletters (including Government Fleet) from Bobit Publications.
http://www.fleet-central.com/t_home.cfm
WardsAuto has auto data, auto news and analysis for the worldwide providers of cars and trucks. Here you'll find the latest articles and archives vital to each industry job: car designers, product planners, vehicle engineers, auto parts and material suppliers, auto manufacturers, marketers, dealers and more. This public site is the gateway to comprehensive service for subscribers and to other Ward's resources.
http://wardsauto.com/home/index.htm
Inside Line provides detailed, on-line information on vehicles and manufacturers and a free electronic newsletter.
http://www.edmunds.com/insideline/?synpartner=edmunds&pageurl=www.edmunds.com/insideline
This link is the electronic outlet for Transport Topics. You can sign up for free electronic newsletters covering various subjects, such as light and medium duty trucks, utility fleet management, and much more. An archive index enables you to search for articles published by Transport Topics since 2002.
http://ttnews.com/
The American Public Works Association (APWA) is an international educational and professional association of public agencies, private sector companies, and individuals dedicated to providing high quality public works goods and services. Originally chartered in 1937, APWA is the largest and oldest organization of its kind in the world, with headquarters in Kansas City, Missouri, an office in Washington, D.C., and 67 chapters throughout North America.
http://www.apwa.net/
This link takes you to fleet services content for the American Public Works Association (APWA). The Fleet Services Committee of the APWA focuses on fleet management and vehicle/equipment maintenance & acquisitions.
http://www.apwa.net/About/TechSvcs/Fleet/
The link below takes you to *California Fleet News*, a fleet management newsletter that has been published for almost 30 years and has over 6,000 national and international readers. The newsletter is published six times

annually in both print and electronic editions. You can sign up for free electronic delivery and access other fleet industry information.
http://www.fleetnews.com/
This Industry Data Finder link will point you to resources specific to Automotive Industries, such as Cars & Trucks, Automotive Parts & Accessories, Tires, and Automotive Engines. This link is only one database within the online catalog for the Cole Library and the libraries on the Troy campus. The Cole Library Web site provides access to online information sources and databases. Some links are restricted, but many of those that are not will take you to useful content.
http://www.rh.edu/dept/library/industry/auto.htm
Link to the Council of Supply Chain Management Professionals. This association includes the role of Logistics Management, the activities of which typically include inbound and outbound transportation management, fleet management, warehousing, materials handling, order fulfillment, logistics network design, inventory management, supply/demand planning, and management of third party logistics services providers.
http://www.cscmp.org/
The National Private Truck Council (NPTC) is a trade association devoted exclusively to the interests of the private, corporate trucking fleet industry and its professional practitioners. Training (including on-line, web-based materials) and certification are available through this organization.
www.nptc.org
The Association of Equipment Management Professionals provides a Certified Equipment Manager (CEM) designation, which is a recognized standard for judging the qualifications of a manager of heavy off-road equipment or manager of municipal/government fleets.
www.aemp.org
The United States Army Logistics Management College (ALMC) was established in 1954. Its role is to develop and present quality education programs in logistics science, management science, and acquisition management to personnel of the Department of Defense, other Federal agencies, and foreign governments. In addition, ALMC offers research and consulting services that contribute to materiel readiness and improve acquisition and logistics management. It also provides information services for use throughout the Federal Government.
http://www.almc.army.mil/
The Alternative Fuels Data Center is a collection of information on alternative fuels and the vehicles that use them. Alternative fuels described here are those defined by the Energy Policy Act of 1992, including biodiesel, electricity, ethanol, hydrogen, natural gas, and propane. This site has more than 3,000 documents in its database, an interactive fuel station mapping system, current listings of available alternative fuel vehicles, and lots of alternative fuels information and related links. Content also covers hybrid electric vehicles, idle reduction technologies, fuel blends, and fuel economy. The AFDC is sponsored by the U. S. Department of Energy's Clean Cities and Energy Policy Act of 1992 (EPAct) fleet programs.
http://www.eere.energy.gov/afdc/
The Hybrid Electric Vehicle Cost Calculator Tool allows fleets to evaluate the full costs and benefits of a hybrid electric vehicle (HEV) in comparison to a conventional vehicle. Fleets also may use the tool to determine the cost and benefits of a fleet of HEVs versus a fleet of conventional vehicles. The tool assesses both capital and operating costs, over the lifetime of use, as well as greenhouse gases and other air emissions. Outputs are provided per vehicle, per year, and per mile.
http://www.eere.energy.gov/cleancities/hev/cost_calc.html
A source for news and information on the rapid advances in natural gas, biofuel, battery-electric, hybrid and fuel cell vehicles. Free e-newsletters are available. The links page covers numerous federal information sources. A comprehensive link list of Regional Clean Cities Program sites may be useful.
http://www.altfuels.com/
The Office of the Federal Environmental Executive maintains lists of known commercial sources of re-refined oil on its web site to make it easier to purchase re-refined oil for your fleet vehicles. Here is the link to the commercial sources information. (E.O. 13149 contains a requirement that agencies purchase re-refined oil and retread tires.)
http://www.ofee.gov/recycled/recycled.htm
USCAR is the umbrella organization of DaimlerChrysler, Ford and General Motors, which was formed in 1992 to further strengthen the technology base of the domestic auto industry through cooperative research. Information also includes programs associated with various Federal Agencies such as the Department of Energy and the Department of Commerce.
http://www.uscar.org/index.htm
Defense Transportation Regulation (DTR) DOD Regulation 4500.9-R-Part I Passenger Movement

http://www.transcom.mil/j5/pt/dtr.html
Army site to search for publications. Motor Transportation, a PDF file, is Series 58. Travel and other transportation publications can also be accessed via the search engine. The Army Publishing Directorate portal is http://www.usapa.army.mil/.
http://www.usapa.army.mil/USAPA_PUB_search_P.asp
Air Force site for 24 series transportation publications.
http://www.e-publishing.af.mil/pubs/publist.asp?puborg=AF&series=24
This link provides a portal to the Navy's Civil Engineering Support Equipment (CESE) Program. The Navy's vehicle and equipment fleets are centrally managed by the Naval Facilities Engineering Command and its field offices; Transportation Equipment Management Centers. The individual Navy commands are responsible for administration
https://portal.navfac.navy.mil/portal/page?_pageid=181,3462073,181_3462094&_dad=portal&_schema=PORTAL
This links jumps you directly to Navy fleet management policies as well as links to many source of fleet information, including commercial leasing, alternative fuels, and GSA Fleet.
https://portal.navfac.navy.mil/portal/page?_pageid=181,3462073,181_3462105&_dad=portal&_schema=PORTAL
The U.S. Coast Guard motor vehicle manual.
http://www.uscg.mil/ccs/cit/cim/directives/CIM/CIM_11240_9B.pdf
APHIS: Animal and Plant Health Inspection Service motor vehicle manual.
http://www.aphis.usda.gov/mrpbs/manuals_guides/property/motor_vehicle_manual.pdf
Bureau of Reclamation Federal Property Management Regulations link.
http://www.usbr.gov/recman/FPMR/index.htm#38
NIST: National Institute of Standards and Technology motor vehicle policy.
http://www.nist.gov/admin/mo/adman/207.HTM#2.07.04
NOAA: National Oceanic and Atmospheric Administration motor vehicle policy. http://www.pps.noaa.gov/New_menu/acquisition.htm
NIH: National Institutes of Health Policy Manual, 26101-38 – Official Use of Government Motor Vehicles, Release Date: 08/15/02.
http://www1.od.nih.gov/oma/manualchapters/acquisitions/26101-38/
DOE: Department of Energy Title 41--Public Contracts and Property Management, Chapter 109--Department of Energy Property Management Regulations, Part 109-38--Motor Equipment Management
http://www.access.gpo.gov/nara/cfr/waisidx_00/41cfr109-38_00.html
FWS: Fish & Wildlife Service Vehicle and Equipment Management (Parts 320-329), Motor Vehicle Management (Part 320).
http://www.fws.gov/policy/ser300.html
U.S. Attorneys 3-13.000 Procurement/Property Management, including motor vehicle management.
http://www.usdoj.gov/usao/eousa/foia_reading_room/usam/title3/13musa.htm
IRS: Internal Revenue Service, Part 1. Administration, Chapter 14. Real Estate and Facilities Management, Section 7. Motor Vehicle Management.
http://www.irs.gov/irm/part1/ch11s08.html
Department of Veterans Affairs Transportation and Traffic Management.
http://www1.va.gov/oamm/policy/7240h.htm
U.S. Geological Survey Manual, 409.1 – Personal Property – Vehicle Management.
http://www.usgs.gov/usgs-manual/400/409-1.html
The Gov Online Learning Center, commonly known as *GoLearn*, is a fully integrated "learning center of excellence with e-Training courseware and performance- support tools." It includes free access to e-Learning products and services, directly to desktops via the Gov Online Learning Center, which includes approximately 55 e-courses, 15,000 searchable learning objects (self contained, complete subjects which can be used for just-in-time learning, research and problem solving), a library of online books, access to live instructors and subject matter experts for desktop applications, several custom-developed courses that are provided free to all Federal agencies, and access to competency management tools. The catalog of free resources covers: Communication, Customer Service, E-Learning, Human Resources, IT Security, Leadership, Legislatively Mandated & Agency Required Topics, Management, PC and Business Applications, Personal Development, Problem Solving and Decision Making, Project Management, Support Professionals, Team Building, Test Prep.
www.GoLearn.gov

Established in 1921 by the Secretary of Agriculture, the mission of the Graduate School, USDA, is to improve the performance of Government and to provide opportunities for individual lifelong learning through education, training and related services. The Graduate School does not grant degrees, but it does offer certification for selected disciplines. Although associated with USDA, the Graduate School is self-sustaining through tuitions and fees and receives no Federal funds. Various courses, such as those in property management, are relevant to Federal Fleet Managers.
www.grad.usda.gov
The U.S. General Services Administration's Federal Acquisition Institute (FAI) Online University has developed an internet-based course for contracting officer representatives (CORs) entitled the COR Mentor. The course is available at no charge for use by both public and private-sector acquisition communities. The FAI Online University offers 18 certificates for different COR duties, such as participating in post-award orientations, monitoring contractor performance and administering the property clause.
http://www.faionline.com
This link takes you to an on-line source for car prices and other vehicle cost information.
http://www.car-prices-costs.com/
This link takes you to one of the most comprehensive independent sources of automotive information, including car reviews, a ranking of vehicles by fuel use, crash data, tire safety, even latest U.S. road conditions.
http://www.theautochannel.com/
The Kelly Blue Book site is a key source of new and used vehicle pricing information.
http://www.kbb.com/
The Edmunds.com site is a key source of new and used vehicle pricing information.
http://www.edmunds.com/
This link takes you to a source of comprehensive automobile make and model information.
http://www.intellichoice.com/
A consumer guide to leasing produced by the Federal Reserve Board.
http://www.federalreserve.gov/pubs/leasing/resource/default.cfm
The Federal Highway Administration (FHWA) is a part of the U.S. Department of Transportation and is headquartered in Washington, D.C., with field offices across the United States. Its top priorities are to make transportation safer and more secure, to reduce traffic congestion, and to preserve the environment. FHWA links accessed through the Links menu tab may be especially useful, which includes links to all State transportation web sites.
http://www.fhwa.dot.gov/index.html
The Bureau of Transportation Statistics falls under the Department of Transportation. Its web site provides a comprehensive list of research resources, including links to all transportation libraries and to the research departments of vehicle manufacturers, to name a few.
http://www.bts.gov/
This link provides a search function for millions of articles, including many on automobiles and on fleet management (both public and private sector).
http://www.findarticles.com/
This link takes you to the Department of Transportation portal where you can access content on automobiles, trucking, truck driving, and much more.
http://www.dot.gov/
This link takes you to the portal for the National Highway Traffic Safety Administration (NHTSA, part of the Department of Transportation) and its research and information vehicles and highway safety.
http://www.nhtsa.dot.gov/
The U.S. DOT's Transportation Safety Institute offer self-paced training for motor carriers over the Internet. Administrators, drivers, safety managers, mechanics, owner/operators, auditors, and inspectors can access training on the Federal Motor Carrier Safety Regulations (FMCSRs Title 49) anytime, anyplace, 365 days a year.
http://www.motorcarriertraining.com/
GSA's National Safety Program - Driver Safety & Vehicle Operation Video Library. It's free.
http://www.gsa.gov/Portal/gsa/ep/contentView.do?noc=T&contentType=GSA_BASIC&contentId=16052
The Federal Motor Carrier Safety Administration (FMCSA) was established as a separate administration within the U.S. Department of Transportation on January 1 to provide safety resources for DOT and OSHA compliance. You can access regulations and training materials through this link.
http://www.nsc-dot.com/

This link takes you to OSHA's portal and information affecting hazardous materials and employee safety.
http://www.osha.gov/

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Attachments

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Section 2
The Legal Basis for Federal Fleet Management

This section covers the legal basis for fleet management within the Federal Government. Click on any of the topic links below to go to the related content.

Section 2 Table of Contents

2.1 Useful Links

Congress enacted the repeatedly amended Federal Property and Administrative Services (FPAS) Act in 1949 (40 U.S.C. 471-535 and other U.S.C. sections), establishing GSA as a central organization to provide an economic and efficient system for the procurement, supply, and disposal of surplus property, and performance of related functions. The Act sets forth requirements for the management and disposal of Government property, including excess property (property under the control of any Federal Agency, but which it no longer needs) and surplus property (excess property not required for the needs of any Federal Agency). It provides a foundation for fleet management through property management law.
http://epw.senate.gov/fpasa49.pdf
Public Law 766 authorizes GSA to operate motor vehicle pools and directs the Administrator to report the unauthorized use of Government-owned vehicles. It is codified in Title 40, Chapter 10, Subchapter II, § 491, Motor vehicle pools and transportation systems, accessed through the link below.
http://www4.law.cornell.edu/uscode/search/display.html?terms=Section%20491&url=/uscode/html/uscode40/usc_sec_40_00000491----000-.html
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http://www.gsa.gov/Portal/gsa/ep/programView.do?pageTypeId=8199&ooid=14205&programPage=%2Fep%2Fprogram%2FgsaDocument.jsp&programId=8922&channelId=-14864
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http://www.gsa.gov/Portal/gsa/ep/programView.do?pageTypeId=8199&ooid=14161&programPage=%2Fep%2Fprogram%2FgsaDocument.jsp&programId=8955&channelId=-14863
Published by the Office of the Federal Register, National Archives and Records Administration (NARA), the *Federal Register* is the official daily publication for rules, proposed rules, and notices of Federal Agencies and organizations, as well as Executive Orders and other presidential documents.

http://www.gpoaccess.gov/fr/
Motor Vehicle Management programs and policies, which fall under GSA's Office of Governmentwide Policy, can be accessed via this direct link, or you can reach it through GSA's web portal by placing your cursor over Policy on the menu bar of the home page. At this site, you have links to key information, including regulations, bulletins, fleet services, reports, FAST, EPAct, alternative fuels, and more.
http://www.gsa.gov/Portal/gsa/ep/channelView.do?pageTypeId=8203&channelPage=/ep/channel/gsaOverview.jsp&channelId=-13175
The FAR was established to codify uniform policies for acquisition of supplies and services by Executive Agencies. Statutory authorities to issue and revise the FAR have been delegated to the Procurement Executives in DOD, GSA and NASA. The GSA Federal Acquisition Policy Division maintains the FAR Secretariat to act as the publication and administrative support arm of the FAR.
http://www.arnet.gov/far/
The reporting procedures of Standard Form 82, Agency Report of Motor Vehicle Data are now accomplished through use of the Federal Automotive Statistical Tool (FAST) System. Per the requirements of OMB Circular A-11 Exhibit 33 Section 33.9, Federal Agencies must report annually on their motor vehicles in the Motor Vehicle Exhibit (also referred to as Exhibit 33). Agencies use FAST to report their planned vehicle acquisitions and disposals as well as their vehicle acquisition and fleet operating costs.
http://fastweb.inel.gov/
Executive Orders are official documents, numbered consecutively, through which the President of the United States manages the operations of the Federal Government. The text of Executive Orders appears in the daily *Federal Register*. All Executive Orders, including #13149, Greening the Government Through Federal Fleet and Transportation Efficiency, can be found via the link below.
http://www.archives.gov/federal-register/executive-orders/disposition.html
For the Executive Order and detailed information on EPAct and #13149, a link to FAST, and helpful guidance relating to alternative fuels and alternative fuel vehicles, click on the following EPA link.
http://www.eere.energy.gov/vehiclesandfuels/epact/federal/index.shtml
EO 12764 - Standards of Ethical Conduct.
http://www.usoge.gov/pages/laws_regs_fedreg_stats/lrfs_files/exeorders/eo12674.html
Clean Air Act as amended in 1990.
http://www.epa.gov/oar/oaq_caa.html/
H.R.776, Energy Policy Act of 1992**.**
http://thomas.loc.gov/cgi-bin/query/z?c102:H.R.776.ENR:
Public Law 103-62 - Government Performance and Results Act of 1993 (GPRA) - establishes need for strategic planning and performance measurement in the Federal Government.
http://www.orau.gov/pbm/links/PL103_62.pdf
Defense Transportation Regulation (DTR) DOD Regulation 4500.9-R-Part I Passenger Movement
http://www.transcom.mil/j5/pt/dtr.html
Army site to search for publications. Motor Transportation, a PDF file, is Series 58. Travel and other transportation publications can also be accessed via the search engine. The Army Publishing Directorate portal is http://www.usapa.army.mil/.
http://www.usapa.army.mil/USAPA_PUB_search_P.asp
Air Force site for 24 series transportation publications.
http://www.e-publishing.af.mil/pubs/publist.asp?puborg=AF&series=24
This link provides a portal to the Navy's Civil Engineering Support Equipment (CESE) Program. The Navy's vehicle and equipment fleets are centrally managed by the Naval Facilities Engineering Command and its field offices; Transportation Equipment Management Centers. The individual Navy commands are responsible for administration
https://portal.navfac.navy.mil/portal/page?_pageid=181,3462073,181_3462094&_dad=portal&_schema=PORTAL
This links jumps you directly to Navy fleet management policies as well as links to many source of fleet information, including commercial leasing, alternative fuels, and GSA Fleet.
https://portal.navfac.navy.mil/portal/page?_pageid=181,3462073,181_3462105&_dad=portal&_schema=PORTAL
The U.S. Coast Guard motor vehicle manual.
http://www.uscg.mil/ccs/cit/cim/directives/CIM/CIM_11240_9B.pdf
APHIS: Animal and Plant Health Inspection Service motor vehicle manual.
http://www.aphis.usda.gov/mrpbs/manuals_guides/property/motor_vehicle_manual.pdf

NIST: National Institute of Standards and Technology motor vehicle policy.
http://www.nist.gov/admin/mo/adman/207.HTM#2.07.04
NOAA: National Oceanic and Atmospheric Administration motor vehicle policy. http://www.pps.noaa.gov/New_menu/acquisition.htm
NIH Policy Manual, 26101-38 – Official Use of Government Motor Vehicles, Release Date: 08/15/02.
http://www1.od.nih.gov/oma/manualchapters/acquisitions/26101-38/
Title 41--Public Contracts and Property Management, Chapter 109--Department of Energy Property Management Regulations, Part 109-38--Motor Equipment Management
http://www.access.gpo.gov/nara/cfr/waisidx_00/41cfr109-38_00.html
FWS: Fish & Wildlife Service Vehicle and Equipment Management (Parts 320-329), Motor Vehicle Management (Part 320).
http://www.fws.gov/policy/ser300.html
U.S. Attorneys 3-13.000 Procurement/Property Management, including motor vehicle management.
http://www.usdoj.gov/usao/eousa/foia_reading_room/usam/title3/13musa.htm
IRS: Internal Revenue Service, Part 1. Administration, Chapter 14. Real Estate and Facilities Management, Section 7. Motor Vehicle Management.
http://www.irs.gov/irm/part1/ch11s08.html
Department of Veterans Affairs Transportation and Traffic Management.
http://www1.va.gov/oamm/policy/7240h.htm
U.S. Geological Survey Manual, 409.1 – Personal Property – Vehicle Management.
http://www.usgs.gov/usgs-manual/400/409-1.html

2.2 Basis for Federal Fleet Management in Law and Regulation

"Statutory law" and "administrative law" are the foundation for the fleet management function in the Federal Government. The United States Code (USC), which contains the laws passed and amended by Congress, is the source of "statutory law." Federal, Departmental, and Agency regulations, which implement or apply the statutory law, are termed "administrative law."

Both statutory law and administrative law are legally binding; that is, they form the legal basis for a Federal Fleet Manager's actions. More importantly, they require that the business of fleet management occur within a legal framework, so Fleet Managers need a working knowledge of the pertinent regulations.

The Federal Property and Administrative Services Act of 1949, as amended, most directly affects property management. Effective July 1, 1949, Section 2 of the Act states:

> It is the intent of the Congress in enacting this legislation to provide for the Government an economical and efficient system for (a) the procurement and supply of personal property and non-personal services, including related functions such as contracting, inspection, storage, issue, specifications, property identification and classification, transportation and traffic management, establishment of pools or systems for transportation of Government personnel and property by motor vehicle within specific areas, management by public utility services, repairing and converting, establishment of inventory levels, establishment of forms and procedures, and representation before Federal and State regulatory bodies; (b) the utilization of available property; (c) the disposal of surplus property; and (d) records management.

The Act also established The General Services Administration under Title I, Section 101 (a):

> There is hereby established an agency in the executive branch of the Government which shall be known as the General Services Administration.

Public Law (PL) 766 amended the Act to authorize GSA to operate motor vehicle pools and directed the Administrator to report the unauthorized use of GOVs (Government Owned Vehicles). PL 766 also authorized the U. S. Civil Service Commission to regulate operation of GOVs.

Section 204(c) of the Act gave the Administrator of GSA authority to:

> . . . prescribe such regulations as he deems necessary to effectuate his functions under this Act, and the head of each executive agency shall cause to be issued such orders and directives as such deems necessary to carry out such regulations.

Under this legislative authority, the Administrator of GSA established the Federal Property Management Regulations (FPMR) System. The heads of Executive Agencies, for the most part, have issued supplementing and implementing regulations to the FPMR, according to Section 204(c).

The FPMR is codified. This means it is published officially in the Code of Federal Regulations (CFR), described below. Some Agencies have also codified their regulations in the CFR. Irrespective of whether an Agency codifies its regulations in the CFR, if they are written as implementing or supplementing material of the FPMR, they have the same impact and are considered "administrative law."

2.3 Sources of Information on Laws and Regulations

Policies, regulations and procedures continuously change. Causes of change vary. Some occur because Congress passes new laws or repeals existing laws. Other changes occur because of direction from or emphasis by the Executive Department. Keeping in mind that GSA is responsible for prescribing fleet management regulations for Executive Agencies, let us examine how these regulation changes reach you, the individual who implements fleet management. To stay current on changes, monitor the following sources of information:

2.3.1 Federal Register

The *Federal Register* is a daily publication that makes available to the public those regulations and legal notices issued by Federal Agencies. These include:

- Presidential Proclamations
- Executive Orders
- Federal Agency documents having general applicability and legal effect
- Documents that an Act of Congress requires be published
- Other Federal Agency documents of public interest

When GSA issues implementing regulations that affect the fleet management responsibilities of Executive Agencies, it must publish them in the *Federal Register*.

When any Federal Agency issues policies and procedures regarding property that directly affect the public, these also must be published in the *Federal Register*.

In addition, related material on handling of property that does not affect the public may be published in the *Federal Register* if its inclusion will provide a logical and comprehensive statement of the Agency's property-management policies and procedures. Publication in the *Federal Register* constitutes the initial announcement of official change to existing fleet management regulations.

Regulations published in the *Federal Register* are in loose-leaf form, while those published in the Code of Federal Regulations are in accumulated form.

2.3.2 Code of Federal Regulations

The Code of Federal Regulations (CFR) is a codification (which means integrated into the entirety of the published CFR and organized in conformity with its standards) of the general and permanent rules published in the *Federal Register* by the Executive Departments and Agencies. It is kept up to date by individual issues of the *Federal Register*.

To establish the latest version of any given rule, you should check both publications. You can determine any amendments made since the last revision date of the Code by consulting the cumulative "List of CFR Sections Affected," issued monthly, and the "Cumulative List of Parts Affected," issued daily in the *Federal Register*. These two lists refer readers to the *Federal Register* page where they can find the latest amendments of a rule.

The CFR is divided into 50 titles, which represent broad areas subject to Federal regulations (examples are administration, personnel, commercial practices, foreign relations, energy, national defense, public welfare, etc.). Each title is divided into subtitles and chapters, the latter usually bearing the name of the issuing Agency. Each chapter is further subdivided into parts covering specific, regulatory areas.

2.3.3 FPMR and FMR

The focus of our attention in the CFR is Title 41 -- Public Contracts and Property Management, Subtitle C -- Federal Property Management Regulations System. Chapters 101 and 102 under this subtitle cover the Federal Property Management Regulations (FPMR) and the Federal Management Regulations (FMR).

In brief, the FPMR System (Subtitle C of Title 41 of the CFR) consists of:

- Property management policies and procedures for Government Agencies prescribed by the Administrator of General Services (i.e., Chapter 101 of the FPMR).
- Implementing and supplementing regulations of various Agencies, which expand upon related FPMR material (Chapters 102 through 149). Supplementing regulations cover material for which no counterpart exists in the FPMR.

Federal Property Management Regulation (FPMR) Subchapter G, Transportation and Motor Vehicles, Parts 101-38 and 101-39 provide regulations governing Motor Equipment Management and Inter Agency Federal Fleet Management Systems (now known as GSA

Fleet). These chapters implement various requirements of Public Law and Executive Orders.

The FPMR governs and guides Federal Agencies in prescribing regulations, policies, and procedures pertaining to the management of property and other programs and activities of the type GSA administers, except procurement and contract matters contained in the Federal Acquisition Regulation (FAR, discussed below). They apply to all Federal Agencies to the extent specified in the Federal Property and Administrative Services Act or other applicable law, and are developed in consultation with the affected Agencies.

So where does the FMR come in? GSA is rewriting the regulations in the FPMR into a plain-language, question-and-answer format for the FMR. The FMR replaces and supersedes the FPMR. You can jump to the FMR, Subchapter B – Personal Property, Part 102-34 – Motor Vehicle Management at this link: http://www.gsa.gov/Portal/gsa/ep/channelView.do?pageTypeId=8199&channelId=-16530&specialContentType=FMR&file=FMR/FMRTOC102-_34.html#wp436256.

2.3.4 Federal Acquisition Regulation (FAR)

Issued by GSA, the FAR consists of acquisition policies and procedures for Government Agencies. They appear as Chapter 1 of Subtitle A of Title 48 of the CFR, the Federal Acquisition Regulation System. As in the FPMR, succeeding chapters contain implementing and supplementing acquisition regulations issued by individual Agencies.

2.3.5 Individual Agency Regulations

Generally, as with the FAR, most Agencies supplement the FPMR and the FMR by issuing their own, Agency-specific property management regulations. Most are not published in the CFR, so they are not codified, but they typically conform with the CFR numbering system, including the chapter number assigned to that Agency. As noted above, chapters in the CFR have been reserved for use by the Federal Agencies to codify their property management regulations; for example, Chapter 105 for the General Services Administration, Chapter 109 for the Department of Energy, and so on. We provide links to a number of these chapters in the Useful Links, above.

Unless law directed to your Agency authorizes a specific exception, your Agency must conform to the rules established in the FPMR/FMR. Even when authorized as an exception by law, the rules your Agency uses will approximate those stated in the FPMR/FMR.

Controlling Agencies, such as the Office of Management and Budget (OMB) and the General Accountability Office (GAO), also periodically issue binding instructions on the management of property. These rules, although generally not incorporated into the FPMR/FMR, are usually included in the Agency issuances.

2.3.6 GSA Reports and Bulletins

GSA publishes and issues many guides, standards, reports and directories about specific fleet management subjects. Several examples are shown here, and you will find these and others discussed elsewhere in this *Guide*.

2.3.6.1 Federal Fleet Report

GSA is charged with preparing and issuing the Federal Fleet Report (FFR), which summarizes fleet data submitted by Agencies and reported to Congress. The report is used to evaluate and analyze operations and management of the Federal Fleet. Many Federal Fleet Managers use this report to benchmark their operations against those of other Federal organizations.

FMR § 102-34.355 establishes the responsibility of all Federal Agencies to develop policies and procedures for maintaining and reporting inventory, cost and operating data on Government-owned and-leased vehicles. The reporting requirements of Standard Form 82, Agency Report of Motor Vehicle Data, are now accomplished through the Federal Automotive Statistical Tool (FAST) system. The Federal Fleet Report derives from the FAST system.

All Agencies must report vehicle inventory and commercial leasing information. Large fleets (over 2,000 vehicles) must also report on cost, mileage and fuel used; small fleets may report these data voluntarily. Whether a fleet is large or small depends on the management structure within the Agency; consequently, a single Agency may have multiple fleets, including large, small, or both.

2.3.6.2 Bulletins & Standards

Among its Bulletins, GSA has published Federal Standards for Automobiles, Light and Medium Trucks. Standards for automobiles and light and medium trucks are published in Federal Standards Number 122 (sedans and station wagons), 307 (light truck 4x2), 292 (light truck 4x4) and 794 (medium truck). The purpose of these and comparable documents is to achieve a practical degree of standardization in the Federal automotive fleet while recognizing the wide range of vehicles required to meet the needs of various Agencies.

2.4 Public Law 99-272

Public Law 99-272 (the Consolidated Omnibus Budget Reconciliation Act of 1985) required the President, the Director of the Office of Management and Budget (OMB), the Administrator of GSA, and the Comptroller General of the United States and the heads of Federal Agencies to take action to improve the management and efficiency of the Federal Fleet and to reduce its cost of operation. Consequently, PL 99-272 had a major impact on Federal Fleet Management. Some outcomes included:

- Establishment of uniform cost elements for use by Agencies in accumulating necessary data for fleet studies
- Detailed and informative fleet studies
- Initial steps toward fleet consolidation
- Improved fleet management
- More efficient and economical vehicle support at the lowest cost possible

Changes resulting from PL 99-272 were reflected in revisions to the Code of Federal Regulations (CFR) 101.39. Specifically, GSA Fleet was restructured to provide more efficient and economical vehicle support at the lowest cost possible to the Federal Government. Today, GSA is charged with identifying opportunities for the consolidation of motor vehicle fleets, related equipment and facilities, and related administration and management functions. GSA's continuing goal is to control the size and cost of the Government's motor vehicle fleet.

2.5 Fleet Management Systems

FPMR 101-39 covers GSA Fleet (the Interagency Fleet Management System or IFMS), which comprises GSA's provision of motor vehicles and related services to Executive Branch Agencies. (Note that the word "system" does not, in this case, refer to a computer program or software but to a comprehensive set of fleet-related processes.)

2.6 Additional Laws & Executive Orders

Congress has passed additional key legislation, and the Executive Branch has issued Executive Orders impacting the Federal Fleet Manager and Federal Fleet Management operations. We will reference many of these laws and Executive Orders elsewhere in this *Guide* when we address relevant fleet management topics.

Additional Laws Relating to Federal Fleet Management

Focus	Law	Key Aspects
Accessibility	Americans with Disabilities Act (ADA) of 1990	There are minimum guidelines and requirements for accessibility standards for transportation vehicles required to be accessible by the Americans With Disabilities Act (ADA) of 1990.
Contracting	McNamera-O-Hare Service Contract Act of 1965	Contracting for services.
Environmental Management	Alternative Fuels Act of 1988	Section 400AA calls for the Federal Government to acquire the maximum number of passenger automobiles and light duty trucks powered by alcohol, dual energy, natural gas or dual energy natural gas vehicles as is practical. (These vehicles shall be supplied by original equipment manufacturers.)
	Clean Air Act (CAAA)	Cleaner Fuels Clean Fuel Cars Specific requirements for maintenance and inspection programs.

	Energy Policy Act of 1992 (EPAct)	75% of the Federal Fleet acquired after 1999 shall be Alternative Fuel Vehicles. EPAct requires the Department of Energy (DOE) to implement an Alternative Fuel Fleet Program.
	The Energy Policy Act of 2005	Requires dual-fueled vehicles acquired under EPAct to be operated with alternative fuels; establishes minimum energy efficiency standards on 16 products; expands the ENERGY-STAR® Program; permanently authorizes Energy Savings Performance Contracts at DOE, DoD and VA; directs the Federal Government to use more renewable energy.
	Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Emergency Planning and Community Right-to-Know Act (EPCRA) Resource Conservation and Recovery Act (RCRA)	These laws require compliance in the areas of environmental management.
Financial Accountability	Government Performance and Results Act (GPRA) of 1993	Each Agency must have a Strategic Plan defining the long-term general goals and objectives that its programs should accomplish. From this, an Annual Performance Plan is created which specifies the measurable goals to be accomplished in the coming year to achieve the long-term goals. After the close of the fiscal year, an Annual Performance Report must be published indicating actual results compared with the original goals.

	Chief Financial Officers Act of 1990	Established a CFO at each Agency charged with implementing effective accounting and financial management systems. It also led to establishment of the Federal Accounting Standards Advisory Board (FASAB). One FASAB standard now requires agencies to implement managerial cost accounting systems that can report the full costs – and from that, the unit-costs – of all Government activities. This is a direct connection to the GPRA requirements, because it links dollars to program activities, which, in turn, generate outputs, which result in outcomes – thereby relating costs to results.
	Government Management and Reform Act (GMRA) of 1994	Requires Agencies to have comprehensive financial statements that are audited.
	Federal Financial Management Improvement Act of 1996	Seeks to hold Agencies accountable for complying with the FASAB accounting standards by requiring the reporting of lack of compliance.
Safety and Health	29 CFR 1910 Occupational Safety and Health Standards 29 CFR 1960 Basic Program Elements For Federal Employee Occupational Safety And Health Programs And Related Matters	These laws require compliance in the areas of occupational safety and health.
Transportation	Title 49 Transportation Chapter III - Federal Highway Administration, Department of Transportation	Transportation of hazardous material. Requirements for Commercial Drivers Licenses (CDL) and other key areas.
	Motor Carrier Safety Improvement Act of 1999	Establishes Federal Motor Carrier Safety Administration. Addresses Commercial Driver Licensing. Issues rules to improve training and certify motor carrier Safety Auditors.

Executive Orders Relating to Federal Fleet Management

Executive Order	Key Aspects
EO 10579 signed November 30, 1954	Regulations relating to the establishment and operation of GSA Fleet
EO 12196 signed February 26, 1980	Occupational Safety and Health Programs for Federal employees
EO 12731 signed October 17, 1990	Principles of Ethical Conduct for Federal Employees
EO 12759 signed April 17, 1999; Revoked by EO 13123 signed June 3, 1999	Federal Energy Management
EO 12844 signed April 21, 1993, superseded by EO 13031 December 13,1996	Federal Use of Alternative Fuel Vehicles
EO 13043 signed April 16, 1997	Increasing Seat Belt Use in the United States
EO 13101 signed September 14, 1998	Greening the Government through Waste Prevention, Recycling, and Federal Acquisition Among other requirements, re-refined oil and retread tires must be purchased if available and practicable.
EO 13123 signed June 3, 1999	Greening the Government through efficient energy management
EO 13149 signed April 21, 2000	Greening the Government through Federal Fleet and transportation efficiency Federal Agencies must reduce the use of petroleum fuels in vehicles by 20% and assure that 75% of new light vehicle acquisitions are alternative fueled vehicles (AFVs), and that the majority of the fuels used by the AFVs are alternative fuels.
EO 13221 signed July 31, 2001	Directs Federal Agencies to purchase products that use minimal standby power when possible.

2.6.1 Summary of Key AFV Related Legislation

CAAA (Clean Air Act Amendments of 1990)

- Clean fuel fleet requirements for achieving emission reductions
- Applies to all fleets with 10+ vehicles capable of central fueling
- Initially in 22 metro areas
- Vehicles under 26,000 lb GVW

EPAct (Energy Policy Act of 1992)

- Goal of petroleum reduction through AFV acquisition requirements and use
- Currently applies to Federal, State and fuel-provider fleets with 20+ vehicles capable of central fueling and located in 124 Metropolitan Statistical Areas (MSA) with 250,000+ population
- AFVs required for 75% of light-duty vehicle acquisitions
- Exemptions for fleet size, geographic, non-MSA operation, vehicle mission (security or emergency)
- Amended by Energy Conservation and Reauthorization Act of 1998 (ECRA)
- Requires each Agency to submit an annual AFV compliance report to Congress
- Provides for biodiesel fuel use credits

Energy Conservation and Reauthorization Act of 1998 (ECRA)

- Amends the Energy Policy Act of 1992 (EPAct) to allocate one EPAct AFV acquisition credit to a fleet or covered person for every 450 gallons of biodiesel contained in biodiesel blends of at least 20% biodiesel by volume
- The fuel must be purchased for use by the fleet or covered person in vehicles owned or operated by the entity that weigh more than 8,500 pounds gross vehicle weight (GVW) rating

EO #13149 (Executive Order #13149, Greening the Government through Federal Fleet and Transportation Efficiency)

- 20% reduction in annual petroleum consumption from the FY 1999 baseline for each Agency's entire vehicle fleet by FY 2005
- Use alternative fuel in AFVs the majority of the time by FY 2005
- Increase average fuel economy of new light-duty acquisitions by 3.0 mpg by FY 2005
- Exemptions for security and emergency vehicles; annual compliance reports to DOE
- Supersedes Executive Order #13031, Federal Alternative Fueled Vehicle Leadership

Section 3
General Management

This section addresses the competency area of General Management. Click on any of the topic links below to go to the related content.

Section 3 Table of Contents

3.1 Useful Links

The Gov Online Learning Center, commonly known as *GoLearn*, is a fully integrated "learning center of excellence with e-Training courseware and performance- support tools." It includes free access to e-Learning products and services, directly to desktops via the Gov Online Learning Center, which includes approximately 55 e-courses, 15,000 searchable learning objects (self contained, complete subjects which can be used for just-in-time learning, research and problem solving), a library of online books, access to live instructors and subject matter experts for desktop applications, several custom-developed courses that are provided free to all Federal agencies, and access to competency management tools. The catalog of free resources covers: Communication, Customer Service, E-Learning, Human Resources, IT Security, Leadership, Legislatively Mandated & Agency Required Topics, Management, PC and Business Applications, Personal Development, Problem Solving and Decision Making, Project Management, Support Professionals, Team Building, Test Prep.
www.GoLearn.gov
Established in 1921 by the Secretary of Agriculture, the mission of the Graduate School, USDA, is to improve the performance of Government and to provide opportunities for individual lifelong learning through education, training and related services. The Graduate School does not grant degrees, but it does offer certification for selected disciplines. Although associated with USDA, the Graduate School is self-sustaining through tuitions and fees and receives no Federal funds. Various courses, such as those in property management, are relevant to Federal Fleet Managers.
www.grad.usda.gov
The U.S. General Services Administration's Federal Acquisition Institute (FAI) Online University has developed an internet-based course for contracting officer representatives (CORs) entitled the COR Mentor. The course is available at no charge for use by both public and private-sector acquisition communities. The FAI Online University offers 18 certificates for different COR duties, such as participating in post-award orientations, monitoring contractor performance and administering the property clause.
http://www.faionline.com
On passenger use of Government-provided vehicles, go to this link.
http://www.gsa.gov/Portal/gsa/ep/channelView.do?pageTypeId=8199&channelId=-16529&specialContentType=FMR&file=FMR/FMRTOC102-__5.html#wp436256

3.2 Who Needs a Full-Time Fleet Manager?

Monitoring and controlling all fleet-related factors consumes considerable time and requires sound administrative abilities. These responsibilities normally fall upon the Fleet Manager, and demands on this professional position are rapidly increasing, particularly in the Federal sector as ever higher costs and management issues gain the attention of Congress, the Office of Management and Budget, and heads of Federal Agencies.

Generally, in the private sector, fleets of about 200 or more owned units require full-time fleet supervision. Leased fleets of about 500 units, where the lessor provides fleet maintenance management services, typically require full-time fleet supervision. These fleet-size rules-of-thumb become self-evident when management responsibilities include an in-house maintenance program. Further, the larger the fleet, the more support and resources Fleet Managers require. Fleets consisting only of POVs (personally owned vehicles, which is better phrased as "personally provided vehicles" due to the prevalence of consumer leasing) do not require a Fleet Manager, and examples of such programs do exist within the Federal Government.

Because the fleet executive alone must generally organize and maintain the fleet transportation program, management of the fleet requires that the professional be trained and experienced in basic business competencies, including general management, finance, purchasing, accounting, and risk management. The Fleet Manager must be able to coordinate all fleet activities and assure satisfaction of both short- and long-term

organizational goals. The person assigned this role must be familiar with a range of fleet management resources for the control of locally operated vehicles or those located at widely scattered points throughout the country or even globally.

Within the Federal Government, many Fleet Managers shoulder assignments outside their fleet responsibilities. To the extent that this broadens their experience, this can be good. But to the extent that this forces the Fleet Manager not to spend sufficient time monitoring and controlling the fleet, assigned "distractions" can mean that an organization's fleet does not operate as efficiently and effectively as it might. The fact is that most Federal Fleets require a full-time Fleet Manager. A thorough reading of this *Guide* makes that clear.

3.3 Roles of the Fleet Manager

Federal Fleet Managers come with various titles, such as:

- Vehicle Control Officer (VCO)
- Motor Vehicle Officer (MVO)
- Motor Vehicle Manager (MVM)
- Motor Fleet Manager (MFM)
- Transportation Officer (TO)

Titles will vary and so will tasks, but fundamental competencies remain largely the same. A Fleet Manager must possess many competencies to carry out the responsibilities of the position. In addition, the Fleet Manager must constantly upgrade his or her skills and knowledge to remain current with regulatory changes and technological advances. A review of some of the roles you will play and the capabilities you must possess provides an essential introduction to this management position. These include:

- Manager
- Supervisor
- Communicator
- Public Relations Representative
- Financial Analyst
- Maintenance/Mechanical Expert
- Procurement Specialist
- Used Car Market Analyst
- Trainer

Although the following review of competencies and tasks required to perform effectively as a Fleet Manager is not all inclusive, it does present an overview of the challenges you face and represents key aspects of a Fleet Manager's job description.

3.3.1 Manager

A Federal Fleet Manager is, by definition, a Manager. Like every manager, you must serve the goals of the larger organization, contributing to its overall success, while exercising stewardship over the assets and resources under your care. This includes both physical property and personnel. To ensure that you are an effective Manager, you should not have "tunnel vision," seeing only the immediate tasks assigned, but also understand the place of Federal Fleet Management in the big picture; that is, you must see the function of

the fleet within the larger organization and constantly look for ways to improve fleet performance in pursuit of the organization's mission. To ensure that you are an effective Manager, you must be able to deploy your fleet personnel to the best effect, given budgetary, hiring and other restrictions that affect staffing.

3.3.2 Supervisor

As a Supervisor, an effective Federal Fleet Manager prioritizes the work required, focusing on the most important tasks first. Knowing what to do and in what order of importance, you must be able to delegate responsibilities, motivate staff, and monitor performance. To ensure that you are an effective Supervisor, you must also look for opportunities to streamline operations and automate processes wherever practical, so that the most work is accomplished with the fewest resources.

3.3.3 Communicator

As a Fleet Manager, you must be an effective communicator both verbally and in writing, able to articulate clearly and knowledgeably the fleet mission, goals, responsibilities, needs, and challenges of the organization to upper management, your customers, your staff, your peers, vehicle users, and the public. You must know and understand laws and regulations governing many issues, such as vehicle use, and be able to communicate appropriate information to different individuals and audiences. In many cases, the Fleet Manager provides a transportation service to the rest of the organization, particularly to vehicle users and drivers. Consequently, a Federal Fleet Manager must recognize his/her obligation to provide excellent customer service and that requires open, honest and regular communication with your fleet customers.

With financial and personnel resources significantly reduced for many Government activities, competition for those scarce resources is often intense; therefore, you must be able to communicate fleet-related needs persuasively to obtain what is necessary to ensure that your organization can fulfill its mission. You must continually promote care for and safe operation of the vehicles for which you are responsible. Many competing organizations and jurisdictions have motor-vehicle responsibilities. As the Fleet Manager, you must not only be able to communicate Federal policies and interests to State and local governments but also to coordinate fleet operations with diverse organizations while ensuring compliance with Federal laws and Agency policies.

3.3.4 Financial Analyst

As a Fleet Manager, you must be able to perform as a financial analyst. To undertake such tasks as determining the most cost-effective method of providing transportation to support the Agency mission, comparing commercial versus in-house maintenance programs, and determining optimum vehicle replacement cycles, a Fleet Manager must possess competency in finance and cost-accounting. The Fleet Manager is charged with controlling both fixed and variable expenses and must apply cost analysis to achieve this control.

3.3.5 Vehicle Technician

A Fleet Manager must understand mechanical systems and maintenance requirements for vehicles. Maintenance invariably heads the list of problems faced by Fleet Managers, and they deal with the difficulties it presents in a myriad of ways and with varying degrees of success. The mechanical systems of your fleet vehicles, which can range from

automobiles to special-use vehicles (for example, fire trucks), generally will affect the maintenance program you implement and monitor. If you are responsible for an in-house maintenance program, competency with vehicle specifications and mechanical systems, repair versus replace decision-making, and preventive and predictive maintenance plans is essential. And that is just the start, because a poorly managed maintenance program, particularly when resources are tight and a fleet is aging, can not only put drivers at risk but also the Agency's mission.

3.3.6 Procurement Officer

A Fleet Manager must be able to perform as a procurement officer. This requires you to be familiar with the Federal Acquisition Regulation (FAR) and other, applicable Standards and regulations governing procurement actions. Many Fleet Managers will most likely be responsible for small purchases for their operation and may be responsible for initiating vehicle procurement. Fleet Managers are often involved in developing vehicle specifications, soliciting estimates, evaluating bids, and implementing open-market procurements for supplies and services. The latter may include maintenance and repair of the fleet vehicles.

3.3.7 Vehicle Disposal Manager

A Fleet Manager may need to understand and analyze characteristics of used vehicles and the used-vehicle market. For example, you may have to determine levels of vehicle reconditioning prior to disposal. You will often be required to make decisions on which vehicles in the fleet to replace and when to dispose of them, particularly when your organization owns the vehicles.

3.3.8 Trainer

A Fleet Manager must understand training and perhaps even how to be an effective trainer. If you are responsible for in-house maintenance and repair, you will have to ensure that mechanics have the know-how to do their job. You may be involved with driver training for fuel efficiency or safety. You role may include educating customers and drivers on Federal laws and Agency policies, such as official use of vehicles. You may conduct specialized operator training or ensure that specialized trainers are available for each type of vehicle to ensure compliance with your safety program and licensing requirements.

3.4 Overview of Fleet Management Responsibilities

Federal Fleet Management is unique in its combination of the principles of:

- Logistics
- Transportation Management
- Property Management.
- Federal Fleet Management as Logistics

3.4.1 Federal Fleet Management as Logistics Management

We can define "logistics" as a supply chain process focused on planning, implementing, and controlling the efficient and effective movement and storage of goods. It also encompasses related shipping services and information ranging from the point of origin to the point of consumption. For purposes of Federal Fleet Management, the "goods" are motor vehicles and related supplies; the "services" may include leasing, maintenance, and disposal; and the "related information" includes such tasks as Federal Fleet management

reporting. Many Federal Fleet Managers are responsible for shipment of household goods for relocating employees of the Federal Government, and this is one example of the inter-relationship of logistics with fleet management. Logistics is a critical part of the Federal Fleet Management business process.

3.4.2 Federal Fleet Management as Transportation Management

Federal Fleet Management involves meeting the transportation needs of small to large groups. It does not differ from the transportation of goods in the sense that estimating for transportation needs, budgeting, asset management, fueling, repairs, accident management and replacements are all variables that require attention. Transportation Management is a critical part of the Federal Fleet Management business process.

3.4.3 Federal Fleet Management as Property Management

We can broadly define "property management" as those functions of the Government that deal with the acquisition, control, protection, utilization and disposition of Government property. The field of property management is interdisciplinary in the true sense of the word. Property managers must not only be familiar with the materials and equipment for which they are responsible, they also must be able to forecast the needs of the activities they support. In addition, property managers must always be aware of their responsibility to the public. The Government's property, be it real or personal, represents a capital asset that must be effectively maintained, protected, controlled, used and disposed of. In sum, property management covers eight fundamental tasks:

- Planning for property needs
- Acquisition of property
- Receipt of property
- Storage of property
- Distribution of property
- Proper utilization and care of property
- Property accounting control
- Disposition of property, as well as other secondary or integral functions that affect the property of the Government.

Note that "proper utilization and care of property" in property management translates into "use, utilization, and maintenance" in fleet management. The words "use" and "utilization" also carry specific meanings. "Use" refers to the application of the vehicle to get work done, whether that work is carrying passengers or cargo. "Utilization" refers to the extent to which a vehicle is used, such as mileage, number of trips, and number of hours. Use and utilization are fundamental factors in selecting vehicle types and in allocating vehicles.

3.4.4 The Fleet Management Process

The fleet management process begins with determining the vehicle needs of the organization. Key among the array of factors you will consider in sizing the fleet (in terms of both overall number of vehicles and vehicle type) are the organization's mission and whether the need will be short-term (perhaps met by rentals or unassigned motor pool units) or long-term (perhaps met by lease or purchase).

After assessing vehicle needs, you will take the next step in the process – determining how best to satisfy the need; that is, to acquire the needed vehicles or provide necessary transportation services (e.g., shuttle buses). Key options you will most likely consider include:

- Obtaining necessary vehicles from GSA Fleet
- Agency purchase
- Leasing from private industry
- Other sources
- Some combination of the above

Following need determination and acquisition, you must turn your attention to vehicle utilization and implementation of appropriate controls to ensure effective fleet management. This includes, at a minimum:

- Administrative Control (ensuring optimum utilization and legal vehicle use)
- Maintenance Control (ensuring performance of preventive maintenance)
- Expense Control (ensuring cost-effective vehicle operation, maintenance, and fueling)

The final step in the fleet management process is disposal (which typically also requires replacement). Such variables as type of vehicle, leased versus owned, change in organization mission, operational requirements, and cost will influence the disposal decision. Taken together, these steps comprise a typical fleet management life cycle, a high-level model of the fundamental tasks you will perform. We will cover these steps in detail later in this *Guide*.

3.5 Fleet Management in the Federal Government

To a greater or lesser degree, Federal Fleet Management requires you to work in three key areas:

- ✓ policy development and application,
- ✓ asset management, and
- ✓ delivery of fleet services.

3.5.1 Policy Development and Application

Many Federal Fleet Managers work on policy and guidance at the Federal, Agency and Departmental levels. They strive to ensure that appropriate vehicles are available and operational so that the Agency mission can be achieved. At the same time, they must ensure effective accountability and financial responsibility for the fleet.

3.5.2 Asset Management

Federal Fleet Managers have life-cycle management (cradle to grave) responsibilities for their organization's motor-vehicle assets. The primary classes of motor vehicle assets are:

- sedans
- station wagons
- ambulances

- buses
- 4x2 light trucks
- 4x4 light trucks
- medium trucks
- heavy trucks

Additionally, some Federal Fleets require management of special purpose equipment, such as truck tractor/trailers, earth-moving equipment, construction/maintenance equipment, fire-fighting equipment, and weight-handling and railway equipment. Vehicles in these classes support Federal Agency civilian, military and postal service missions in domestic and foreign locations worldwide.

Fleet Managers generally implement management processes based upon asset classes. This is necessary because fundamental fleet decisions will vary by class, such as type of vehicle to acquire, when to replace, how and when to maintain, and whether to repair or replace. Vehicle-related metrics also differ by class, such as fuel efficiency, mileage or hours of use, and cost-per-mile. Based upon Agency mission requirements and defensible vehicle justification, Federal Fleet Managers should apply life-cycle costing techniques to evaluate purchase, lease and rental options for the units in these respective vehicle classes, thereby determining best value for the Federal Government.

3.5.3 Fleet Services Delivery

Some Federal Fleets provide fueling and maintenance/repair services to their customers, while others rely on public or private sector suppliers to deliver such necessary services. Some Federal Fleets acquire and manage motor pool vehicles to meet the short-term transportation needs of their organizations, while other Federal Fleets rely on personally owned vehicles (POVs, and reimburse drivers for business use) or on daily rental vehicles.

For Federal Fleets that provide essential vehicle services, Federal Fleet Managers work with their customers to define their transportation needs, set expected service levels and determine appropriate performance measures. Services may include vehicle assignment through purchase, lease or rental as well as motor pool, fueling and maintenance/repair services. Customer service surveys generally are used to verify that fleet operations meet expectations, identify new customer requirements and opportunities to streamline processes and overall fleet operations.

Federal Fleet Managers must develop tracking and reporting techniques for both costs and assets. They must also use information technology to collect and monitor operational data, and then use this data in the application of performance measures and key ratios to size up the efficiency of their fleets.

3.6 Fleet Management Issues

While Public Law and regulations provide the parameters for many fleet management issues you will have to address, time constraints, funding, and Agency programs are among the additional factors that will affect your ability to achieve organizational and fleet goals.

3.6.1 Vehicle Selection

You can find the standards for automobiles and light and medium trucks published in Federal Standards Number 122 (sedans and station wagons), 307 (light truck 4x2), 292 (light truck 4x4) and 794 (medium truck). As noted earlier in the *Guide*, the purpose of these documents is to achieve a practical degree of standardization in the Federal Fleet, yet be responsive to Agencies' needs for a range of vehicle types. These standards establish classifications for various types and sizes of vehicles, general requirements, and the equipment authorized for Government use.

FMR 102-34.45 provides that, except for exempted vehicles, Executive Agencies shall acquire vehicles that:

a) achieve maximum fuel efficiency,
b) meet minimum body size and engine size specifications, and
c) possess the minimum optional equipment needed.

The classifications established in Federal Standard 122 apply.

3.6.2 Fleet Cost and Operating Data

Each owning Agency is responsible by law to develop systems to identify, collect, and analyze data regarding all costs, including obligations and outlays, incurred in the operation, maintenance, acquisition, and disposition of motor vehicles (40 USC 902). In addition, FMR 102-34.355 requires Federal Agencies to use Standard Form 82, Agency Report of Motor Vehicle Data, to ensure uniformity of reporting thru the FAST system. This form includes the "direct costs" of operations and maintenance and the "indirect costs" not readily associated with specific vehicles.

Accounting and funding methods affect the accumulation of necessary data. A Fleet Manager must capture, aggregate, analyze and use cost data for vehicles and operations for which he/she is responsible.

3.6.3 Commercial or In-house Fleet Management

Public Law 99-272 required, among other things, the President, the Director of the Office of Management and Budget (OMB), the Administrator of GSA, the Comptroller General of the United States, and the heads of Federal Executive Agencies to take certain actions to improve the management and efficiency of the Federal Fleet and to reduce its cost of operation. Consequently, comprehensive and detailed studies were required to compare an Agency's motor vehicle operations with:

1. use of GSA Fleet,
2. contracting with a qualified private fleet management firm, and
3. use of any other means less costly to the Government.

Uniform cost elements in terms of obligations, outlays, or accruals were established for use by Agencies in accumulating necessary data when conducting these studies.

3.7 Standards of Ethical Conduct

Along with all other Government employees, Federal Fleet Managers must be concerned with ethics and address ethical issues in the performance of their duties. Questions often

arise regarding senior-management use and home-to-work use (commutation) of Government-provided vehicles, fleet charge card use, and vehicle use for political activities. What's the watchword? If it feels wrong, it usually is.

As for personal performance, Federal Fleet Managers must conduct themselves in accordance with the Standards of Ethical Conduct stipulated in Executive Order #12764, signed April 12, 1989 (as modified by Executive Order # 12731). Also consult your Agency's internal ethics regulations.

3.8 Contracting and Procurement

Federal Fleet Managers should understand the role of the Contracting Officer, the elements of a contract, the process for selecting a contract type and the contract types they are likely to encounter. This is only a review of these key topics. We recommend going directly to the FAR (Federal Acquisition Regulation) for further information.

3.8.1 Role of the Contracting Officer (CO)

FAR 2.101 defines a Contracting Officer (CO) as a person with the authority to enter into, administer and/or terminate contracts. Only a Contracting Officer can bind the Government contractually. Only a Contracting Officer can modify a Government contract. Only a Contracting Officer, usually with approval from higher authority, can direct a contractor to stop work.

3.8.2 Elements of a Contract

A contract is a legally enforceable agreement between two or more parties. Every contract has these . . .

Basic Elements		
Offer	**The promise of performance**	**The communication must be intended as an offer. The contractor makes the offer and is the offeror, the Government makes the acceptance and is the offeree.** **An offer must be complete in all its essential terms.** **An offer must be communicated to the offeree.** **An offer must be as clear and unambiguous as possible. If terms are so imprecise as to be open to two or more meanings, courts will either a) read the clause against the drafter of the clause or b) void the contract in its entirety if the terms cannot be defined.** **An offer terminates upon rejection, expiration of a stated or reasonable period of time, death, insanity, revocation by the offeror, or acceptance.**
Acceptance	**The offeree agrees to buy the product or service at the offeror's price**	**Acceptance occurs when an Agency-appointed or warranted Contracting Officer agrees to accept the price and terms offered by the contractor.**
Consideration	**The price bargained for and offered**	**A contract that lacks consideration is null and void.** **The Government's consideration is the product or service provided by the contractor.** **The contractor's consideration is the price paid for the product or service.**
Legal and Possible Objective	**The objective is the purpose of the contract**	**If the objective is illegal or impossible, the contract is void.**
Competent Parties	**Both parties to the contract must have the legal capacity to enter into a contract**	**As a rule, infants (persons under the age of 18), insane persons, and those under the influence of drugs lack the requisite mental capacity to contract and their contracts are voidable.**

3.8.3 Selecting a Contract Type

The process of selecting a contract type starts with knowing the:

- Types of contracts available for use
- Requirement (supply or service) to be procured
- Market place

The Contracting Officer (CO) should have a sound understanding of these areas to ensure selection of the appropriate contract type. To that end, as part of the acquisition planning process, the CO typically reviews the:

- Acquisition history of the supplies or services
- Description of the requirement. (See FAR 7.103)

By analyzing the item description and specification or elements of the Statement of Work (SOW) for services, the Contracting Officer can relate performance and cost-risks involved to the types of contracts available. This may be an interactive process, and your fleet management knowledge and expertise can contribute to the CO's understanding and decision-making, particularly if the CO is new to fleet-related procurements.

3.8.4 Characteristics of Contract Types

Many types of contracts exist, but we will examine only four types that Federal Fleet Managers are most likely to encounter as they work with a Contracting Officer to meet their mission requirements:

- Firm-Fixed Price (FPP) Contracts
- Performance-Based Contracts (PBC)
- Indefinite Delivery Contracts
- Time and Materials and Labor-Hour Contracts

3.8.3.1 Firm-Fixed Price (FPP)

A firm-fixed-price (FFP) contract provides for a price that is not subject to adjustment due to the contractor's cost experience during the performance of the contract. Use of such a contract places maximum risk on the contractor and provides the maximum profit incentive for effective cost control and contract performance. Because the contractor assumes all the risk, the administrative burden placed on the Government is minimal. (See FAR 16.202.) A firm-fixed-price contract is usually issued as a purchase order (PO). A price adjustment to this contract type requires a contract modification, which the CO must approve. This approach ensures on-going oversight of costs and performance by the CO.

3.8.3.2 Performance-Based Contracts (PBC)

Federal Fleet Managers increasingly will encounter more performance-based contracts (PBC) for services. Based upon measurable performance requirements, a PBC should incentivize the contractor to improve its performance, thereby benefiting both the Federal Government and the contractor.

A performance-based contract is structured around the purpose of the work to be performed rather than how the work is to be performed. The Government's focus is on

measuring the outcome of a contractor's efforts rather than managing those efforts to achieve a desired outcome. (See FAR 37.6 and The Performance-Based Contracting Desk Reference.)

3.8.3.3 Indefinite Delivery Contracts

Indefinite delivery contracts are classified as definite quantity, indefinite quantity or requirements contracts. These contracts may provide for any appropriate cost or pricing arrangement under FAR Part 16.

Indefinite Delivery Contract Type	Description
Definite Quantity	**The quantity of supplies or services for a fixed period is known but the time of delivery is not (indefinite delivery, definite quantity).**
Indefinite Quantity	**Provides for an indefinite quantity, within stated limits, of supplies or services to be furnished during a fixed period, with deliveries or performance to be scheduled by placing orders with the contractor (indefinite delivery, indefinite quantity, often referred to as an IDIQ).**
Requirements	**Provides for filling all actual purchase requirements of designated Government activities for supplies or services during a specified contract period, with deliveries or performance to be scheduled by placing orders with the contractor. Differs from indefinite quantity to the extent that no minimum quantity is stated, and maximum quantities are stated only if feasible.**

3.8.5 Time and Materials and Labor-Hour Contracts

Time and materials and labor-hour contracts are agreements wherein the Government agrees to pay a certain fixed amount per hour of labor plus material at cost (not applicable to a labor-hour contract where there is no material). The very nature of such contracts can discourage efficiency and therefore requires constant Government surveillance to see that the number of hours is kept to a reasonable level. Such contracts must include ceilings, which contractors can exceed only at their own risk. (See FAR 16.6.)

3.9 Policies & Procedures

Throughout the *Guide*, we discuss many specific policy areas. Here we review general fleet policies and some selected policy issues revolving around use of Government-provided vehicles.

If an organization lacks a fleet policy, an important task of the Fleet Manager is to develop a recommended policy, obtain input from organization peers, and secure approval of the policy from upper management. If a policy exists but hasn't been reviewed for two years or more, you should review it for updating based upon changes from outside or inside your organization. Consider incorporating the new or updated policy into the CFR. If you do not incorporate the policy into the CFR, consider adopting the numbering and organization of the CFR for consistency across the Federal Government. The policy should be accessible to all electronically, and you should ensure that an electronic process is available for submitting either comments on the policy or recommendations for clarification or change.

A number of sound management reasons underlie the value of preparing and communicating a policy:

- Encourages planning and goal setting
- Details effective problem-solving strategies
- Provides supervisors with standard guidelines
- Promotes teamwork; reduces squabbling
- Reduces management and driver downtime
- Reduces crisis communication
- Contributes to employee and organization success
- Reduces supervisor and employee anxiety
- Improves control over costs and operations
- Standardizes processes in multiple locations
- Reduces confusion, questions, errors

An effective and reasonable fleet policy rests upon a foundation of goals and objectives that have been a) identified, b) sifted through by management, and c) found to be compatible with organization goals for cost-control while fulfilling the organization's mission. All too often, organizations fail to ask many basic questions, including:

1. Why does the organization need a fleet?
2. What is the purpose of the fleet?
3. What will our fleet needs be for the next two years?
4. How should we acquire, maintain, monitor, and dispose of our fleet?
5. What are the goals and objectives of each of these functions (answers to this question directly shapes operational policy)?
6. How many classifications of fleet vehicles do we/should we have?
7. Do different goals and objectives pertain to these classifications of fleet vehicles?
8. Should different policies define the management of these classifications of fleet vehicles?

The two primary goals of any fleet are 1) to provide employees with appropriate transportation that meets work requirements and 2) to provide that transportation in the most cost-effective manner. Fleet policies are instituted to support these goals.

Today's Fleet Managers navigate through constantly changing conditions. They must chart and react to changes in vehicles and to types of vehicles available; in laws and regulations; in fuel supplies, types, and costs; and in the financial health of their organization. Typically, the charting leads to an update of organizational policies. In the corporate sector, Fleet Managers tend to update fleet policies every two years due to these forces of change.

Policy updates can take one of two forms. They can be patches placed over gaps that have suddenly appeared, which means the policy as a whole remains largely as it was, or they can be policy overhauls. Patching is essential to keeping a policy up-to-date, and it can work for a time; however, effective cost control, the mobility needs of the organization, changes in laws and regulations, changes in the size of the workforce, and so on, generally require broad policy review and more sweeping reconstruction.

Any organization with a policy that has not been thoroughly reviewed for five years or more is almost certainly relying on an instrument that is inadequate. To control costs and ensure a successful fleet operation, these organizations should undertake an extensive review and revision of their fleet policies.

3.9.1 Some Policy Issues

A number of policies associated with vehicle use present special challenges, and a Federal Fleet Manager must know the applicable laws and regulations and his or her role in enforcement.

3.9.1.1 Official Use of GOV

Officers and employees of the Federal Government shall use Government-owned or -leased motor vehicles for official purposes only; i.e., to further the mission of the Agency. "Official purposes" does not include transportation of an officer or employee between his or her home and place of employment, unless authorized under the provisions of 31 USC 1344 (or other applicable law). A copy of any written approval shall be maintained at the appropriate level within the Agency, and a copy furnished to GSA if GSA Fleet provides the vehicle concerned.

A Federal Fleet Manager should ensure that the Agency has established procedures to monitor and control the use of its vehicles at all times. Officers and employees entrusted with a motor vehicle are responsible for the proper care, operation, maintenance, and protection of the vehicle. Any officer or employee who uses or authorizes the use of such vehicle for other than official purposes is subject to a suspension of at least one month or, up to and including, removal by the head of the Agency (31 USC 1349).

Agencies and their units (Bureaus, Centers, etc.) are responsible for ensuring that employees of authorized contractors and subcontractors use Government-owned or -leased motor vehicles for official purposes only. This starts with maintaining and monitoring an inventory of all vehicles, their locations, and other pertinent asset and utilization data.

The authorizing Agency must also ensure that contractors use the vehicles solely in the performance of the Government contract; that the contractors establish and enforce suitable penalties for their employees who use or authorize the use of such vehicles for other than official purposes; and that appropriate provision is made for the contractor to assume vehicle costs for non-contract utilization.

3.9.1.2 Traffic Law Violations

Operators of Government-furnished vehicles are required to become familiar with and obey all motor vehicle traffic laws of State(s) and local jurisdictions in which they operate. Payment of fines imposed on a Government employee for an offense committed while in the performance of official duty is the employee's personal responsibility. This includes fines imposed for parking violations (however, reimbursement of parking fees is normally allowed). Except when the scope of their employment dictates otherwise (e.g., law enforcement or emergency use), operators of Government motor vehicles shall obey posted speed limits.

3.9.1.3 Home-To-Work Use of Government-Provided Vehicles

By statute, certain Federal officials are authorized home-to-work transportation, as are employees who meet certain statutory criteria as determined by their Agency head. The Federal officials authorized by statute are the President, the Vice-President, and other principal Federal officials and their designees, as provided in 31 USC 1344(b) (1) through (b) (7). Those employees engaged in field work, or faced with a clear and present danger, an emergency, or a compelling operational consideration may be authorized home-to-work transportation as determined by their Agency head. No other employees are authorized home-to-work transportation. For details, go to: http://www.gsa.gov/Portal/gsa/ep/channelView.do?pageTypeId=8199&channelId=-16529&specialContentType=FMR&file=FMR/FMRTOC102-__5.html#wp436256

An employee authorized home-to-work transportation may share space in a Government passenger carrier with other individuals, provided that the passenger carrier does not travel additional distances as a result of such sharing and is consistent with Agency policy. When a Federal Agency establishes its space-sharing policy for passenger carriers, the Agency should consider its potential liability for and to those individuals. Home-to-work transportation does not extend to the employee's spouse, other relatives, or friends unless they travel with the employee from the same point of departure to the same destination and this use is consistent with the Federal Agency's policy.

Determinations and authorizations must be submitted to the following Congressional Committees:

(a) Chairman, Committee on Governmental Affairs, United States Senate, Suite SD-340, Dirksen Senate Office Building, Washington, DC 20510-6250; and
(b) Chairman, Committee on Governmental Reform, United States House of Representatives, Suite 2157, Rayburn House Office Building, Washington, DC 20515-6143.

Agencies must report determinations and authorizations to Congress no later than 60 calendar days after approval. Subsequent determinations may be consolidated into a single report and submitted quarterly. Responsibilities for documenting use of home-to-work transportation include maintaining logs or other records necessary to verify that any home-to-work transportation was for official purposes. Each Agency may decide the organizational level at which the logs should be maintained and kept. The logs or other records should be easily accessible for audit and should contain:

(a) Name and title of employee (or other identification, if confidential) using the passenger carrier;
(b) Name and title of person authorizing use;
(c) Passenger carrier identification;
(d) Date(s) home-to-work transportation is authorized;
(e) Location of residence;
(f) Duration; and
(g) Circumstances requiring home-to-work transportation.

3.10 Communication

Today's effective Fleet Manager must understand management styles and be able to modify behavior patterns to convince or persuade or coerce those with whom they must deal. Consider, for example, the importance and variability of voice, posture, poise, and tactfulness when dealing with employees at differing levels of the organization, as well as employees of different, and sometimes difficult, personality.

In verbal exchanges, tone of voice can determine whether a discussion will be productive. Generally, a calm, deliberate tone is most successful. Losing one's "cool" and adopting a challenging tone is most often not effective, particularly when communicating with upper management.

Efforts to persuade decision-makers to your point of view regarding vehicle acquisitions or replacements, budget, or implementing a new fleet policy require a businesslike presentation: a calm tone and supporting facts. Logic cannot persuade when it is shouted. Instead, emotion takes over and reasoning goes out the door. Presentations to your management, to be successful, must be organized, factual, and verbally straight-forward.

All managers are communicators. The typical manager spends 80% of his or her time involved with communicating in one form or another.

Follow this link, Attachment 1: Communication , for a discussion of strategic and technical communication and prose-writing considerations.

3.11 Information Technology

We discuss ways in which computers and software contribute to successful management of a fleet throughout this *Guide*. Here we provide a general management review of computer software considerations.

3.11.1 Some Advantages of a Fleet Management Information System (FMIS)

For large fleet operations, electronic data input and processing is virtually a necessity to manage effectively. Some of the advantages of implementing such a solution are:

- Large volumes of information can be input and statistically analyzed
- Dispersed fleet operations work with standardized data definitions, data input fields, and data reports
- Statistical history enables comparisons over time (longitudinal statistical reports), across organizational divisions, and from driver to drivers
- Managers can more speedily identify problems and unearth answers to management questions
- Query programs enable flexibility for selecting and extracting data and reporting in different formats and from different statistical perspectives
- Computer-generated numbers carry an aura of truth and can thereby lend credence to strong policy enforcement or recommendations for changes in policies or programs

3.11.2 Meaningful Management Reports without Tons of Paper

Too often, organizations invest considerable sums of money in hardware and software so they can generate data-reports that will contribute to controlling costs and making management decisions – and merely build piles of unread paper or "piles" of e-mailed reports that go into software file folders with scant or no attention. Proper planning and asking the right questions will result in management reports that are meaningful.

Organizations should periodically ask this question of those who receive either manual or electronic reports: "Do you look at this report and do you use the information it contains?" If the answer is no, determine whether a different report or different data would prove more useful. Alternatively, stop preparing and communicating the report.

As is true of most management decisions, you must define your needs: Who needs to know, and what needs measurement? Generally, the answers will fall into one of two categories: expense tracking and budgeting, and policy development and compliance. Two types of reports will supply the information:

1. Properly designed historical and informational reports provide the data necessary to budget and to predict trends in expenditure patterns;
2. Well thought out exception and action reports will pinpoint problem areas so that management can take appropriate action.

3.11.2.1 Expense Tracking and Budgeting

In the areas of expense tracking and budgeting, two objectives are fundamental: to monitor spending and to project spending. When determining categories of information and types of reports, identify who will need the reports for monitoring and budgeting. Will the reports go to upper management or to field managers, will they go to fleet managers or to users of your fleet services? Knowing who should receive the reports will enable you to identify categories of information essential for making management decisions and setting budgets.

Decision-makers will want to know the total expenses in previous years and year-to-date for key categories of information. Of course, the key categories of information must be identified and systems put in place to track data.

The ability to compare expenditures with comparable metrics from both the public and private sectors can be useful in pinpointing problem areas for management targeting. Even greater precision in making these comparisons can be revealing, such as measuring expenditures against organizations of similar size, with the same type of vehicles, or even reporting-units without the same organization in different parts of the country.

A key management question that should rise out of the reports is whether the expense experience justifies the type of fleet financing (leasing, ownership, etc.) and management methodology.

Executive summaries should provide an organization "snap shot" of the fleet operation. These reports should be simple (but not simplistic). Programs that enable use of graphics can prove invaluable to communicating quickly and persuasively.

3.11.2.2 Policy Development and Compliance

In the area of policy development and compliance, a fundamental objective is to control costs. A Fleet Manager cannot control costs that are not identified, and the key to accomplishing that is to know what costs to control and to implement systems and processes to assure that the costs are gathered and monitored. A crucial management effort in building a successful system that will, in turn, yield successful exception and management reports is to gather valid data. Fleet Managers must be able to identify where garbage data comes from and how to minimize mistakes. Poorly designed paper or on-line report forms for drivers to fill out or unclear communication to drivers about the forms or the organization's expectations can undermine the value of any attempt at computerization or report generation.

3.11.2.3 Factors to Keep in Mind When Shopping for Software

As organizations and Fleet Managers turn to computerization of fleet management, they should recognize that an information system is a powerful tool to affect change. Develop goals and objectives at the outset. Indeed, implementing a system should force a review of fleet management practices, operational procedures, and staffing needs, as well as the goals of the fleet organization. For example, computers and the information power they furnish can affect job performance and tasks, not only among the fleet staff but most likely throughout the organization. Therefore, the decision to implement a fleet management information system carries internal political ramifications which the Fleet Manager should recognize, carefully weigh, and prepare to deal with. Indeed, one key question to ask is: "What fleet operation functions have the greatest potential for return on investment if automated?" The answer not only identifies the value of computerization but also points out procedures, and perhaps even staffing, that may change.

Another fact to appreciate when considering a FMIS is that information is an asset, and, like any asset, it must be managed. This not only involves data input but also knowing what types of operational support and management reporting will contribute to your effective management of the fleet.

A FMIS will only do what it is capable of doing and what one asks it to do. Consequently, Fleet Managers must determine what reporting capabilities they will want and select a system capable of capturing and generating the desired data. For example, Fleet Managers should seek to acquire an information system that assists in identifying all fleet costs, because cost identification precedes effective fleet management.

Selecting a FMIS is not simple. Like interviewing many new employees to find one who offers the most to the fleet staff, Fleet Managers must consider their software choices and narrow the field according to their needs.

To meet your needs, you must know them: this cannot be overstressed. Match the functions of your fleet with the functionality of the software program being considered. Those shopping for fleet software programs should take into account their anticipated increase or decrease in fleet size for at least three years, five if possible. The danger is in selecting an expensive program that is too powerful or an inexpensive program that will not meet functionality needs three to five years out. The objective is to select an expandable and flexible system that can grow with the needs of the fleet and its management.

Before going out to bid, define the problems you want to solve and check systems on the market to ensure they have functionality that will help you solve them. Generally, decision-makers in asset management or finance will have a list of system "to-do's," but you are the fleet professional, and you must ensure that the system will deliver what you need to manage the fleet, not just meet the informational needs of other units within the organization.

Avoid unrealistic expectations. A sophisticated fleet software program can accomplish many important tasks, but it cannot make decisions for a Fleet Manager or provide immediate staff and cost reductions. It does not work miracles.

Section 4
Fleet Asset Management

This section addresses the competency area of Fleet Asset Management, so it focuses on the key fleet subcompetency areas of fleet composition, acquisition and disposal. Some Federal Fleet Managers spend most, if not all, of their time on these work areas. Because tasks associated with operation of the vehicle (fueling, maintenance, accident management, to name a few) occur in the field, fleet personnel at geographically dispersed locations are more likely to spend most of their time on those work areas.

For discussion of Fleet Operations Management, follow this link to Section 5, which focuses on such topics as performance measures for effective fleet management, receipt of motor vehicles, vehicle assignment and use, vehicle utilization, maintenance and repair, and other operational tasks.

Click on any of the topic links below to go to the related content.

Section 4 Table of Contents

4.1 Useful Links

Motor Vehicle Management programs and policies, which fall under GSA's Office of Governmentwide Policy, can be accessed via this direct link, or you can reach it through GSA's web portal by placing your cursor over Policy on the menu bar of the home page. At this site, you have links to key information, including regulations, bulletins, fleet services, reports, FAST, EPAct, alternative fuels, and more.
http://www.gsa.gov/Portal/gsa/ep/channelView.do?pageTypeId=8203&channelPage=/ep/channel/gsaOverview.jsp&channelId=-13175
GSA Federal Supply Schedule 751 - Provides commercial lease options or open market leases for automobiles and light trucks.
http://www.gsaelibrary.gsa.gov/ElibMain/ScheduleSummary?scheduleNumber=751&id=139
In 1986, SDDC was tasked with managing the rental car program for the Federal Government. SDDC implemented the U.S. Government Rental Car Agreement. Because of this agreement, travelers with a travel order or Government-sponsored charge card receive superior rates when renting for official business. The agreement has many benefits other than rates, such as unlimited mileage, reduced age restriction and collision damage waiver insurance.
http://www.sddc.army.mil/public/Passenger/
The reporting procedures of Standard Form 82, Agency Report of Motor Vehicle Data are now accomplished through use of the Federal Automotive Statistical Tool (FAST) System. Per the requirements of OMB Circular A-11 Exhibit 33 Section 33.9, Federal Agencies must report annually on their motor vehicles in the Motor Vehicle Exhibit (also referred to as Exhibit 33). Agencies use FAST to report their planned vehicle acquisitions and disposals as well as their vehicle acquisition and fleet operating costs.
http://fastweb.inel.gov/
For the Executive Order and detailed information on EPAct and #13149, a link to FAST, and helpful guidance relating to alternative fuels and alternative fuel vehicles, click on the following EPA link.
http://www.eere.energy.gov/vehiclesandfuels/epact/federal/index.shtml
Title 41 Chapter 101 - Guidance for performing lease versus purchase calculations.
http://www.access.gpo.gov/nara/cfr/waisidx_98/41cfr101-25_98.html
OMB Circular A-94 - provides guidance for lease-purchase analysis.
http://www.whitehouse.gov/omb/circulars/a094/a094.html
To learn more about light and heavy-duty alternative fuel vehicles available, go to the Vehicle Buyer's Guide.
http://www.ccities.doe.gov/vbg
To identify stations in user's geographic areas, go to the AFV Fueling Station Locator.
http://www.eere.energy.gov/afdc/infrastructure/locator.html
To gather data on average costs for all fuel types, go to the Alternative Fuel Price Report.
www.afdc.doe.gov/documents/pricereport/pricereports.html
This link takes you to an on-line source for car prices and other vehicle cost information.
http://www.car-prices-costs.com/
This link takes you to one of the most comprehensive independent sources of automotive information, including car reviews, a ranking of vehicles by fuel use, crash data, tire safety, even latest U.S. road conditions.
http://www.theautochannel.com/
The Kelly Blue Book site is a key source of new and used vehicle pricing information.
http://www.kbb.com/

The Edmunds.com site is a key source of new and used vehicle pricing information.
http://www.edmunds.com/
This link takes you to a source of comprehensive automobile make and model information.
http://www.intellichoice.com/
Using Agencies are billed for GSA Fleet services at rates fixed by GSA. These rates are designed to recover all GSA Fleet fixed and variable costs. You will find the motor vehicle service rates for each year at this link.
http://www.gsa.gov/Portal/gsa/ep/challenView.do?pageTypeID=8211&channelPage=%2Fep%2Fchannel%2FgsaOverview.jsp&channelID=-13038

4.2 Best Practices: Vehicle Acquisition, Replacement and Disposal

The cost of owning/leasing vehicles and equipment represents the single largest cost component of fleet operations, easily eclipsing expenditures for maintenance, fueling and other components. The methods used to acquire and dispose of vehicles and equipment directly impact fleet performance and cost. Organizations with best fleet practices design their acquisition processes to balance fleet users' transportation and mobility needs with economies derived from:

a) volume purchasing,
b) standardization of vehicle types, and
c) appropriate replacement cycles and life-cycle costing.

Disposal best practices ensure vehicle replacement at a point that minimizes life-cycle costs and in a manner that maximizes residual value. We discuss life-cycle costing later in this *Guide*.

4.2.1 Acquisition

After determining the need for fleet vehicles and their number, the Fleet Manager begins the acquisition process with development of vehicle specifications that define the technical attributes and configuration, and/or the functional capabilities of a vehicle or piece of equipment to be acquired. How an organization develops and employs specifications affects:

a) cost effectiveness,
b) suitability of the purchased vehicles for fleet users' needs, and
c) level of effort and amount of time required to acquire vehicles.

An effective and best-practice specification process systematically incorporates information on user needs and maintenance experience with particular types of vehicles and components and subsequently balances custom-design requirements with standard features. As one would expect, the more customized the design, the longer specification development takes and the more expensive the respective vehicle is.

The methods used to acquire vehicles can affect price, delivery timing, and vendor responsiveness to customer needs. Logically, then, best-practice acquisition policies leverage buying power to obtain the best possible prices and ensure the timely delivery of properly manufactured and upfitted equipment. Additionally, a best-practices fleet operation ensures that procedures are in place for vehicle review upon delivery to ensure that the units comply with the order specifications.

Where applicable for in-house maintenance programs, critical parts lists, service manuals, and user and/or mechanic training services should be included in purchase specifications for units new to the fleet or for specialized equipment for which operating and maintenance requirements are not self evident.

4.2.2 Replacement and Disposal

Organizations replace their vehicles and equipment at various age or accumulated-usage intervals, depending on the type of vehicle and the nature and intensity of its use. Timely replacement is an important best practice because it affects vehicle availability, safety, reliability, and operating costs.

A consistent best practice is to use replacement guidelines to project and plan fleet-replacement requirements. The guidelines should trigger assessments of the need to replace individual vehicles for which age and/or life-to-date usage is approaching established replacement thresholds. The ideal fleet best practice is for an organization to develop replacement guidelines based on empirical analysis of the relationship between vehicle age and/or cumulative usage and total vehicle ownership and operating (that is, life-cycle) costs.

Best-practice fleet organizations develop and annually update a fleet replacement plan that projects replacement dates and costs for each fleet vehicle. The purpose of such plans is to identify long-term replacement spending needs and associated budgetary requirements, and to communicate these funding needs to user organizations and upper management. Otherwise, organizations tend to under-fund fleet replacement costs, which can cause large replacement backlogs to develop.

A best-practice fleet does not succumb to under-funding vehicle replacement and causing large backlogs to develop. Shifting costs from acquisition to maintenance and putting mission fulfillment at risk is an unsound management decision, and only organizations under the greatest financial duress will employ that practice. If management perceives the mission (the reason for which vehicles are provided) as imperative, then it flies in the face of logic for management to raise barriers to fulfilling the mission.

After a vehicle has reached the end of its useful life, the best-practice procedures to remove it from service and to dispose of it are designed to:

a) maximize residual value,
b) avoid unauthorized retention and use of officially replaced assets, and
c) ensure the removal of unneeded replacement parts from inventory.

4.3 Fleet Composition

4.3.1 Needs Assessment Process

In determining your fleet needs, you should consider, at a minimum:

- The number of each vehicle-type needed to meet mission demands and Agency performance objectives associated with the Government Performance and Results Act of 1993 (GPRA).

- The number of each vehicle-type required to meet environmental and socioeconomic goals established in Federal law, regulation and policy and Agency guidance. A key factor is the number of Alternative Fuel Vehicles needed.
- The fuel-economy rating for all planned vehicle-acquisitions and their affect on the ability of the organization to meet the fleet average fuel-economy rating established in law, regulation and policy.
- Intended use and projected unit utilization (that is, the cargo or number of passengers to be transported, the frequency and types of trips, etc.).
- The essential need and cost for all non-standard units and added equipment (that is, upfitted vehicles, such as law-enforcement accessories) and the potential benefits to be derived from their use.
- Reassignment of existing vehicles to meet transportation requirements.
- Feasibility and economy of using local public transportation, dispatch or shared vehicle usage, or privately owned vehicle (POV) in lieu of acquiring additional vehicles.
- Feasibility of obtaining required motor-vehicle support from another Federal Agency, GSA Fleet, or through an in-house maintenance program.
- Feasibility of lease or rental from commercial sources, especially in those instances where need is for three months or less
- Successful completion of the budget process to meet the defined need.

A succinct checklist of fleet-size factors to consider includes:

- ✓ Organization Size
- ✓ Organization Mission
- ✓ Duration of Need
- ✓ Utilization Factors
- ✓ Anticipated Mileage, Trips, or Hours
- ✓ Current and Future Needs
- ✓ Alternative Sources of Transportation

GSA recently released a bulletin (B-9) that recommends development of a vehicle allocation model (VAM), which should describe the standard process for determining need within each respective organization.

4.3.2 The Current State

Your first step in determining the vehicle needs of your organization is to assess the current fleet. If you maintain an electronic inventory with sufficient descriptive facts about the units, you may be in a position to develop a long-term replacement plan. If your fleet database is not sufficiently descriptive, however, you will need to seek answers to these key questions:

- What do you have now (number, type, age, condition)?
- Why do you have it (can each vehicle be justified)?
- What's the monthly mileage (or hourly usage or number of trips or passengers carried) for each vehicle?
- What's your fleet's average cost per mile for this fiscal year?
- What's your fleet's average fuel-economy rating for this fiscal year?

- Does your fleet meet the alternative fuel vehicle (AFV) and petroleum-reduction requirements of Federal law, regulation and policy?
- Who are the primary customers for the services your fleet provides?
- Is your fleet able to support your customers cost effectively and efficiently?

After you know the current state of the fleet, you are ready to focus on identifying the right fleet configuration required to fulfill the Agency's mission for the next fiscal year (or longer, if you are building a long-range replacement plan).

4.3.3 Accomplishing the Agency Mission and the Duration of the Need

Initial factors to consider to ascertain your fleet needs are:

a) organization mission,
b) size of the organization you are serving (your direct customers), and
c) the duration of the need (are your customer's needs for short or long-term transportation).

In most cases, your Agency will have policies that supply some degree of regulatory guidance regarding these factors, and you should integrate those policies into your fleet planning.

A Federal Fleet Manager needs to work closely with the operational personnel of his or her respective organization to appreciate the nuances of the mission and the methods required to fulfill it. For example, if the mission of the organization is investigation, each investigator may require a vehicle, so the fleet need will be predicated on the number of investigators. But if another investigator uses the same vehicle on a separate shift (sometimes called keeping a "hot seat"), fewer vehicles may be needed at one time; however, maintenance on each vehicle will be greater, and you may need to replace those vehicles sooner. In contrast, if the mission of the organization is administrative, one vehicle may provide the necessary support for a number of individuals.

Your assessment may also include the transportation needs of employees of contractors or sub-contractors, because, under some contractual arrangements, Government-provided vehicles may be more cost-effective than contractors providing vehicles through commercial acquisition arrangements. However, some organizations have a policy not to provide vehicles to contractors due to replacement funding considerations.

Agencies should develop an appropriate vehicle allocation model (VAM) for each of its offices or functions. Customize the model as necessary to reflect geography or other relevant factors, and update the vehicle allocation requirements to reflect changing personnel allocations, mission requirements, etc. In many cases, the model should incorporate vehicle utilization data (time, mileage; see discussion below) to assess fleet-size and vehicle-type requirements rather than number of personnel. See GSA's bulletin for more information.

Generally, operational personnel will also be the source for determining whether specific transportation needs are temporary, short-term, or on-going. Consequently, your fleet plan should include both current and anticipated demands.

4.3.4 Vehicle Utilization

Oversight of vehicle utilization is a critically important best practice in managing a vehicle fleet. It represents a significant opportunity for cost avoidance: Disposal of late model vehicles due to accumulation of excessive mileage while, at the same time, operating aged vehicles receiving little usage is both inefficient and uneconomical in terms of fleet size required, high maintenance costs, and low disposal proceeds when the vehicle is sold.

Establish processes to monitor and measure vehicle utilization (including hours of usage for non-rolling stock). Compare your Agency's fleet utilization with that of other Federal fleets by using the mileage reports offered in the Federal Fleet Report published by GSA's Office of Governmentwide Policy. Comparing your organization's vehicle utilization to that of similar fleets can contribute to an assessment of whether your fleet is right-sized and achieving optimal utilization.

In some situations, you will find that one vehicle can satisfy more than one requirement; in others, the mission will require back-up vehicles for use when others are out of service. Regarding back-up, in some cases, you will have vehicles scheduled for disposal sitting idle, because new vehicles have arrived, but the old ones have not yet been taken away. In those cases, you can turn to the idle vehicles, so long as they remain properly registered and considered safe for operation. Other transportation alternatives for back-up are, of course, use of privately owned vehicles (POVs), public transportation, and daily rental units.

Agencies requesting GSA Fleet services may use the guidelines set out in FPMR 101-39.301 to determine whether miles traveled necessitate a full-time vehicle assignment. Utilization guidelines for GSA Fleet passenger-carrying vehicles are a minimum of 3,000 miles per quarter or 12,000 miles per year; for light trucks and general purpose vehicles with a Gross Vehicle Weight Rating (GVWR) of 12,500 lbs, the minimum is 10,000 miles per year. Where utilization guidelines are not met but users still request vehicles, a vehicle justification process should be in place and enforced. These fleet management practices contribute to right-sizing the fleet.

4.3.5 Breakeven Analysis

Other than utilization guidelines, you should consider use of a break-even analysis (BEA) software program to assess whether it is more cost-effective for the Government to provide a vehicle than to have drivers use their personally provided vehicles ("owned" is misleading today because many drivers lease rather than purchase their personal vehicles). The purpose of such a model is to identify the threshold at which it is more costly to claim reimbursement than to drive a Government-provided vehicle; that is, for decision-making purposes, the BEA should determine the point at which costs are the same for reimbursement versus the total fixed and variable costs of a Government-provided vehicle.

Keep in mind, however, that the reliability of the calculated threshold will vary according to the data input into the model (garbage in, garbage out). A further point is that use of POVs may conflict with union agreements, requiring negotiation with employee representatives. If you turn to POVs to meet transportation needs, ensure that drivers are aware of the insurance ramifications when conducting official business in their personal vehicle.

4.4 Alternative Fuel Vehicles (AFV)

The Federal Government has attempted to establish effective energy policies aimed at reducing U.S. dependence on petroleum imports since the first Organization of Petroleum Exporting Countries (OPEC) embargo in 1974. Initial policies had little effect, and petroleum imports continued to grow.

A significant law passed in 1992 – the Energy Policy Act (EPAct) – was meant to add teeth to U.S. efforts to increase use of non-petroleum fuels in our vehicles, but it was critically flawed because it only required the *purchase* of Alternative Fuel Vehicles (AFVs) by Government Agencies and energy providers. It did not require actual *consumption* of alternative fuels. This flaw was rectified somewhat by Executive Order #13149, which required Federal Fleets to reduce petroleum consumption by 20% by FY 2005, compared with FY 1999 levels.

Although the Executive Order was executed, many Federal Agencies ignored it or took only token steps to comply that fell short of the required goals or found the AFV infrastructure inadequate to support widespread alternative fuel use. This began to change in 2002 when a Federal District Court ruled that the Federal Government was disobeying its own law and must take immediate steps to comply.

To comply with Federal law, regulation and policy, Federal Fleet Managers must use Alternative Fuel Vehicles (AFV) to meet vehicle needs. AFV legislation mandates reduction of emissions and petroleum fuel. For EPAct-covered fleets, 75% of light-duty acquisitions must be AFVs. Annually, Agencies must submit AFV Compliance Reports via the Federal Automotive Statistical Tool (FAST) System, including fuel data on conventional fuels and AFV acquisitions/plans/projections, vehicle cost/mileage data and petroleum and alternative-fuel consumption.

4.4.1 Summary of Key AFV Related Legislation

CAAA (Clean Air Act Amendments of 1990 [CAAA])

- Clean fuel fleet requirements for achieving emission reductions
- Applies to all fleets with 10 or more vehicles capable of being centrally fueled
- Initially in 22 metro areas
- Vehicles under 26,000 lb GVW (Gross Vehicle Weight)

EPAct (Energy Policy Act of 1992)

- Goal of petroleum reduction through AFV requirements and use
- Currently applies to Federal, State and fuel-provider fleets with 20 or more vehicles capable of being centrally fueled and located in 124 Metropolitan Statistical Areas (MSA) with a population of 250,000 or more
- AFVs required for 75% of light-duty vehicle acquisitions
- Exemptions for fleet size, geographic non-MSA operation, and vehicle mission (security or emergency)
- Amended by Energy Conservation and Reauthorization Act of 1998 (ECRA)
- Requires annual AFV Compliance Report submitted to Congress by each Agency
- Provides for biodiesel fuel-use credits

Energy Conservation and Reauthorization Act of 1998 (ECRA)

- Amends the Energy Policy Act of 1992 (EPAct) to allocate one EPAct AFV acquisition credit to a fleet or covered person for every 450 gallons of biodiesel contained in biodiesel blends of at least 20% biodiesel by volume
- Fuel must be purchased for use by the fleet or covered person in vehicles owned or operated by the entity that weigh more than 8,500 pounds GVW rating

EO #13149 (Executive Order 13149, "Greening the Government through Federal Fleet and Transportation Efficiency)

- 20% reduction in annual petroleum consumption measured from a FY 1999 baseline for each Agency's entire vehicle fleet by FY 2005
- Use alternative fuel in AFVs the majority of the time by FY 2005
- Increase average fuel economy of new, light-duty acquisitions by 3.0 mpg (miles per gallon) by FY 2005
- Exemptions for security and emergency vehicles
- Requires annual compliance reports to DOE
- Supersedes Executive Order #13031, "Federal Alternative Fueled Vehicle Leadership"

4.4.2 Reduce Petroleum Consumption for Your Fleet

Common petroleum reduction strategies include:

- Increase fuel economy through selection of more fuel-efficient vehicles
- Increase the number of AFVs
- Increase alternative fuel usage in all vehicles, particularly medium and heavy-duty vehicles
- Pursue transportation alternatives, such as mass transit and teleconferencing

Keep in mind that use of alternative fuels in medium and heavy-duty vehicles can be a particularly successful method of displacing significant amounts of petroleum because these vehicles use far more fuel per mile than light-duty vehicles. In addition, they are usually fueled at a central location, assigned to a particular location, or garaged in a common area, all factors that make them good candidates for alternative fuels. This includes the use of biodiesel in diesel-powered vehicles that generates an AFV acquisition credit under EPAct (1 credit for every 450 gallons of pure biodiesel used in blends of at least 20% biodiesel, usually designated as B20).

Driver training is an essential aspect of optimizing use of alternative fuels. Drivers must not only know how to safely fuel their vehicles, as appropriate, but typically must also know where alternative fuels are available and how to operate a hybrid vehicle efficiently and effectively.

As a Federal Fleet Manager, you should always encourage use of mass transit whenever feasible. Perhaps most importantly, improvements in communication technology can often substitute for travel, such as teleconferencing and video conferencing. Make it a point to know what communication alternatives your organization offers so that you can not only use them yourself but also educate others about them.

4.4.3 Choosing an AFV

In choosing among AFV alternatives, consider:

- Fuel Characteristics: the unique qualities of the type of fuel that powers the vehicle.
- Cost: Operating costs in terms of fuel and maintenance expenses and long-term fuel availability at a reasonable price.
- Performance: Miles per gallon (or equivalent); ability to start in cold temperatures; acceleration rates.
- Fuel Availability: Location of refueling or recharging facilities; time required to completely refill the vehicle's tank; method of refueling.

To learn more about light and heavy-duty alternative fuel vehicles available, go to the Vehicle Buyer's Guide (http://www.ccities.doe.gov/vbg).

To identify stations in user's geographic areas, go to the AFV Fueling Station Locator (http://www.eere.energy.gov/afdc/infrastructure/locator.html).

To gather data on average costs for all fuel types, go to the Alternative Fuel Price Report (www.afdc.doe.gov/documents/pricereport/pricereports.html).

4.4.4 Types of Alternative Fuels, Vehicles, Configurations and Infrastructure

To comply with the relevant law, Fleet Managers must acquire and operate vehicles powered by alternative fuels, identify new alternative fueling sources, and capture accurate conventional and alternative fuel usage data for their fleets.

Alternatives to petroleum-based gasoline and diesel are constantly expanding as the alternative fuel/alternative-fuel vehicle field is quite active.

Follow this link to the Alternative Fuels Data Center to become familiar with the various alternative fuels (including biodiesel, electricity, ethanol, hydrogen, natural gas, and propane) and the vehicles that use them: http://www.eere.energy.gov/afdc/

4.4.5 Exemptions

Military tactical vehicles, law enforcement vehicles, and emergency vehicles are common examples of vehicles for which exemptions to AFV requirements have been granted. Under EO #13149, the fleet, less these exemptions, still must satisfy the requirement to reduce petroleum consumption.

Also note that, under EPAct, vehicles located outside designated Metropolitan Statistical Areas (MSA) with a population of 250,000 or more are exempt, by virtue of geography, from the requirement that 75% of all light-duty vehicle acquisitions must be AFVs. Although they are exempt, use of AFVs outside these areas can help an organization meet its AFV and petroleum reduction targets.

4.4.6 Calculating Average Fuel Economy for Your Fleet

To manage your fleet in compliance with law and regulations, you must know the Average Fuel Economy. Relying on the automatic calculation capability of FAST when you submit your fleet data at year-end can prove informative, but to determine your vehicle needs for building an acquisition plan, you must have this fundamental fleet metric at hand.

To calculate this key measure, you should ensure that your vehicle database of annual acquisitions includes the basic vehicle characteristics of make, model, and engine size. You can then obtain and input the combined (that is, city and highway) fuel-economy rating for each vehicle type via the online, EPA Fuel Economy Guide. Your next step is to calculate the total, combined fuel-economy rating by weighting the fuel-economy rating by the number of vehicles by type (per FMR 102-34.60).

4.5 Acquisition

Having assessed your organization's fleet needs, you are ready to undertake the process of acquisition. This task starts with considering options for meeting vehicle needs. These were briefly discussed earlier, but at this stage, you should thoughtfully weigh whether you (and, by extension, your organization) can meet users' transportation needs through choices other than adding to the number of Government-provided fleet vehicles.

Overall, Agencies meet their vehicle needs through the use of public transportation, reimbursement of Federal employees for use of their Privately Owned Vehicle (POV, more appropriately phrased "personally provided vehicle," because leasing is common), transfer of excess/seized/forfeited vehicles, donations, purchase through GSA Automotive or the open market, GSA Fleet lease, commercial lease or rental through a Federal Supply Schedule or through an open market purchase. At the very least, you want to minimize vehicle acquisition costs.

The primary consideration when selecting among the available options is to satisfy Agency needs for Federal Fleet Management services at the least cost to the Government while still meeting the mission requirements of the Agency. These options are:

- ✓ Public transportation
- ✓ Reimbursement of Federal employees for use of their privately owned vehicle (POV)
- ✓ Motor pool use in lieu of permanent assignment
- ✓ Excess vehicles
- ✓ Seized/forfeited vehicles

We have not included use of communication technology, but do not overlook it as a direct replacement for transportation. The trip not taken is the one that consumes the least fuel. Moreover, employee efficiency climbs, because relatively little time is spent to get from one place to another; the technology accomplishes that more rapidly than a vehicle. With that in mind, let's look at the options Federal Fleet Managers and Agencies should consider first before purchasing, leasing or renting vehicles to meet transportation needs.

4.5.1 Use of Public Transportation

Federal Agencies must investigate the availability, suitability and cost of public transportation before acquiring vehicles from any other source. This option requires little

discussion except to stress that mass transportation can often meet the requirement to get from one place to another. For example, bus or passenger-van services often convey travelers from one work site to another within defined geographic areas. In some cases, individuals are often unaware of their transportation alternatives, so ensuring that pick-up and drop-off locations and schedules are publicly posted (such as electronic and physical bulletin boards) is important.

4.5.2 Privately Owned Vehicles (POV)

Use of a Privately Owned Vehicle (POV; more correctly termed privately or personally provided vehicle because leasing is so common) for official business may be the best option for meeting Agency vehicle needs, but it must have prior authorization. When such use is advantageous to the Government, reimbursement may be approved at the full mileage reimbursement rate. If use of a POV is authorized for the convenience of the employee and/or a Government vehicle is readily available, reimbursement may be approved at reduced mileage rates.

Reimbursement for use of a POV, whether advantageous to the Government or for the convenience of the employee, shall not in either case exceed the cost of common carrier. Except for organizations exempt in this regard from Title V of the CFR (but often as agreed to through bargaining between union and employer), an employee cannot be required to use his/her POV for official business.

Compensating the employee for using his or her own vehicle is commonly done via an expense-account reimbursement for mileage, when the duties involve occasional travel to nearby destinations. This alternative can be a very potent tool to reduce the size of the fleet. For example, if an employee needs a car to travel 3,000 miles per year, using a Government-owned passenger car that costs $16,000 to purchase is 3 times more costly than reimbursing the employee at around $.36 per mile. While Agencies cannot force employees to use their POVs, they might consider offering incentives for them to do so and, at the very least, ensuring administrative ease for drivers using their POVs.

Although less common than providing vehicles to drivers, some Federal organizations only reimburse drivers for full-time business use of their POVs, thereby eliminating the need for all fleet management tasks. Only two POV approaches are fully non-taxable:

1. Mileage reimbursements up to the IRS business-mileage rate (a cents-per-mile program), and
2. A Fixed and Variable Rate (FAVR) program (a flat amount for fixed costs and a variable cents-per-mile rate for operating costs).

The IRS rate is most appropriate for occasional drivers, whereas the FAVR approach is most appropriate for full-time business use. However, the FAVR approach requires extensive record-keeping, which can be burdensome if administered internally.

In a basic cents-per-mile program, an organization selects a rate for employees who report business miles. Typically, this is the rate published by the Internal Revenue Service (IRS), but for Federal purposes, GSA must, by law, publish the regulation that sets the rate for the Executive Branch of the Federal Government. No GSA guidance is in place regarding a FAVR program.

Although a cents-per-mile, POV program is a sound option to providing vehicles, a Federal Fleet Manager should appreciate some of its strengths and weaknesses. Perhaps most importantly, this reimbursement method is imprecise and unscientific. Though this rate is meant only to be a safe-harbor deduction standard for taxpayers who do not keep adequate records for business-vehicle expenses, organizations will often use it as a reimbursement standard, incorrectly assuming that it is meant to be a fair representation of reimbursable business costs for drivers who provide and use their own vehicles for business purposes.

Typically, under a POV program, drivers track, log and report business miles. This data is then sent (electronically, in most cases) to a particular location for processing. The data is loaded into a software system, and the employer pays the employees using the selected rate-per-mile multiplied by the miles reported.

Typically, the cents-per-mile rate is the same for all drivers no matter what their actual business costs are, no matter what vehicles they actually drive, no matter what their individual circumstance might be, and no matter how many business miles they actually drive. Under this type of reimbursement program, one seldom finds any restrictions on the type or age of the vehicles used for business or concern for the insurance in force for the drivers and vehicles driven. The cents-per-mile rate is typically in place for a calendar year because the published IRS rate only comes out once per year. The ultimate goal of this program is simplicity. One rate fits all.

Except at a precise break-even point, cents-per-mile programs under-reimburse drivers at lower mileage levels and over-reimburse drivers at higher mileage levels. A driver at 10,000 miles receives considerably less than a driver at 30,000 miles. However, both drivers incur fixed costs (insurance, depreciation, taxes, license and registration) irrespective of the number of miles accumulated. Actual expenses for both drivers would appear as a fairly flat line. Operating expenses (fuel, oil, maintenance, tires), which accumulate for every mile driven, would appear as a comparatively steep incline.

Typically overlooked management tasks for an effectively managed cents-per-mile POV program include a) driver record checks and b) insurance coverage checks. Although organizations often check driver records when they provide a vehicle, they tend to bypass this step when the driver provides the vehicle. Because the driver is operating his or her POV for business purposes, the employer can be liable in the event of an accident; therefore, an employer should ensure that drivers have safe-driving records and appropriate insurance coverage.

Under a FAVR program, the employer selects the parameters and standards for the business-vehicle program based on needs unique to the organization. Management sets policies to control the type and age of the vehicles used by employees for business, and they will guide the drivers to proper insurance standards. They will also monitor driver compliance, because drivers need to operate business vehicles that reflect an appropriate organizational image, are as safe as possible, and are insured to protect both the organization and the driver in case of accidents. Enhanced management of exposure to risk is an essential attribute of a sound FAVR program, and it should also be an essential attribute of a sound cents-per-mile, POV program.

Drivers report mileage for reimbursement as they would under a cents-per-mile plan. However, by law, under a FAVR program, one rate cannot fit all. Drivers' cents-per-mile reimbursements must reflect where they drive their vehicles and the typical fuel prices each encounters. Where a flat cents-per-mile rate is typically fixed all year, the cents-per-mile rates under a FAVR program must follow the fluctuations in fuel prices that drivers will experience throughout the country and throughout the year.

Under a FAVR program, drivers typically will also receive a fixed dollar amount per month, based on the program standards and where they live and drive. Again, one rate cannot fit all. By law, the program must recognize that costs for items such as insurance will vary widely, for the same coverage, depending upon the State in which each car is registered, whether the vehicle is kept in an urban or rural area, or what the average annual mileage is.

4.5.3 Motor Pool Use in Lieu of Permanent Assignment

Before acquiring a vehicle for permanent assignment, evaluate the possibility of temporary or shared use of a motor vehicle from a motor pool. This is an effective transportation solution; however, management of the motor pool should include tracking utilization to ensure that this is the most cost-effective solution. Where pool vehicles have low utilization, a POV program for occasional drivers or even car rental may be more cost-effective than acquiring and managing a vehicle.

Where several departments (and contractors, in some cases) have similar, basic transportation needs and work in close proximity, an efficient inter-departmental vehicle pool can provide a cost-effective solution. Vehicles in such a pool tend to be used more consistently than those assigned to individuals or departments because they are rotated among users, balancing out usage. If a pool were well organized, fewer vehicles per user would be needed without sacrificing availability or quality of transportation.

Cleanliness, reliability and uniformity of the pooled vehicles directly affect the success of such an arrangement. Ideally, any given vehicle in the pool should be no less desirable than any other within its duty class.

For users to obtain a vehicle for an assignment or outing easily, locate the pool close to their base workplace, and documentation should be as simple and streamlined as possible while still tracking essential information on usage and accounting. An on-line vehicle reservation system can significantly streamline the entire process.

Passenger cars, general-duty pickup trucks, cargo vans, passenger vans, and sport utility vehicles are all ideal candidates for pooling, as are specialty trucks and equipment that various work groups can use (for example, a dump truck or tractor backhoe). These latter vehicles are often overlooked as possible pool vehicles, but heavy-duty equipment and special mobile equipment used infrequently by one work group can often be shared with another, thereby saving the organization the expense of two costly vehicles with low utilization. For the Federal Government, this can extend to pool vehicles shared across the respective work groups of various Agencies, with an appropriate chargeback system in place.

4.5.4 Excess Vehicles

Availability of excess passenger-carrying motor vehicles is extremely limited. Heavy equipment or specialized vehicles are more likely to be found on excess. Typically, you can obtain a vehicle on excess that will satisfy an organizational need at no cost or for the cost of transportation (complete Standard Form 122, Transfer Order for Excess Personal Property, to obtain a vehicle identified on excess).

4.5.4.1 "Pass Down" Policy

Situations arise where a certain operation or region may have a vehicle or piece of equipment that is no longer suitable for its needs, but the unit may have useful remaining life. In such cases, another group within the organization may want to obtain the unit that is available for "pass down."

A basic principle of fleet management is: control fleet size. To accomplish this, fleet management personnel must not only prohibit unauthorized additions to the fleet but also block these from occurring informally. Retention of "pass-down" vehicles creates a potential opportunity for "fleet creep"; that is, the unauthorized growth in the size of the fleet. To control this situation when a "pass-down" vehicle becomes available, those seeking to acquire the vehicle should answer certain questions before authorization of the "pass down":

1. Did the pass-down unit become available because a new unit replaced it? If the answer is "yes," then the pass-down unit is excess inventory until it, or another unit, is removed from the fleet. If the answer is "no," then you can assume that the original, "owning" group no longer needed the pass-down unit, so removal of a unit from the fleet is not required.

2. Does the pass-down unit actually have useful life remaining? To answer this question, you will want to apply guidelines (already developed or requiring development) for retention and transfer of a pass-down unit. Here's a hypothetical example:

   > The pass-down unit must have at least 25% of its estimated life remaining in terms of mileage or hours. For example, a passenger vehicle with a recommended life of 6 years and/or 72,000 miles should not be passed down if its mileage exceeds 54,000 miles (75% of 72,000).

3. As a rule of thumb, pass down of units for which age is greater than or equal to the estimated life in terms of time should be disallowed. Thus, the passenger vehicle in the above example could not be passed down if it were six years old, or older, regardless of the mileage on the vehicle.

4. Is repair or refurbishing required for the pass-down unit to be useful? If yes, then apply guidelines (already developed or needing to be developed) regarding repair and refurbish expenditures (and dispose of vehicles exceeding the guidelines).

The establishment of these or similar policies helps prevent the development of an "old" fleet. An old fleet is one that has too many units requiring high maintenance, and such units will quite likely have low utilization.

4.5.5 Seized/Forfeited Vehicles

Vehicles in this category have been seized by or forfeited to the Government in connection with a criminal or civil court proceeding. While this source may offer a variety of sizes and models, these vehicles would normally be limited to those suitable for undercover law-enforcement assignment. Keep in mind that, in some instances, the vehicles may have outstanding liens on them.

4.5.6 Federal Acquisition Standards

Federal Fleet Managers must apply Federal Standards in the acquisition process for new or replacement vehicles. The reasons for the Standards are:

- To simplify competitive procurements,
- To achieve better acquisition prices and delivery dates, and
- To provide a practical degree of standardization within the Federal automotive fleet.

At the same time, GSA, which coordinates setting the Standards and publishes them, strives to remain responsive to the wide range of vehicles Agencies require to meet their needs.

4.5.6.1 Vehicle Standards

The Standards establish classifications for various types and sizes of vehicles, general requirements, and the equipment authorized for Government use. Standards for automobiles and light and medium trucks include:

- Federal Standards Number 122 (sedans and station wagons)
- Federal Standards Number 307 (light truck 4x2)
- Federal Standards Number 794 (medium truck)
- Federal Standards Number 807 (heavy truck)

FMR 102-34.30-80 provides that, except for exempted vehicles, all motor vehicles acquired for official purposes by Executive Agencies shall be selected to achieve maximum fuel efficiency and be limited to the minimum body size, engine size and optional equipment necessary to meet the Agencies' requirements. In addition, statutory price limits are in place on sedans, station wagons, police-type vehicles, and special, heavy-duty law enforcement vehicles.

The *Guide* does not provide a link to the statutory price limit because no consistent location is available. Congress typically states the limit changes in several specific Agency appropriations bills.

An Agency must certify that it has specific legislative authority for the law-enforcement vehicles it seeks to acquire, because regulatory limitations apply to such vehicles.

4.5.6.2 Vehicle Replacement Standards

The FMR also establishes vehicle replacement standards. Keep in mind that when you acquire replacement vehicles that you must follow the fuel-economy criteria.

Steps in determining fleet vehicle replacements on a fiscal-year basis include:

- Establishing and justifying requirements for all vehicle users
- Establishing a system for assigning relative priorities between competing requirements for replacement funding
- Assigning priorities
- Determining which priorities receive funding and fine-tuning as necessary

Your replacement analysis should include consideration of rehabilitating buses, medium and heavy trucks, and trailers rather than procuring new units. Rehabilitation can extend the useful life of costly equipment and reduce or delay large vehicle-procurement outlays. As a rule of thumb, the cost of rehabilitation should not exceed 50 percent of the cost of replacement.

Agencies may retain motor vehicles that are in usable condition even though the standard permits replacement, provided that the vehicle can be operated an additional period without excessive maintenance cost or substantial reduction in resale value. An Agency may replace a Government-owned motor vehicle if it needs body or mechanical repairs that exceed its fair market value.

Motor-vehicle replacement standards prescribed in FMR 102-34.280 are minimum requirements all Agencies evaluating unit replacement should use. And always keep in mind that you must follow fuel-economy criteria in acquiring replacement vehicles.

Table of Minimum Replacement Standards		
Motor Vehicle Type	Years [a]	or Miles [a]
Sedans/Station Wagons	3	60,000
Ambulances	7	60,000
Buses:		
Intercity	n/a	280,000
City	n/a	150,000
School	n/a	80,000
Trucks		
Less than 12,500 pounds GVWR	6	50,000
12,500-23,999 pounds GVWR	7	60,000
24,000 pounds GVWR and over	9	80,000
4- or 6-wheel drive motor vehicles	6	40,000

[a] Minimum standards are stated in both years and miles; use whichever occurs first.

If a motor vehicle has been wrecked or damaged (including wear caused by abnormal operating conditions) beyond economical repair, an Agency can replace the vehicle without regard to the replacement standards.

4.5.6.3 Exceptions to Standards

Requisitions from Agencies to sole-source vehicles or accessory equipment that the Standards do not identify, as well as for identified items and options, require supporting

justification. An Agency that proposes changes or additions to a Standard must provide a written request with supporting justification.

4.5.7 Vehicle Mix

In selecting the mix of vehicles you plan to acquire under the Standards, consider the mission of the organization. If the vehicles are to be used by an administrative function operating primarily in urban areas, normal passenger-carrying vehicles (for example, sedans or minivans) would be a logical choice. However, if the vehicles are to be used by a geological mapping team in rocky, rugged terrain with no roads, then you will probably need a four-wheel drive vehicle with high under-carriage clearance.

The need for transporting heavy loads or other special requirements of the organization may result in other vehicle selections. Available vehicles include sedans, station wagons, carryalls, ambulances, buses, and trucks, including trucks with specialized mounted equipment, truck chasses with special purpose bodies, and all van-type trailers.

Additionally, the need to comply with Federal law, regulation and policy on the use of Alternative Fuel Vehicles (AFV) will also influence the final vehicle mix.

4.5.7.1 Fuel Economy Requirements and the Vehicle Mix

Passenger vehicles and light trucks must meet certain fuel economy (miles per gallon) standards each year. FMR 102-34.55 specifies requirements for the acquisition of fuel-efficient vehicles. Federal Fleet Managers should always achieve maximum fuel efficiency when selecting motor vehicles. Exceptions to this requirement are vehicles used in foreign areas, for law enforcement and emergency work, or for combat-related missions for the U.S. Armed Forces.

To achieve maximum vehicle fuel efficiency, Agencies must limit 1) motor vehicle size, 2) engine size, and 3) any optional equipment to what is essential to fulfill the mission.

Executive Order #12375 requires Agencies' fleets to meet certain average fuel-economy standards. A fleet average fuel-economy standard is the minimum miles per gallon of fuel that a fleet must obtain, whether purchased or leased. Separate, average fuel-economy standards have been set for passenger automobiles and for light trucks.

In compliance with Executive Orders #11912 and #12375, GSA administers a consolidated Federal Fleet program to monitor passenger automobiles and light trucks acquired by Agencies. The program is based upon actual vehicle leases and purchases that Agencies report by vehicle class to GSA. GSA administers the program by maintaining a master record of the miles-per-gallon ratings for passenger automobiles and light trucks actually acquired by each Agency during the fiscal year. The reported data is used to verify that each Agency's vehicles conform to Executive Order #12375; that is, the Agency will achieve the fleet average fuel economy for the applicable fiscal year. The Secretary of Transportation establishes the fleet average fuel-economy objectives, which are detailed in FMR-102-34.55.

4.5.7.2 Vehicle Class Guidelines

Except for vehicles used by the President or Vice-President and vehicles used for security and highly essential needs, Agencies must purchase or lease midsize (Class III) or smaller

sedans. Purchasing or leasing large sedans (Class IV) is warranted only when such motor vehicles are essential to the Agency's mission.

Vehicle Classes for Sedans and Station Wagons	
Class I	**Subcompact Sedans/Station Wagons**
Class II	**Compact Sedans/Station Wagons**
Class III	**Midsize Sedans/Station Wagons**
Class IV	**Large Sedans/Station Wagons**
Class V	**Limousine**

4.5.8 Additional Standards

Never install accessory equipment on vehicles merely for the personal convenience or comfort of the vehicle operator. The purpose of accessory equipment added to vehicles is to increase the utility of the unit so it can better serve the mission-driven needs of the organization. Of course, never install equipment that violates a law or presents an appearance of violating the law, such as radar detectors.

As a rule of thumb, ensure that light-duty vehicles identified for addition of special equipment or upfitting have at least two years of remaining serviceable life and have been driven less than 40,000 miles. If the organization considers the item essential but cannot meet the guidelines (or the required item is not shown in the Federal Standard), you will need to submit a justification.

Factors on which to base your selection of additional systems and equipment include overall safety, efficiency, economy, and suitability of the vehicle for the purpose intended. Weigh the need for such systems or equipment against the economic factors involved, the potential benefits to be derived, and the impact on the fuel-consumption characteristics of the vehicle. Other considerations pertinent to selection of additional systems and equipment include:

- ✓ prevailing climatic conditions,
- ✓ effect on operational capability,
- ✓ special terrain requirements, and
- ✓ availability of maintenance and service facilities.

Availability of maintenance and service facilities and the capability of these facilities to support the proposed vehicles, systems and equipment will almost certainly impact your need assessment. If support for your selections is not available, you may need to identify alternative solutions.

4.5.9 Vehicle Justification

The Agency's vehicle allocation model (VAM) should justify each unit in its inventory. Justifications should be in sufficient detail to allow an individual not familiar with the Agency mission to determine the need for a vehicle. To that end, collect and analyze the following information for each current and proposed vehicle:

Public Transportation	Investigate the availability, suitability and cost of public transportation and provide reasons why public transportation will not satisfy the need.
Dispatch or Motor Pool	State why a dispatch or pool vehicle cannot provide adequate support.
Mission Support	Detail how the vehicle supports the Agency mission.
User of Vehicle	Specify whether Federal employee(s), contractor(s) or subcontractor(s) are using the vehicle.
Type of Vehicle Required	Specify the type of vehicle required and why.
Size of Vehicle Required	Specify the size of vehicle required and why.
Date Vehicle Availability Required	Provide determination of which available vehicle option best meets this need based upon availability.
Special Equipment Required on Vehicle	Specify all special equipment or accessories required on the vehicle (an example is to meet the requirements of the Americans with Disabilities Act).
Hours Vehicle Will be Used	Specify the hours the vehicle will be in use.
Days Vehicle Will be Used	Specify the days the vehicle will be in use.
Weight and General Type of Cargo	Specify the type of cargo the vehicle is to handle and how the type of vehicle requested is best suited to handle this cargo.
Passengers Carried per Month	For passenger-carrying vehicles, specify the number of passengers to be carried each month.
Daily Miles	Specify the number of miles the vehicle is expected to travel each day.
Duration of Need	Specify the length of time the vehicle will be needed.

4.5.10 Controlling the Costs of Acquisition

Four steps are essential to control the costs of acquisition:

1. Develop a list of fleet objectives
2. Develop a fleet-usage profile
3. Prepare a life-cycle cost analysis of alternative choices
4. Consolidate the information into a decision-making matrix

You've already established the fleet mission and, working with operators in the field, you've determined types of vehicle use. Incorporated into your list of objectives are requirements established by law, regulation, policies, and published standards. Now you must apply these criteria to each vehicle class from which you will acquire vehicles.

For purposes of an example, we will walk through a model selection process for a light-duty vehicle. By reviewing six basic selection criteria – the elements of a fleet usage profile – you can narrow your choices considerably and create a defensible basis for your selection. As you review these criteria, you will find they integrate the vehicle justification information (see above) into a process designed to control the costs of acquisition. The list of the following questions to consider is not exhaustive, and you should view this as a

possible model to modify as needed. Add your own questions or considerations to the respective criteria and create an assessment standard you can use from year to year.

4.5.10.1 Job Requirements

Of paramount importance during selection are the uses to which each vehicle will be put. For example:

- How many annual miles will be logged?
- Will these miles be accumulated:
  - ✓ During low-speed city deliveries?
  - ✓ During high-speed short hauls?
  - ✓ On long-hauls?
- What driving conditions will be encountered?
  - ✓ City streets?
  - ✓ Expressways?
  - ✓ Dirt roads and off-road terrain?
- Will the vehicle encounter:
  - ✓ High altitude conditions?
  - ✓ Wet pavement?
  - ✓ Snow and ice?
  - ✓ Mud?
  - ✓ High winds?
  - ✓ Steep grades?
- What will be transported?
  - ✓ Passengers?
    - o How many passengers will be transported?
  - ✓ Cargo?
    - o How much cargo?
    - o What kind?
- Will an open body suffice or is a closed body needed?

Answers to these questions, which tend to vary from organization to organization, will largely determine whether a truck or van is required and, if so, what type.

4.5.10.2 Cargo and Payload Requirements

If one job requirement of a vehicle is to haul cargo, a Fleet Manager must establish the specific type and volume of cargo to define further the type of vehicle needed, especially in terms of vehicle size, body type, and gross vehicle weight (GVW) rating.

<u>In terms of cargo forms:</u>

- ✓ Will the cargo be one large item or several items?
- ✓ Will the items be loose, boxed, crated, or on pallets?
- ✓ What are the dimensions of the cargo or its container?
- ✓ How many pieces will comprise a full load?

<u>In terms of cargo loading:</u>

- ✓ Will the vehicle be loaded:
  - ➢ By hand?

- By a dolly?
- By a fork lift?
- By an overhead crane?

✓ If fork lifts are to be used, what is the mast height (in the event the fork lift must enter the vehicle)?
✓ Will the forks have access to the bed of the vehicle?
✓ Will cargo be free-standing, tied down, stored on shelves, or stacked?
✓ Is the cargo fragile, requiring special flooring and padding?

In terms of cargo weight:
✓ Is the cargo heavy? Light? Dense?
✓ What is the total weight and volume of the average payload? The maximum payload?

Using weight and volume tables applicable to commonly transported cargo, a Fleet Manager can make payload-size calculations and determine the gross vehicle weight rating. This determination will substantially narrow the range of potential choice.

4.5.10.3 Driver and Passenger Requirements

Fleet Managers must accurately determine the number of persons who will be transported on any given trip, because it will help to establish seating requirements, gross vehicle weight and, thus, the type of vehicle selected. A typical seating configuration could be a three-person cab, crew cab, or passenger van, for example.

4.5.10.4 Performance and Expense Requirements

Performance and economy are vital pre-purchase considerations, and for the Federal Fleet, many are pre-determined by law, regulation, policy or published standard. Your selection process should incorporate those requirements, including AFV options.

Fuel economy may be a less important factor in the vehicle selection decision if usage requirements dictate payloads heavier than the more fuel-efficient pickups and vans can handle. In these instances, a Fleet Manager must realize the trade-off: lower miles-per-gallon and high fuel expenditures for increased payload capacity and durability.

If you purchase vehicles or lease under a "dry lease" (no maintenance or other fleet management services) agreement, you need to weigh a variety of expense factors in addition to fuel. These include purchase price, maintenance/durability records of the same or comparable models, historical resale value patterns, factory warranties, and more.

Fleet buyers must be aware of the cost implications of their acquisition decision to ensure the best buy for the money, both in the current budget and over the life of the vehicle. One strategy that best-practice fleet operations undertake is life-cycle costing to determine which vehicles to select from the array of options. We will expand on this topic below.

4.5.10.5 (Fact-Based) Manufacturer Preference and Service Requirements

A number of factors can influence a fleet buyer or user to prefer one vehicle manufacturer over another. For example, fleet buyers may prefer a certain manufacturer because of past satisfaction with that company's vehicles or maintenance history, or they may prefer a particular manufacturer because of quality service being readily available. Also, only certain manufacturers may offer models or optional equipment needed by the fleet.

Except in highly unusual circumstances, Federal Fleets may not specify a particular manufacturer's product. Requirements documents should not be written to target or exclude a particular manufacturer but to ensure that a suitable vehicle is acquired no matter the manufacturer.

4.5.10.6 Safety Requirements

As Fleet Managers work through the specifications for their units, they should keep in mind that different manufacturers and different vehicle types offer different safety features. This criterion should be included in your assessment process.

Federal standards include all of the required safety features and equipment for Federal purchases. An organization should only specify additional systems or equipment if a particular mission requires it.

4.5.10.7 Accessories

After developing a comprehensive usage profile, the next step is to select options and accessories that suit fleet requirements. As with passenger cars, accessories and optional equipment have implications for cost, utility and personnel when applied to fleet trucks and vans. Also consider that making certain accessories standard on your vehicles can facilitate pooling and sharing and improve disposal values.

4.5.10.8 Heavy-Duty Options

Many fleets put their light trucks and vans to heavy-duty, off-road, and long-haul use. To ensure that such vehicles can meet their job requirements, fleet buyers must consider a variety of optional equipment. Among these are heavy-duty suspension, springs and shock absorbers; on demand or constant four-wheel drive; reinforced cargo walls; extra or oversized fuel tanks; towing packages; and extended side-view mirrors. Vehicles not adequately equipped for their jobs will result in higher than average maintenance costs and greater frustration down the road.

Essentially, the choice of a vehicle and the designation of optional characteristics for the type of vehicle within a selected category should rest upon predicted usage and optimum projected cost experience.

4.5.10.9 Life-Cycle Costing

Life-cycle costing is the method that Fleet Managers use to look into the future to project actual fleet costs throughout the life of the vehicles under consideration. The first step in performing such an analysis is to determine its primary objectives; for example,

1. To improve accuracy in analyzing total, projected costs of alternative vehicles, including new vehicle models, for the anticipated life of the vehicles;
2. To obtain substantiated objectivity in vehicle selection decisions.

In addition, many Fleet Managers use life-cycle costing to reach a third objective:

3. To estimate the operating costs over the life of the vehicle in the fleet.

Life-cycle costing typically divides into three phases:

Phase One
Gather information about the vehicles targeted for comparison. A comparable analysis of vehicle costs should include:

- ✓ Depreciation
- ✓ Maintenance (including oil)
- ✓ Tires
- ✓ Fuel
- ✓ License and registration fees (and any taxes, if applicable)
- ✓ Finance costs (if applicable)
- ✓ Insurance (as applicable)
- ✓ Parking (if applicable)
- ✓ Storage (if applicable)
- ✓ Present value of money

Although most fleets share several common cost elements, Fleet Managers should prioritize or adjust the cost elements based on their fleet's individual circumstances.

Phase Two
Develop, acquire, or contract for a software model to use for the costing. The model should incorporate elements of the usage profile. The parameters are set within each category of vehicle to be tested and include:

- ✓ Location
- ✓ Territory descriptions
- ✓ Mileage
- ✓ Fuel grade and price
- ✓ Retention cycle

Phase Three
After gathering cost data on each selected vehicle and developing an analytical model based on individual fleet circumstances, compare the results. During this phase, you should:

1. Analyze all relevant costs for each vehicle
2. Rank vehicles according to projected life-cycle costs
3. Establish potential savings for the life-cycle of each vehicle

This comparison should identify which vehicles ultimately will cost the organization the least amount – not just in terms of capital investment, but also in operating costs.

Life-cycle costing helps Federal Fleet Managers identify when operating costs exceed replacement costs and is, therefore, a valuable tool for budget formulation and budget monitoring, as well as operating efficiently throughout the year.

For new vehicles, life-cycle costing helps to identify the true cost of ownership for lease/purchase decisions.

4.5.11 Federal Fleet Leasing and Purchasing

4.5.11.1 Lease/Purchases Analysis

Lease/purchase analysis is only appropriate after the Agency has decided to acquire a vehicle. Completion of a lease/purchase analysis is a good business practice to identify whether leasing or purchasing is in the best interest of the Government. Motor vehicles are capital assets. All leases of capital assets must be justified as preferable to direct Government purchase and ownership per 41 CFR 101-25.501.

4.5.11.2 Federal Law, Regulation and Policy

You will find guidance for performing lease versus purchase calculations in 41 CFR 101-25.5. The required analysis compares the present value of the life-cycle cost of leasing with the full cost of buying an identical asset.

According to 41 CFR 101.25.5, the lease/buy cost comparison approach described in Office of Management and Budget (OMB) Circular A-104 is the preferred method. Note, however, that OMB released Circular A-94, "Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs," dated October 29, 1992, replacing Circular A-104. Among other things, it advises that an appropriate discount rate should be used to discount costs and benefits (these rates are published in Appendix C). You may only use other lease/buy methods (life-cycle costing, break-even analysis, etc.) in accordance with normal Agency procedures.

4.5.11.3 Agency Motor Vehicle Lease

All requirements for leased motor vehicles needed by Federal Agencies for 60 consecutive days or more shall be submitted to GSA for a determination of whether GSA Fleet can satisfy the requirements. Although regulations have not yet been updated, GSA Fleet is no longer a mandatory source of supply; Agencies do not have to submit requests to GSA Fleet if they want to acquire vehicles from another source. However, when buying vehicles, they must do so through GSA's Automotive Center or obtain a waiver from the Automotive Center.

When GSA cannot fill a request for vehicle support, it may refer the Agency to GSA's indefinite quantity lease under Federal Supply Schedule 751, Part II, Automobiles and Light Truck Vehicles: Closed-end lease, without maintenance. This Schedule is for use by all Agencies within the contiguous 48 States and Washington, D.C., except for DOD and the U.S. Postal Service; GSA's Automotive Center is the contracting office. Leases normally cover a period of one year with an option for two 12-month renewals. When an Agency's lease period extends from one fiscal year to the next, delivery orders should, if appropriate, cite the statement "Subject to the availability of funds."

4.5.11.4 Interagency Fleet Management Systems (IFMS) - Background

Section 211 of the Federal Property and Administrative Services Act of 1949, as amended, requires that the Administrator of General Services will, "to the extent that the Administrator determines that so doing is advantageous to the Government in terms of economy, efficiency, or service, after consultation with and with due regard to the program activities of the agencies concerned, (a) consolidate, take over, acquire, or arrange for the

operation by any executive agency of motor vehicles and other related equipment and supplies for the purpose of establishing Fleet Management Centers to serve the needs of executive agencies; and (b) provide for the establishment, maintenance, and operation (including servicing and storage) of fleet management systems to serve the needs of executive agencies." The exercise of this authority is subject to regulations issued by the President, which are set forth in Executive Order #10579, November 30, 1954, and codified in Federal Property Management Regulations (FPMR) 101-39.

The regulations in FPMR Part 101-39 apply to all Executive Agencies to the extent provided in the Act. This Part provides for GSA to conduct studies of the operation and costs of motor vehicles and motor-vehicle services in selected geographical areas to determine the advisability of establishing an IFMS. Where the determination is made to establish an IFMS, all Government-owned motor vehicles acquired by Executive Agencies for official purposes (which are operated, stored, or garaged within a defined mandatory-use service area of an established fleet management system) and other related equipment and supplies shall, when requested in accordance with a determination, be transferred to the control and the responsibility of the fleet management system. Exemptions from inclusion in the fleet management systems can be found in § 101-39.106 and § 101-39.107. To date, only one IFMS has been established: GSA Fleet.

4.5.11.5 GSA Interagency Fleet Management Systems (IFMS) - Services

The GSA IFMS, GSA Fleet, provides motor vehicles and related services as outlined in the applicable determination establishing the Fleet Management Center (FMC). The following services may be available:

- Motor vehicles for indefinite assignment;
- Reservations and billing arrangements for short-term, non-TDY (temporary duty) commercial vehicle rentals;
- GSA motor vehicles for short-term, non-TDY dispatch use;
- Provisions for authorizing and controlling the performance of commercial maintenance, repairs, car washes, and service-station services;
- GSA performance of maintenance, repairs, car washes, and service-station services;
- Provisions for fuel, oil and related charge card services;
- Cross-servicing arrangements for the use of other Government Agencies' sources of maintenance, repairs, servicing, car washes, and fuel pumps;
- Seasonal storage of motor vehicles;
- Shuttle and driver services, where authorized; and
- Driver instruction, including both safety and fuel-economy training (where resources permit).

GSA Fleet provides motor vehicles and related services to requesting Agencies according to each Agency's priority of service as defined by its level of participation in the GSA Fleet program. Requirements for the levels of participation are contained in FPMR §101-39.204. Levels of participation are:

- Full: Most Federal Agencies
- Other than full: Some Federal Agencies, Contractors, and Authorized Users

"Other than fully participating Agencies" must contact the supporting GSA Fleet Management Center to ascertain vehicle availability, regardless of the number required. If the vehicles are available, assignment shall be made. "Other than fully participating Agencies" that choose not to lease commercially may use the procedures for full participants on the understanding that "fully participating Agencies" will receive priority consideration.

GSA Fleet Management Centers may assign vehicles or furnish related services to authorized cost-reimbursable Federal Government contractors. Such assignments are considered in relation to the support priorities cited above.

4.5.11.6 Obtaining GSA Fleet Indefinite Assignment Vehicles

Fully participating Agencies may request indefinite assignment of vehicles, regardless of number, from the supporting Fleet Management Center. Assignment may be made at that level, subject to availability. If the required vehicles are not available, you must submit a written request that includes the information shown in FPMR § 101-39.204(b)(1)-(10) and a statement that the Agency does or does not request authority to lease commercially, and the anticipated duration of the lease, should GSA be unable to provide the vehicles.

Regardless of the number of vehicles required, Agencies that do not participate fully must contact the supporting Fleet Management Center to ascertain vehicle availability. If the vehicles are available, assignment shall be made. When the supporting GSA Fleet Management Center determines that the requested vehicles are not available, the Agency or other requesting entity is to document compliance with the mandatory first-source-of-supply requirement. A Federal Fleet Manager needs no further authorization from GSA for the Agency to execute a commercial lease from sources established by the GSA Automotive Commodity Center or the Agency, provided that:

- All applicable provisions of the Federal Acquisition Regulation (FAR) and internal Agency acquisition regulations, permissions, and clearances are observed;
- The requirements of FMR 102-34 regarding fuel economy, Government identification and marking, etc., are adhered to;
- The Agency Fleet Manager or designee retains responsibility for fleet oversight and reporting requirements under Public Law 99-272; and
- Agencies that do not fully participate that choose not to lease commercially may use the procedures for full participants, as shown above, on the understanding that fully participating Agencies will receive priority consideration.

4.5.11.7 New Motor Vehicle Purchase

The acquisition process for motor vehicles begins with needs determination, as we have already seen. Having completed this determination, a Federal Fleet Manager's request for vehicles must go through his or her Agency's internal justification and approval process. Your Agency's budget request, which it submits to Congress for approval, must include the vehicle requirements. The passenger-carrying vehicles you want to acquire require specific Congressional authorization.

Fleet budget requests fall into two categories: capital requests and operating requests.

Capital Requests

The decision must be made as to whether to purchase or lease the required vehicle(s). If a vehicle is to be purchased and the purchase price exceeds the Agency's capitalization threshold (currently capped at $250,000 by PL 108-7, § 106), a capitalized budget request is prepared. However, not all Agencies have raised their threshold to that level for vehicle purchase, so check your Agency's threshold, if applicable. Depending upon the Agency and its authorities, vehicles may be purchased with 1) general and special fund appropriations or 2) revolving funds.

Operating Requests

Agency fleet management information systems provide annual direct and indirect cost data for an Agency's fleet. Federal Fleet Managers use this data to formulate, as well as to justify, their operating budget requests.

Some Federal entities cannot purchase vehicles with operating funds. Understanding the difference between capitalization and operational procedures at the operational level is important to ensure proper protocol is followed.

Where applicable, if the vehicle purchase price is under the Agency's capitalization threshold or the vehicle is to be leased, an operating budget request is prepared because the purchase price or the lease payment would be expensed as part of operations, rather than capitalized, in an Agency's financial systems and reports. Be aware that capitalization levels for budget purposes may not be the same for internal financial management purposes.

All fleet vehicles should be capitalized and depreciated for financial control, cost comparison, and full cost disclosure. The FAST system also requires Agencies to report annual depreciation expense.

Steps in Formulating Fleet Budget Requests

- Analyze current year actual versus budget to determine line items where budget exceeds or is less than actual cost
- Analyze current year vehicle utilization to identify under-utilized assets
- Analyze in-house parts inventory size, composition and turnover rates
- Review POV reimbursements and commercial rental costs against fleet utilization
- Analyze your customers' historical fleet service consumption and cost data and review your chargeback system
- Analyze the requirements of your Agency's GPRA and link fleet budget requests to Agency performance objectives
- Identify the percentage of vehicle acquisitions required to meet non-mission goals (alternative fuel, environmental and socioeconomic goals)
- Analyze alternative business models to acquisition of new fleet vehicles (POVs, own vs. lease, GSA Fleet lease vs. commercial sector lease, rental)
- Develop the budget request showing the impact of requested and alternate funding levels on Agency performance objectives
- Track results, monitoring performance and spending

Ultimately, vehicle requirements must be accompanied by certification that neither Congress or the Office of Management and Budget or Agency headquarters has denied the request, and that public or private means of transportation are unsuitable or unavailable. When these requirements have been satisfied, the following procedures apply.

Each Executive Agency shall submit to GSA its orders for purchase in the United States of:

- All new passenger motor vehicles (FSC 2310),
- Trucks or truck tractors (FSC 2320),
- Trailers (FSC 2330),
- Van-type trailers (with payload of not less than 5,000 or more than 50,000 pounds), and
- Fire trucks and fire-fighting trailers (FSC 4210).

Specifically included are sedans, station wagons, carryalls, ambulances, buses, and trucks, including trucks with specialized mounted equipment, truck chassis with special purpose bodies, and all van-type trailers (with payload of not less than 5,000 or more than 50,000 pounds). Excepted are Executive Agencies that comply with the provisions of FPMR 101-26.5, and DOD requirements for buses, which are convertible to ambulances; trucks, which are convertible to ambulances; and trucks (4x4, dump, 9,000 pounds GVWR with cut-down cab).

You can only acquire replacements for those vehicles that have met the minimum replacement criteria prescribed in FMR 102-34.280. Additional vehicles will be acquired only when existing resources cannot fill the requirement. Agencies requiring fewer than five vehicles may contact the GSA Regional Fleet Manager or appropriate FMC manager, and assignments will be arranged if vehicles are available. If none are, or if five or more are required, the Agency shall submit its request to GSA, Director, Fleet Management Division. The Agency's Assistant Secretary or designated Agency Fleet Manager must sign such a request.

Vehicle-Request Required Data

- ✓ Location where needed
- ✓ Date required (earlier and latest)
- ✓ Anticipated length of assignment
- ✓ Projected utilization
- ✓ Certification of funding
- ✓ Billing address and BOAC
- ✓ Agency contact
- ✓ Program area requiring vehicle(s)

The request for vehicles will include the number and types required and certification that any vehicles larger than Class III (FMR 102-34) are essential to the Agency's mission. There must be a statement that lease authority is/is not requested if the IFMS vehicles are not available. The request must also include the additional information shown above.

If the requisitioning Agency determines that requirements indicate the need for procurement by activities other than GSA, a request for waiver justifying the procurement

may be submitted for review and determination. When GSA determines that procurement of an individual Agency requirement by GSA would offer no advantage over local purchase of the item, GSA may grant the ordering activity authority for local purchase.

Federal customers can use Auto Choice to compare prices, miles per gallon, vehicle options, purchase vehicles and track orders.

GSA consolidates the procurement of all motor-vehicle types to achieve maximum benefits and economies. A Federal Fleet Manager should submit orders for all motor vehicles electronically, as required by GSA Automotive. This replaces GSA Form 1781, Motor Vehicle Requisition-Delivery Order, or DD Form 448, Military Interdepartmental Purchase Request (MIPR).

Requisitions for vehicles not included in Federal Standards No. 122, 292, or 307 must include complete descriptions of the vehicles required, intended use of the vehicles, geographical location and type of terrain in which the vehicles will be used, and the reason why the vehicles under the standard cannot be used. The consolidated procurement schedules and lead times are shown in FMR 101-26.501.

With a waiver per FPMR 101-26.501-1 (b) & (c), Federal Agencies can purchase in the open market using applicable Federal Acquisition Regulation (FAR) procedures to assure the appropriate level of competition and best value for the Government. Federal Fleet Managers having been granted a waiver by GSA should consult with Agency procurement officials to accomplish an open-market vehicle purchase.

4.5.12 Commercial Leasing: Lease Contracts and Lease Financing

The goal of the following discussion is to introduce basic leasing terminology, distinctions, and characteristics used in the corporate sector.

4.5.12.1 Leasing

Fleet leasing is a way to provide vehicles without making a direct capital investment. Instead, an organization uses the services of a third party, a lessor. Within the Federal Government, GSA Fleet meets that requirement; it functions as a third party from which Agencies can lease many of their vehicles. However, in some cases, Agencies need to lease in the commercial market. The goal remains the same: to free capital for other productive uses.

Commercial leasing by business firms comes in different guises and carries various costs that are treated differently on a corporate balance sheet.

4.5.12.2 Capital Lease vs. Operating Lease

Simplistically, a capital lease equates to buying whereas an operating lease equates to renting. Most corporate-fleet lease contracts are operating leases.

A key distinction between a capital lease and an operating lease is whether it shows up on the balance sheet. Most corporations do not want assets (e.g., cars) to show up as liabilities on their balance sheet. Under a capital lease, the assets and corresponding liabilities must show up there. If the assets and liabilities show up on the balance sheet, the

company may display seemingly less-healthy financial ratios. Poor ratios can cause higher financing rates from lenders and negative perceptions of the value of a company and its business.

Keep in mind, however, that for the Federal Government, under OMB budget scoring rules, the full lifetime cost of a capital lease must be scored in the year of acquisition. This effectively eliminates capital leasing for most Agencies, because funds must be available in year one to cover the scored cost. To address this, GSA Fleet has successfully designed a unique hybrid lease contract that combines the benefits of a capital lease with the technical characteristics of an operating lease, so that it need not be scored in year one. Also, most Agencies operate on one-year appropriations and cannot lease for multiple years, or even for one year with options. This can significantly increase the cost of leasing. Using GSA Fleet avoids these issues.

4.6 GSA Fleet Services

In addition to acquiring and providing vehicles, GSA Fleet supplies additional services in maintenance and repair, fuel/oil charge cards, seasonal (paid) storage, and shuttle services. We will discuss these and other fleet operations topics more fully in Section 5, Fleet Operations Management.

4.6.1 Maintenance and Repair Services

GSA Fleet will establish service arrangements to provide for the control and performance of maintenance and repair services. GSA Fleet policy is to rely on the commercial sector, wherever possible.

4.6.2 Fuel, Oil and Charge Card Services

GSA Fleet provides fuel, oil, and charge card services for the operation of GSA Fleet vehicles. Here also, GSA Fleet policy is to rely on the commercial sector for these services, wherever possible.

4.6.3 Shuttle and Driver Services

Shuttle service may be provided for scheduled runs and special pickup and delivery service between Government installations or nearby areas when commercial transportation is not available. Driver services may be provided where commercial taxi or radio-car transportation is not available.

4.6.4 Agency Chargebacks for GSA IFMS Services

User Agencies are billed for GSA Fleet services at rates fixed by GSA. These rates are designed to recover all GSA Fleet fixed and variable costs. You will find the motor vehicle service rates for each year at http://www.gsa.gov/Portal/gsa/ep/challenView.do?pageTypeID=8211&channelPage=%2Fep%2Fchannel%2FgsaOverview.jsp&channelID=-13038. These rates apply to vehicles operated in the conterminous United States, Alaska, Hawaii, and the Commonwealth of Puerto Rico.

GSA Fleet computes the charges for vehicle assignment by adding the base monthly rate plus the per-mile charge. The base monthly rate recovers most fixed costs, and the mileage rate recovers operating expenses plus a portion of depreciation expense. Rates are

reviewed and revised annually. GSA Automotive includes an administrative surcharge for commercial car rentals, which is bundled with the rental agreement and passed on to the client.

User Agencies are billed for accidents and incidents as described in FPMR § 101-39.406. Agencies may also be charged for:

- Vehicle damage caused by a pattern of misuse or abuse inconsistent with normal operation and local operating conditions (unless under a special rate);
- Repair costs incurred from a user's failure to obtain required preventive maintenance services; and
- Unauthorized purchases or repairs, including charge card misuse.

4.6.5 Contractor Chargebacks for GSA IFMS Services

FAR 51.2 covers lease and use of GSA Fleet vehicles by cost reimbursable contractors (CRCs). In addition, FMR 102-5 and FMR 102-34 requirements govern CRC use of GSA Fleet vehicles. A fixed price contractor may also lease from GSA Fleet, but it must follow GSA procedures to do so.

GSA Fleet services provided to authorized Government contractors and subcontractors are billed to the responsible Agency unless it requests direct billing to the contractor. In case of nonpayment by a contractor, GSA will bill the responsible Agency which authorized the contractor's use of GSA Fleet services.

4.7 Disposal

4.7.1 Exchange/Sale of Motor Vehicles

Acquisition and delivery of a replacement motor vehicle normally requires the disposal of a vehicle of the same type as the one acquired. You can dispose of motor vehicles any time after receiving notice that a procurement award has been made to a manufacturer. Place all replaced motor vehicles in temporary storage for disposal and, according to the provisions of FMR 102-39 and your Agency's property management regulations, report them ready for exchange/sale.

4.7.2 Temporary Vehicle Storage

FMR 102-34.245 provides that Government-owned, -rented, and -leased motor vehicles of an Agency should be stored so as to provide reasonable protection from pilferage or damage. In the interest of economy, use open storage whenever practicable and feasible. However, the Agency's Fleet Manager should determine what is "practicable or feasible," based upon special requirements at respective locations. Of course, all unattended Government-owned or -leased motor vehicles should be locked, unless they are stored or parked in a closed building or enclosure.

4.7.3 Reporting Motor Vehicles for Exchange/Sale

Generally, you or your Agency's Property Management Division will report motor vehicles scheduled for exchange/sale to the GSA Property Management Division, Federal Supply Service (FSS), using Standard Form (SF) 126, which requires documentation of vehicle nomenclature (year, make, model), odometer reading and transmission type. When

appropriate, list vehicle dimensions and all accessory equipment. DOD activities will follow procedures in the DOD Utilization and Disposal Manual.

You and GSA Fleet must honestly represent all motor vehicles designated for sale to potential purchasers. Consequently, you should report all major repairs (for example, engine, transmission, differential) made to a vehicle in the last 12 to 18 months of its use. Indicate the date and odometer reading when the repair was made. Specify the mechanical defects of inoperable vehicles reported for disposal. Identify any vehicle being disposed of because of accident damage. Enter the appropriate disposal condition code, identified in FMR 102-36.240, for all exchange/sale property.

4.7.4 Preparing Motor Vehicles for Sale

To improve the overall appearance of motor vehicles for sale, the Fleet Manager should ensure vehicle preparation by cleaning the exterior, interior and trunk; inflating tires and ensuring batteries are charged; and ensuring that lubricants are at the proper levels. Without defacing the paint finish, ensure removal of Government identification and decals.

Limit expenses for preparation for sale and performance of needed repairs to the minimum consistent with normal commercial preparation resale practices, anticipated recovery, and good judgment for each vehicle to be sold. Your goal is to ensure that the disposal proceeds are sufficient to offset the expenditure of time and funds for preparation and repair.

Undertake further reconditioning of selected vehicles only after assessing the probability of a positive return on investment (ROI); consequently, in selecting vehicles to recondition, the responsible Agency official should consider the body and mechanical condition of the vehicle and its fair market value. Generally, do not recondition vehicles with salvage or scrap value only. Vehicles that have been declared uneconomical to repair or with a fair market value of less than 5% of the acquisition value should most likely not be reconditioned.

Reconditioning may include, but not be limited to, polishing the exterior, thoroughly cleaning and degreasing the area under the hood, painting engine parts and radiator, tuning the engine, smoothing body dents, and touchup painting. FPMR 101-45.309-12 provides specific guidance on vehicle reconditioning.

4.7.5 Marketing Motor Vehicle Sales

GSA does not solicit trade-in bids when purchasing new motor vehicles for replacement under the consolidated program. Used vehicles being replaced must be disposed of by sale as stipulated in FMR 102-38. In cooperation with appropriate activity offices, Fleet Managers should develop and implement plans to maximize used-vehicle disposal proceeds, including advertising directed to other Agencies and the public. All means of mass and targeted marketing should be considered and used when practical and economical.

4.7.6 Excess Motor Vehicles

Federal Fleet Managers should report motor vehicles no longer required for fleet purposes, yet not eligible for replacement, as excess units. FMR 102-36 sets out the procedures

Agencies should follow in reporting excess vehicles. Use Standard Form 120, Report of Excess Personal Property, for this purpose and include:

- Complete description: including body type, year, make and model. If applicable, also report vehicle dimensions, tire size, and accessory equipment.
- Condition of vehicle: including tires, total miles operated and, if necessary, estimated cost of repairs to return vehicle to operating condition.

DOD procedures are contained in the DOD Utilization and Disposal Manual.

4.7.7 Transfer of Government-owned Vehicle Title

When disposing of a motor vehicle by any means other than transfer to another Federal Agency, transfer the title of ownership by executing Standard Form 97, The United States Government Certificate to Obtain Title to a Vehicle. Use SF 97 when selling Government-owned motor vehicles to parties who intend to title the vehicle for highway operation. In most cases, a representative of the Property Management Division effecting the disposal of the vehicle will prepare and sign the SF 97, including odometer certification. For sales representatives to complete the SF 97, the vehicle must be reported for sale in accordance with instructions in FMR 102-34.315-20.

4.7.7.1 Security of the SF 97

The original certificate is produced on secure paper to readily identify any attempt to alter the form. All SF 97 certificates and copies shall be stocked as an accountable form and serially numbered with pre-printed numbers assigned by the printing activity. Each Agency shall have an accountable officer who will be responsible for requisition, storage, and issuance of SF 97.

State Motor Vehicle Agencies may consider certificates showing erasures or strikeovers invalid, in which case they will not be honored. Agencies should take proper precautions to prevent unauthorized persons from obtaining blank copies of SF 97. See FMR 102-2.135 for details on obtaining the SF 97.

4.7.7.2 Non-Highway Equipment

Vehicles that are either not designed to operate on highways or are deemed as not legal for operation on highways will be conveyed using an appropriate bill of sale or award document, such as Optional Form 16, Sales Slip-Sale of Government Personal Property, or SF 114, Sale of Government Personal Property-Bid and Award. Vehicles commonly included in this category include construction equipment, farm machinery, and certain military design vehicles.

4.7.7.3 Odometer Mileage Disclosure

The National Highway Safety Traffic Administration (NHSTA) amended 49 CFR Part 580, Odometer Disclosure Requirements, in 1988 to implement the Truth in Mileage Act (Public Law 99-579). The Act requires that the seller or transferor furnish a specific, written disclosure as to the mileage of a motor vehicle upon transfer of ownership.
In 1989, NHTSA amended 49 CFR 580 again to clarify responsibilities of all parties in conjunction with the disclosure of odometer mileage information and to define certain aspects of the regulation. The Truth in Mileage Act also requires that the title document be manufactured by a secure process to deter counterfeiting or alteration.

Section 5
Fleet Operations Management

This section addresses competencies concerned with Fleet Operations Management. Click on any of the topic links below to go to the related content.

Section 5 Table of Contents

5.1 Useful Links

The reporting procedures of Standard Form 82, Agency Report of Motor Vehicle Data are now accomplished through use of the Federal Automotive Statistical Tool (FAST) System. Per the requirements of OMB Circular A-11 Exhibit 33 Section 33.9, Federal Agencies must report annually on their motor vehicles in the Motor Vehicle Exhibit (also referred to as Exhibit 33). Agencies use FAST to report their planned vehicle acquisitions and disposals as well as their vehicle acquisition and fleet operating costs.
http://fastweb.inel.gov/
GSA Fleet Drive-thru is a web portal that allows GSA customers to report vehicle mileages, generate vehicle inventory reports, and input information and accounting classifications for vehicles to expedite billing. Access to this system is available via this link.
http://gsaa0.fss.gsa.gov/milexpw/
Obtain official U.S. Government tags from the U.S. Department of Justice, UNICOR, Federal Prison Industries, Inc. The UNICOR portal describes the services available through the organization.
http://www.unicor.gov/index.cfm
The Association of Equipment Management Professionals provides a Certified Equipment Manager (CEM) designation, which is a recognized standard for judging the qualifications of a manager of heavy off-road equipment or manager of municipal/government fleets.
www.aemp.org
NISH is a national nonprofit agency whose mission is to create employment opportunities for people with severe disabilities by securing Federal contracts through the Javits-Wagner-O'Day (JWOD) Program for its network of community-based, nonprofit agencies. The JWOD Program is a coordinated effort by the Committee for Purchase From People Who Are Blind or Severely Disabled, National Industries for the Blind (NIB) and NISH-Creating Employment Opportunities for People with Severe Disabilities
www.nish.org
Working through a national network of more than 600 local service providers, many of which already have security clearances and onsite operations at Federal facilities and military installations, NISH and its JWOD partners assist U.S. military and Federal fleet and logistics management organizations.
https://www.nish.org/NISH/Rooms/DisplayPages/LayoutInitial?Container=com.webridge.entity.Entity%5BOID%5B9A02124F29C97944AB7B1087148E434F%5D%5D

5.2 Consistent Classification Codes, Data Elements, and Terminology – A Federal Fleet Best Practice

Agencies and their Fleet Managers should use vehicle classification codes, data elements, and terminology that are consistent with GSA Federal Fleet guidelines and regulations. You can find the regulations pertaining to fleet management in Federal Management Regulation 41 CFR 102-34 “Motor Vehicle Management.”

GSA defines a fleet as these classes of units:

- Passenger Vehicles
- Light Trucks
- Medium Trucks
- Heavy Trucks
- Ambulances
- Buses

This definition, while suitable for most reporting required by GSA and OMB, is not sufficient for many Federal Fleets that operate a greater diversity of assets. A standard industry definition of a fleet typically includes every ground-based asset that has wheels, or has a license plate, or has an engine (20 horsepower or more) and/or a purchase cost of $5,000 or more, or requires tracking of periodic maintenance. For example, a forklift, flat-bed trailer, or tractor-loader may be considered Special Purpose Mobile Equipment (SPME) within some Federal Fleets, but these types of equipment are considered part of the fleet in nearly all non-federal fleets.

For reporting purposes within the Federal Government, a fleet vehicle is a self-propelled, 4-wheeled (or greater) vehicle licensed for use on public roads. Construction equipment (e.g., road graders), material handling equipment (e.g., forklifts), and such are not considered reportable vehicles.

Some Federal Fleets are wildly diverse. They can include standard passenger vehicles and light trucks; medium and heavy trucks; "regular" construction equipment such as backhoes, loaders, and dozers; fire equipment; and others. But they can also include a substantial number of nonstandard pieces of agricultural equipment such as plows, discs, and planters; boats of varying sizes and types; and many highly specialized items such as wetlands-tending equipment. This is just a sample of the diversity, and, in many cases, Federal Fleet Managers must assume management responsibility over the operation of such a diverse array of assets.

5.3 Classification System and Equivalent-Unit Comparisons – A Best Practice

The National Association of Fleet Administrators (NAFA) has developed an extensive classification system for fleet equipment that encompasses all vehicles and equipment that fleet management typically covers. Likewise, Federal Fleets that include ground-based assets beyond the typical Federal Fleet definition require a detailed vehicle and equipment classification system so that Fleet Managers can compare cost, utilization, and other factors on an equivalent-unit basis. This is a fundamental fleet management best practice. To achieve optimum cost control, operational efficiency, and levels of customer service, Federal Fleets need to approach fleet management in terms of a fleet definition that matches the scope and diversity of its units.

5.4 Contractor Use of Government Vehicles and Equipment

Some Agencies provide vehicles and equipment to contractors, as well as allow contractors to lease GSA Fleet vehicles. Generally, the intent of such a program is to save money

because the Federal Government can often leverage its buying power to acquire vehicles and equipment at lower costs than the contractors, which would ultimately result in lower Agency expenditures. While this may be true to some extent, Agencies must institute sound management practices to ensure they have an accurate inventory of contractor-operated vehicles and equipment. Agencies must ensure they have effective control over vehicle costs, utilization effectiveness, and the contractor's maintenance practices. These are fundamental fleet management best practices, and a Federal Fleet Manager must extend them to Agency contractors.

The entire area of contractor use of Government vehicles needs Federal Fleet Manager attention to ensure effective management and control of these assets or to terminate contractor use of these assets (for example, transfer ownership to the contractors). Agencies should undertake periodic due diligence studies to assess the most cost-effective approach to:

a) providing fleet assets to contractors,
b) optimizing fleet management and maintenance capabilities of contractors, and
c) bundling (or unbundling) Agency support services for fleet management and maintenance.

5.5 Policies and Procedures – A Best Practice

Industry best practice demands that a comprehensive "Fleet Management Policy and Procedure Manual" be provided as one of the foundations for effective and uniform control of fleet assets and their operation and maintenance. In scattered and diverse organizations, which most Federal Fleets are, such manuals are usually most effective when issued by a central authority but have been developed with representation and contribution from all major operating units. Agencies that have not developed a central set of fleet policies and procedures should do so. Also, the policies should cover the range of assets for which its Fleet Managers are responsible. The manuals should incorporate process steps and examples of forms for monitoring, analysis, management, and reporting.

5.6 Cost Chargeback System – A Best Practice

A broad-ranging financial management best practice for fleet operations is implementation of cost control procedures that enable an organization to a) identify, b) monitor, c) evaluate the appropriateness of, and d) adjust fleet ownership, operating, and management costs regularly. Although an internal audit process can achieve these objectives, a cost charge-back system – under which fleet users must budget and pay for the vehicles and related services (e.g., vehicle maintenance) and resources (e.g., fuel) they consume – is recognized as the best, on-going means of controlling fleet costs. This is because organizations always pay more attention to the costs of things they must purchase than to the cost of things they receive. By the same token, organizations that must pay for the fleet resources and services they use are much more motivated to hold fleet management organizations accountable for the costs – and cost competitiveness – of the goods and services the latter provide. Consequently, properly designed cost charge-back systems promote efficiencies in both the provision and use of vehicles and fleet management services.

Development of a cost charge-back system requires a refined vehicle codification scheme to track and analyze unit utilization and costs. If asset categories are too broad, data gathered will not yield much analytical value because the types of assets a category

encompasses can vary widely in terms of capital and operating cost and annual utilization level.

For some Federal Agencies or bureaus, a working capital fund and charge-back system can be used to spread the replacement costs of vehicles and equipment over a period of several years (never for longer periods, however, than the life expectancies of the assets whose replacement the fund finances). This approach involves charging fleet users – most often monthly – a portion of the cost of replacing each asset. The monthly charge multiplied by the number of months a vehicle is in service should be set so as to yield sufficient revenue (when coupled with the salvage proceeds from the sale of the vehicle and a pro rata portion of any interest earned on the fund balance, if applicable) to pay for a replacement vehicle. The proceeds of all monthly user payments are deposited in the working capital fund, and each year's replacement expenditures are defrayed using money taken out of the fund. GSA's leasing program for Federal Agencies is essentially a large working capital fund and charge-back system and is a workable model for Agencies.

5.7 The Basics of Vehicle Costs

To manage vehicle costs effectively, a Fleet Manager must first understand them and the factors that they can influence to control them. Like production costs, the costs of providing a motor vehicle may be classified as variable or fixed, depending upon how the costs vary as a result of the miles accumulated. The operating costs of a vehicle relate directly to each mile driven. Thus, fuel, oil, maintenance, and tires represent variable or operating-cost categories.

Fixed costs relate more to the passage of time than to miles driven; that is, they remain substantially set over a given period of time, even when the miles driven change. Thus, registration, taxes, depreciation, insurance (or self-insured reserve), and lease payment (which includes depreciation) or finance expense represent fixed-cost categories.

This segmentation of costs is standard within the fleet profession. Capturing these costs enables a Fleet Manager to benchmark with other organizations. For purposes of this Section of the *Guide*, we will focus on an overview of operating costs:

5.7.1 Fuel

As you might expect, the cost of fuel remains the largest operating expense. For Federal Fleets, petroleum reduction requirements and regulations regarding acquisition of Alternative Fuel Vehicles add complexity to tracking fuel usage and controlling costs. Central to controlling fuel costs is selecting the most fuel-efficient vehicles possible, given the fleet mission and unit usage. We discuss vehicle selection in detail in Section 4.

In Section 4, we note that Agencies are generally limited to the purchase of compact and subcompact fuel-efficient vehicles. We also discuss the Federal Fleet program, administered by GSA, which gathers data to verify that each Agency's vehicles achieve the fleet average fuel economy for the applicable fiscal year.

Fuel conservation efforts, however, must go beyond acquisition of fuel-efficient vehicles. For example, Fleet Managers should maintain individual-vehicle fuel-consumption records and generate exception reports to assist in identifying excessive usage. One means of

improving fleet fuel economy is through ongoing driver training to heighten energy-conservation awareness. Major elements to consider in such a program include:

- ✓ fuel efficient driving techniques training;
- ✓ trip planning;
- ✓ vehicle maintenance;
- ✓ promotional campaigns; and
- ✓ participation in State and local energy conservation efforts.

Often, training funds are scarce and competitively divided within each organization; therefore, the Fleet Manager must be creative in his or her approach to succeed. For example, the Fleet Manager can look to the person responsible for "Energy Management" within the organization and combine the training requirement into this fund source. The Fleet Manager can also use the Safety Office/Department as yet another source. Another creative approach may be to combine Safe Driving and Fuel Conservation into Earth Day events to fund this type of training.

5.7.2 Oil

Engine friction is a fact of life. Consequently, the effort to improve engine efficiency through the reduction of friction is an ongoing concern. Frequency of changing oil, oil quality, and type of oil affect the efficient operation of an engine and represent the primary means of controlling this cost area.

Changing engine oil regularly improves fuel efficiency and helps to keep engine parts in optimum operating condition. On the other hand, changing oil too frequently is a waste of this precious natural resource, adds unnecessary cost, and imposes an unreasonable burden of inconvenience upon the driver. An auto manufacturer's oil-change schedule should be viewed as the ideal guideline. Territory and driving habits ultimately influence the oil-change timing. Fleet Managers and drivers should know whether their fleet vehicles operate under severe driving conditions, which are typically defined as:

- Trips that are less than 20 miles long.
- Driving in dusty or sandy conditions.
- Short trips in cold weather where the engine never warms up.
- Idling for extended period of time.
- Towing or pulling trailers.

Fleet Managers using GSA Fleet vehicles should notify FMCs of any vehicles in this category to avoid disagreements should breakdowns occur or special maintenance requirements be necessary.

Short trips do not allow the engine to heat sufficiently to remove condensation, which aids the formation of sludge and acid. Under these severe driving conditions, changing the oil about every three months or 3,000 miles assures far greater engine efficiency.

Failure to change oil at or before a manufacturer's specified timetable can also void a warranty. This cannot be overemphasized, and adherence is essential to avoid expending unbudgeted funds to pay the unplanned repair costs of a component. In this era of self-

service fueling, Fleet Managers must insist that drivers assigned a vehicle maintain a full level of crankcase oil and adhere to the oil-change policy.

5.7.3 Maintenance

A sound preventive maintenance program is essential to minimizing total fleet expenditures. Obviously, vehicles should be properly maintained, and through the development and enforcement of policies and procedures, Fleet Managers can come to grip with controlling maintenance expenses.

A number of results of a poor maintenance program can negatively affect both the fleet and fleet-cost performance:

- Increased downtime
- Increased probability of unsafe vehicles
- Reduced resale value for vehicles at disposal time

Conversely, a number of the results of a sound maintenance program positively affect both the fleet and fleet-cost performance:

- Reduced operational costs
- Reduced frequency of accidents
- Reduced self-insured reserve (or insurance, if applicable)
- Reduced downtime
- Increased probability of fulfilling mission and work assignments
- Optimum resale value for vehicles at disposal time

We discuss maintenance in greater detail below.

5.7.4 Tires

In general, low frequency of maintenance, increased tread-wear life, improved fuel economy, and enhanced ride characterize today's tires, which are designed to last well over 30,000 miles over just about every conceivable road condition. Such long lives, in terms of miles, make it possible to keep tire replacement costs down.

Today's radial tires even help control fuel costs. Their stiff tread results in low rolling resistance, which reduces engine work. As a rule of thumb, rolling resistance has a 5 to 1 ratio with fuel economy; thus, a 25% improvement in rolling resistance results in a 5% fuel savings.

The same tread stiffness enables a larger "footprint" on the road, which increases contact area and thereby improves handling and braking capabilities. The increased contact area is responsible to a significant degree for the excellent performance of radials on wet and snow-covered pavement.

The chief causes of early tire failures and increased tire expenses are:

- Incorrect tire pressure
- Improper alignment

- Wheels out of balance
- Bad driving habits
- Overloading

5.7.4.1 Incorrect Tire Pressure

Under-inflated tires tend to wear along the sides, while over-inflated tires wear out down the middle. Drivers should maintain tire pressure at the vehicle manufacturer's specifications. A sticker indicating the proper pressure for a particular vehicle is usually mounted on the driver's door post or on the glove compartment door. The pressure limits embossed on the tire sidewall indicate the strength of the tire. Under-inflation leads to:

- Shortened tire life
- Reduced fuel economy
- Uneven tread wear
- Reduced handling performance
- Reduced braking performance

Over-inflation causes:

- Uneven tread wear
- Premature failure of the tire elements

5.7.4.2 Improper Alignment

Adjustments to the steering and suspension components can generally correct improper alignment. The adjustments improve handling as well as reduce tire wear. After a collision or severe road impact, alignment of the chassis and of the front-to-rear axle should be checked and repairs made as needed.

5.7.4.3 Wheels Out of Balance

Tires that do not wear evenly are often victims of wheels that are out of balance. This condition typically results from running into curbs and going over bumps at excessive speed.

5.7.4.4 Bad Driving Habits

Bad driving habits are a major cause of a multitude of problems concerning a vehicle's condition. For example, collisions with curbs, high-speed take-offs and fast cornering and last-minute braking contribute to rapid tire wear (and lower fuel efficiency).

5.7.4.5 Overloading

Towing a boat or travel trailer can partly take its toll by shortening tire life. Carrying heavy equipment, tools, etc., all tend to limit tire life.

5.8 Performance Measures for Effective Fleet Management

These performance measures and key ratios represent a summary and overview of the responsibilities of Federal Fleet Managers. If developed, they capture general budgetary efficiency, vehicle costs, vehicle utilization, clean air and alternative fuel performance, replacement, resale/salvage costs, accident costs/rates and driver training participation.

Not all measures may be appropriate for all fleets, but every fleet should measure several of them.

Measure	Indicates
Total operating costs versus budgeted costs	Degree to which the fleet management organization meets its budget targets
Net annual revenues versus operating expenditures	Profit or loss for the entire fleet, a class of fleet vehicles or a specific vehicle
Total vehicle cost per vehicle mile/hour	Unit cost of a fleet mile or hour driven by the fleet, department, class of fleet vehicle or vehicle function
Annual unit cost	Total operating, maintenance, administrative overhead and replacement cost per vehicle
Ratio of permanently assigned fleet vehicles to total number of employees in the organization served	Potential measure of the use of permanent assignment vehicles and changes in personnel totals (note: different missions can require different ratios)
Average annual utilization by miles, hours and trips by vehicle class, type of assignment and vehicle	Vehicle utilization, excess capacity
Proportion of vehicles driven below minimum utilization requirements	Underutilized vehicles, which may be candidates for reallocation or reduction
Total miles by class and by vehicle	Age of fleet
Number and percentage of vehicle assignments meeting TLEV, LEV, ULEV and ZEV requirements	Internal compliance with clean air programs
Number and percentage of vehicle acquisitions meeting alternative fuel vehicles (AFV) requirements	Compliance with EPAct requirements
Number and percentage of vehicles qualifying for replacement per age/mileage criteria	Compliance with useful life replacement criteria
Average vehicle retention period by class	Actual vehicle retention period by class
Number and percentage of vehicles exceeding standards on number/cost of repairs/road calls, downtime, utilization, fuel/oil consumption, and overall cost per mile	Efficiency of fleet
Average cost per vehicle per class	Acquisition costs and effectiveness of acquisition methods
Ratio of resale or salvage value to original purchase price	Conservation of vehicle value
Accidents per 100,000 miles accident cost per mile (annual accident costs divided by the total number of miles of all vehicles in a fleet)	Fleet safe-driving performance; need for driver training in the fleet
Number and percentage of permanently assigned or full-time drivers participating in driver training	Fuel-efficient driving and safe-driving program activity
Direct out-of-pocket accident costs such as property damage, medical treatment and future lost earnings (excluding loss of life or limb)	Need for driver training

At the same time that Federal Fleet Managers should understand and implement industry standards, best practices, and sound performance measures, each Agency's property management regulations essentially govern management and implementation decisions.

5.9 Record Keeping and Cost Control

The Federal Fleet Manager's responsibilities include maintenance of inventory records and controls for the operation. This includes following internal Agency regulations on purchasing, inventory levels, records, and control of personal property. Each Agency that owns vehicles is responsible for developing adequate accounting and reporting procedures to ensure accurate reporting of inventory, cost and operating data needed for the management and control of fleet assets.

Increasingly, Agencies use a Fleet Management Information System (FMIS) to reduce paperwork and costs. Other Agencies have or are adopting enterprise financial systems or maintenance management systems or asset management systems to achieve the same goal. Irrespective of the type of system, a properly programmed software solution is the most efficient way to maintain fleet records so that you can routinely analyze and report information as needed. In today's complex fleet management environment, given the laws and regulations you need to follow and enforce, and given the large, diverse, and geographically dispersed units for many Federal Fleets, an enterprise FMIS is essential.

5.9.1 Accountable Inventory Items

Federal Fleet Managers must control and account for the shop equipment, administrative equipment and inventory assigned to their organization.

5.9.1.1 Control of Parts and Supplies

All stocked operating parts and supplies having a value of more than $10 each should be treated as accountable inventory items. Parts and supplies valued at less than $10 each may be treated as expendable items or cupboard stock. Take steps to secure items costing more than $10 each and sensitive items maintained as inventory items for future use in a stockroom or locked cabinet and issue them under an inventory-maintenance control process. "Sensitive" items costing less than $10 each include anti-freeze, motor oil, air filters, fuel filters, oil filters, spark plugs, etc. Management of parts and supplies typically includes documentation of the replenishment of inventory items upon receipt of stock, undertaking inventory account reconciliation monthly, and physically inventorying accountable parts and supplies annually.

5.9.1.2 Shop Equipment

Shop-equipment inventories will normally be categorized according to internal Agency property management and finance regulations. For example, these categories may require formal inventory entries for equipment valued in excess of $5,000 to include cost data; entries for equipment valued at less than $5,000 but more than $50, but without inclusion of the cost data; and, informal inventory record-keeping system entries to account for sensitive (pilferable) items valued at less than $50.

5.9.1.3 Administrative Equipment

Administrative equipment is property under the jurisdiction of the Federal Fleet Manager, consisting of such items as office furniture, computers, calculators, cameras, etc. Inventory control over administrative equipment is usually the responsibility of the Agency's Property Accountable Officer (PAO) or equivalent.

5.9.2 Motor Vehicle Inventory and Control

The Federal Fleet Manager is accountable for all vehicles assigned to him/her and should know the whereabouts and status of each vehicle at all times.

5.9.2.1 Inventory Reporting Systems and Fleet Management

Historically, Agency reporting systems maintain inventory control over the motor vehicle fleet. The specific systems used for this have been changing as enterprise financial, maintenance, and asset management software programs become increasingly common. What is important is that if the Agency Fleet Managers use a FMIS that it access the electronic inventory records so that one inventory of units is in place.

Agencies that have not implemented enterprise solutions often have disparate inventory databases with different (or no) field standards (for example, separation of make and model into two data fields or combined make and model into a single data field). This means the Agency does not have a correct inventory of fleet, equipment, and related assets, because a) those who maintain the different databases often do not interact, b) those who maintain the databases are often unaware of each other (usually due to stovepiping within organizations), and c) no one knows which database is correct.

To measure performance, utilization, and economy of any fleet requires several classes of data:

- Descriptive Data – static information used for classification, analysis, and comparison purposes (e.g., year, make, model, VIN, class code, date of purchase, etc.).
- Fixed Costs – costs incurred simply by having the equipment (e.g., acquisition cost, resale proceeds, lease payments, etc.).
- Maintenance Costs – costs incurred for repairs and maintenance.
- Operating Costs – costs incurred in the operation of the equipment (e.g., fuel, tires, lubricants, etc.).
- Usage – measurements of utilization (and downtime) in miles, time, cycles, etc.

Management's information needs should drive the choice of data elements and degree of detail in the database. For example, if management wants to compare performance among "equipment classes," then it must either (1) design equipment classifications and meticulously assign them to each piece of equipment in the fleet or (2) decide which lower-level elements, already present in the database, can be used to infer the "classes" and ensure that these data elements are completely populated with validated values.

Numerous automated fleet and maintenance systems allow users to store incorrect or incomplete data in exactly the fields required by management for decision-making. When this is the case, management must devise external processes to audit the database and report missing or incorrect data. The goal is to achieve standardization of data entered into the system to ensure integrity of the outputs. The garbage-in garbage-out cliché proves true when one tries to analyze data that should be aggregated but can't be because of inconsistent or non-standard data entry.

Here are five examples that illustrate the degree of inconsistency that arises when systems fail to enforce data-integrity rules:

Year	Make	Model	Description
1990	CHEVROLET	CORSICA	1990 Chevrolet Corsica
1991	CHEVROLET	CORSICA	1991 Chevy Corsica
1990	GENERAL MOTORS	ILT69	1990 Chevy Corsica
1990	GENERAL MOTORS	CORSICA LT 4DOOR	1990 Corsica sedan
1993	GM	CORSICA	1993 GM Corsica

With data of this quality, any measure of performance, utilization, and economy of the fleet would be highly suspect. An effective solution is to use drop-down menus, system defined fields, and automated data entry (using bar codes or other machine-readable input mechanisms) to minimize data entry by users.

Any Agency in the process of implementing a new computer-based finance, asset or maintenance management system must ensure that users are able to probe data pertinent to the fleet and arrive at rational and valid results. Fleet management operations should be brought into the discussion of enterprise systems early in the selection process, so usage of these systems for fleet management purposes will be optimized. This will eliminate the design of other fleet software solutions to fill an information gap, which would cause the creation of pockets of data not being integrated into the single, enterprise system that is supposed to house all fleet data. Agencies must take steps to ensure that meaningful data classes are incorporated from the outset and that processes and mechanisms for standardized data entry (strict rules of normalization) are in place.

5.9.2.2 Validation

Where an enterprise system has many free-form, user-defined fields, implement simple external validation routines to maintain data integrity. For example, VINs (Vehicle Identification Numbers) may be stored in a “serial number” field, which can hold virtually any structure the user chooses to enter. An external routine can be written to identify serial numbers for “vehicle” equipment types that fail common validation rules, such as length (17 characters), structure (decoders are on the market that parse VINs to identify make, model, etc.), and uniqueness (only one “vehicle” should be in the file with a given VIN).

5.9.2.3 Timeliness

In addition to the selection of data elements, Agencies should consider how often to collect fleet data. While any enterprise system can perform as a “real-time” data delivery service, management needs should drive the timing of data collection rather than system capability.

Take fuel as an example. If an Agency were interested in simply tracking cost and consumption, monthly summary data might suffice. On the other hand, if the Agency were interested in managing fuel consumption, transactional data should be collected in real-time and filtered through reasonable exception limits. An Agency should apply this approach to all cost areas that it wants to manage and control actively. (Also note that a fuel-management system operated by an Agency often operates with its own software, and that the enterprise system must be able to “talk” with the fuel-management system.)

5.9.2.4 Consistency

Consistency of data collection throughout the fleet is essential. For example, both “in-house” and outsourced work orders (or bureau to bureau work orders) should use similar codes to classify the work. If costs are allocated to major vehicular systems (such as

engine, transmission, transfer case, etc.) on in-house work orders, they should be allocated similarly on commercial invoices.

5.9.2.5 Best-Practice Interfaces

Although interfaces to Federal systems are optional, best-practice Agency interface requirements should include existing Federal information systems (e.g., FAST and GSA) and any vendor managed system(s) it may use (for example, for in-house fueling stations and related systems). Interface(s) to vendor managed systems should be mandatory because the implementation of a new enterprise fleet system will render some existing interfaces useless. For example, fuel transactions that occur at sites with in-house fueling stations operated with fuel-management software may be interfaced to an existing FMIS. Replacement of the local FMIS with an enterprise FMIS will require the development of new interfaces.

5.9.3 Federal Reporting

Federal Fleet Managers must establish and maintain record-keeping systems that will enable them to furnish data needed to meet these reporting requirements:

- FMR 102-34.70: Agencies must furnish copies of actual vehicle leases and purchases acquired for domestic fleets, which were not procured through GSA Automotive.
- FMR 102-34.215: Agencies must report on motor vehicles exempted from the display of official U.S. Government identification and tags.
- FMR 102-34.355: According to this regulation, each owning Agency must submit a Standard Form 82, Agency Report of Motor Vehicle Data, within 75 days after the end of the fiscal year. This purpose of this form is to report inventory, cost and operating data to GSA. GSA uses the data from this report to prepare the Federal Fleet Report. However, SF 82 is now fulfilled electronically through FAST.

The purpose of SF 82 (and FAST) is to ensure uniformity of reporting. It includes the "direct costs" of operations and maintenance and the "indirect costs" which are not readily identifiable to specific vehicles. GSA uses this data to prepare the "Federal Motor Vehicle Fleet Report." Agency enterprise systems or an FMIS should be programmed to feed FAST electronically, if possible.

Examples of internal reports not discussed above, but generally required of the Federal Fleet Manager, include Federal Procurement Data System Reporting, Imprest Fund Cash Accounts and Annual Accident Report.

5.9.4 Federal Automotive Statistical Tool (FAST)

FAST is a web-based reporting system developed in 1999 by Idaho National Engineering and Environment Laboratory (INEEL) for GSA and the Department of Energy (DOE). It was developed to automate annual Federal Fleet data reporting and measure the compliance of Executive Agencies with the requirements of the Department of Energy's Energy Policy Act (EPACT) of 1992, the Energy Conservation Reauthorization Act of 1998, and Executive Order #13149 - Greening the Government through Federal Fleet and Transportation Efficiency. The purpose of these laws and regulations is to reduce the use of petroleum fuels and to motivate migration toward alternative fuels (e.g., CNG, ethanol, propane, and biodiesel).

Participating Agencies update the FAST system annually with information on their current fleet inventory and planned acquisitions for the next year. Data elements that the FAST system requires include asset number, asset location, fuel type, mileage or usage, and exempt status. These data elements are available in virtually every fleet or asset management system on the market.

For most Agencies, the current process for populating the FAST system is to type the data in manually through a web interface (http://fastweb.inel.gov). Fleet personnel or contractor assistants input this data, which is derived from information captured in manual records, typically Microsoft Excel spreadsheets. Read-only access for reporting purposes is available for most of the year, whereas read-write access to the application is only available during the "Data Call," which is in October. The graphic below illustrates the FAST system portal.

As an information technology best practice, Agencies should eliminate redundant or unnecessary manual data-processing tasks. In many cases, an interface between information systems can eliminate this redundancy. Two Microsoft Excel spreadsheet forms are available and can serve as templates for software developers to write export routines to populate from other information systems. Once populated, these spreadsheets can be imported into FAST through an existing, generic import gateway.

In addition to fulfilling GSA and DOE fleet data requests, FAST also assists fleets in meeting the data requirements of OMB's Circular A-11, "Preparation, Submission and Execution of the Budget."

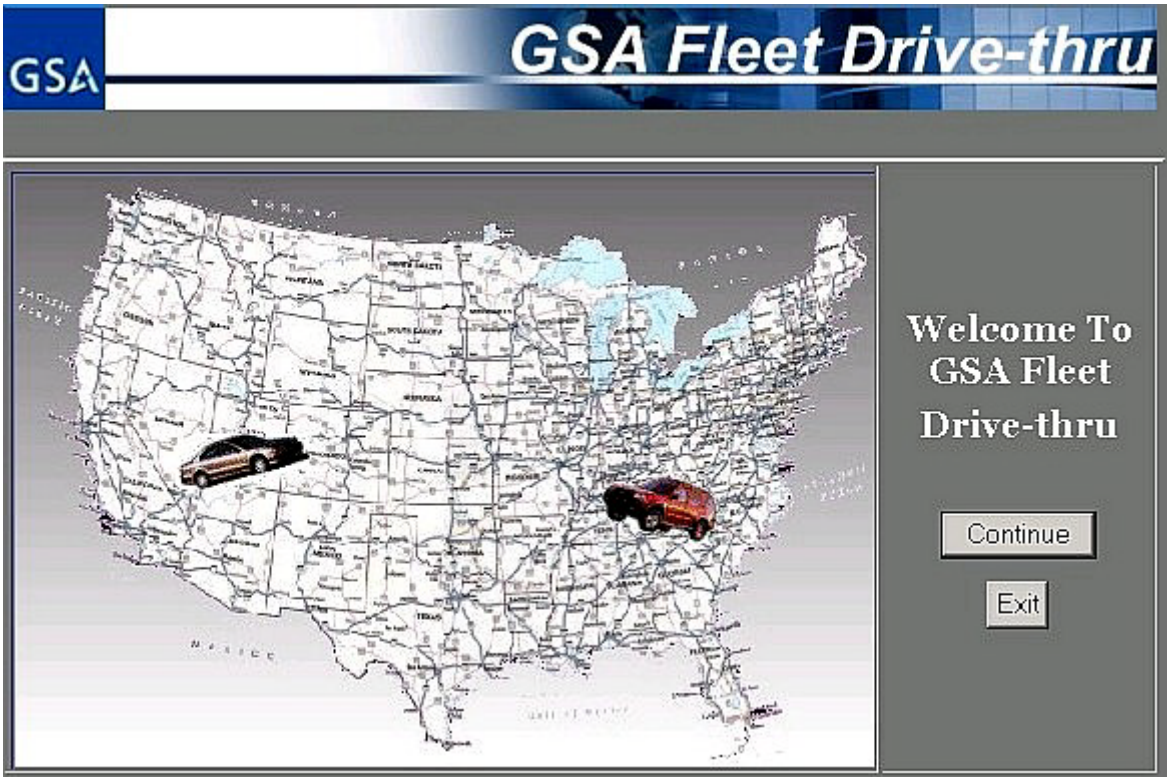
The following reports are available through links on the FAST Reports tab.

1. Agency Aggregate AFV Report – This is the official summarized set of data used to gauge your Agency's compliance with EO 13149.
2. Petroleum Consumption Report – Shows data through the current FY for "Covered Petroleum Consumption in GGE," "Alternative Fuel Consumption (in GGE)," and "Average Fuel Economy of non-AFV Light Duty Vehicle Acquisitions (in mpg)." Data percentages are calculated against available 1999 baseline data.
3. Data Quality/Consistency Report – Provides an overview of the submitted cost, mileage, inventory, and fuel consumption data for a segment or all of your Agency, from the perspective of the consistency and completeness of that data. This report, new for the FY2005 FAST data call provides several different trends showing key data elements such as inventory, fuel consumption, and cost data across recent years, as well as cross-reference tables showing inventory (by fuel type) vs. fuel consumption and cost. All Agencies are expected to review this report to help identify and resolve any significant issues with their reported data prior to the close of the FAST data call.
4. OMB A-11 AMVFR – Provides an overview of fleet inventory for all years surveyed (fiscal year just ended, along with projections for each of the next three fiscal years), accompanied by fleet costs for the fiscal year just ended. All Agency administrators should review this report prior to the close of the FAST data call, even though the majority of this report is not due to OMB until the following August, to ensure that their Agency's projections for vehicle acquisitions and disposals make sense (e.g., that the combination of acquisitions and disposals do not result in negative inventory figures for a particular type of vehicle).
5. Agency Trend Reports – Show different trends of FAST data for your Agency, and provide comparisons of your Agency against the Federal Government fleet as a whole or against individual Agencies. These trends include inventory or acquisition data (by vehicle type, source, or fuel type), mileage data (by vehicle type), and cost data (by vehicle type).
6. Query Tool – Provides ad hoc query construction and manipulation capabilities for Agency administrators to retrieve Section I, II, or III data from FAST, including filtering, sorting, and subtotaling capabilities.
7. Data Completion Report - Agency - Shows fleet total completion percentages by Agency.
8. Data Completion Report – Shows your Agency's fleet completion percentages. Fleet approvals are processed through this report.
9. Flagged Items Report – Shows any potential errors flagged during the Fleet data entry data validation step.
10. Data Log – Shows a log of the changes made by Agency, who made the changes, the time and date of the changes, and the reports the changes were made to.

5.9.5 GSA Fleet Drive-Thru

GSA Fleet Drive-thru is a web portal that allows GSA customers to report vehicle mileages, generate vehicle inventory reports, and input information and accounting classifications for vehicles to expedite billing. Access to this system is available through

the Internet at http://gsaa0.fss.gsa.gov/milexpw/. The picture below illustrates the application's login interface.



GSA Fleet Drive-thru maintains the following modules:

5.9.5.1 Mileage Express

This is a web-based mileage reporting system for GSA Fleet customers. These vehicle mileages input directly into GSA's FMIS database, which allows them to bill its customers accurately and provide timely preventive maintenance. This data input occurs once at the end of every month. Typically, Agencies input this information manually based on information captured in spreadsheets and hand-written documents.

Mileage Express also provides a generic upload interface whereby users can FTP (File Transfer Protocol) a text file with the mandatory reporting information. This file must be in the following format:

DATA ELEMENT	FIELD LOCATION	DATA TYPE	LENGTH	FORMAT
RECORD TYPE	1-3	A	3	ALWAYS = "32M"
FILLER	4	A	1	
FUND CODE	37747	A	2	
FILLER	7	A	1	
ACCT 1	37848	A	8	
FILLER	16	A	1	
ACCT 2	17-24	A	8	
FILLER	25	A	1	
VEHICLE CLASS	26-28	A	3	
FILLER	29	A	1	
VEHICLE TAG	30-34	A	5	
FILLER	35-36	A	2	
ENDING MILEAGE	37-42	N	6	
GSA REGION	43-44	N	2 (02 THRU 10)	
REPORTING DATE	45-48	N	4 MMYY	
FILLER	49-80	A	32	

5.9.5.2 Reports Carryout

This is a report engine that allows authorized users to generate fleet inventory reports, which can be opened in Microsoft Word and Excel (see "GSA Fleet Drive-thru User's guide for Reports Carryout"). The report engine provides information on:

a) Class and tag number
b) Region, Fleet Management Center, Sub-fleet Management Center, and Bureau Code
c) Model and year of vehicle
d) Average monthly mileage, as well as current monthly mileage
e) Equipment code
f) Fuel type (here you can see which vehicle is an alternate fuel vehicle)
g) Vehicle point of contact, location (city, State), and contact number
h) Monthly and mileage rates
i) Date assigned
j) Acct No 1, Acct No 2, and FC
k) Standard item number
l) Garaged zip
m) Vehicle Identification Number (VIN)

The following criteria can be filtered for reporting:

- **Customer number:** Reports Carryout can generate a vehicle inventory report for any particular customer number within the user's authorized Agency.
- **BOAC Number:** Reports Carryout can generate a vehicle inventory report for any particular BOAC number within the user's authorized Agency.

- **Agency Number:** Reports Carryout can generate a vehicle inventory report for the user's authorized Agency.

5.9.5.3 Speed Pay

This is a component of GSA Fleet Drive-thru that allows authorized users to enter information for bill reconciliation and paying. It functions as an online authorization mechanism that streamlines previous methods.

5.9.6 Direct Fleet Costs

For the Federal Fleet, direct costs are fuel and maintenance. For leased vehicles, you must know and track lease costs, and, for purchased vehicles, you must track depreciation (keeping in mind that book depreciation is a statistical calculation that differs from actual depreciation, which is only learned upon unit disposal). For fleets with in-house maintenance programs, parts inventory can represent another large direct cost.

5.9.7 Indirect or General Fleet Costs

Examples of the indirect or general costs that must be considered when evaluating the efficiency of your fleet operation include:

- Services and benefits, official travel and transportation, of all fleet management personnel. This includes the Fleet Manager, and mechanical and administrative personnel (including clerical employees).
- The amortized cost of motor vehicles and other operating equipment purchased by and for the fleet management activity.
- Rented and leased motor vehicles.
- Storage of motor vehicles at non-Government-owned locations (such as for new-vehicle storage and disposal storage).
- Improvements and repairs to Government-owned or leased real property, and the erection of temporary structures for fleet management activities.
- Space procured or retained for fleet management administration and operation, including such ancillary costs as utilities and custodial services.
- Servicing and repairing operating equipment.
- Tort claims resulting from accidents involving fleet vehicles.
- Administrative supplies and equipment, including computer support services and equipment.

5.9.8 Operations Reporting

Detailed and summary management reports on operations are usually produced from a FMIS or comparable alternative and often are drawn from data elements in these categories:

- Budget Process
- Cost
- Inventory
- Usage
- Vehicle Servicing.

Professional Fleet Managers use data from detailed and summary management reports on operations to measure the performance of the fleet.

5.9.9 Federal Vehicle Inventory Standards

The Fleet Manager will use forms similar to the FMS-201, Vehicle Inventory by Tag, and the FMS-202, Vehicle Inventory by Status, to account for, reconcile, and control the motor vehicle fleet.

Vehicle inventory is created through separate vehicle transaction records which are prepared as vehicles are acquired. Historically, a copy of each transaction has been filed in a physical vehicle-jacket file. Today, software programs increasingly capture much, if not all, of this data. Category headings for the inventory should include active inventory (assigned and dispatch), and an inactive inventory (temporary storage, idle - less than 30 days and over 30 days, and temporary storage for disposal).

5.9.10 Recording of License Plate Numbers

The Federal Fleet Manager must ensure that a centralized record of all official U. S. Government tags in use on Government-owned/leased motor vehicles is maintained. These records shall specify the motor vehicle for which the tags are assigned and shall include complete information regarding the reassignment of tags and a list of destroyed and/or voided tag numbers.

The Federal Fleet Manager should verify tag numbers upon receiving them and enter those numbers in a tag register. Upon receipt of a motor vehicle from any source, the Federal Fleet Manager should assign a tag to the vehicle and document its receipt. Normally, a motor vehicle will retain the same tag number as long as it is in service. Exceptions are when tags are lost or stolen, or when the tags must be destroyed due to damage, etc. The procedure for documenting lost, stolen or destroyed tags is the same as for charge cards (discussed below).

FMR 102.34.150 requires Federal Fleet Managers, upon learning of lost or stolen tags, to report the loss or theft to their local security office (or equivalent) or the issuing Fleet Management Center, as applicable. District of Columbia tags or other State tags, which are lost or stolen, should be reported to the District of Columbia, Department of Transportation, or the appropriate State Agency.

5.9.11 Maintenance and Service Records

The Federal Fleet Manager should maintain motor vehicle records in accordance with Agency policy and procedures. The goal is to have one, central location for historical data relating to each vehicle. In the past, Fleet Managers typically used a physical motor-vehicle record jacket file, and some operations continue to maintain physical files. Increasingly, however, an FMIS achieves this goal. The key motor vehicle records tracked physically or electronically include:

Key Motor Vehicle Records

Acquisition Documents: Purchase and Lease
Statement of Origin
Repair Orders
Warranty Information
Accident Reports: Summary of Costs
Shop Work Orders
Assignment Record
Sales Information

The physical or electronic file (or both) is to be retained for a period after the vehicle is sold. Of course, electronic files generally have long lapse dates for electronic storage. What is important for electronic files is to ensure proper backup in case the system crashes and data cannot be otherwise recovered.

5.9.12 Charge Cards

Fully document the destruction of tags or charge cards. Maintain a destruction log or register and include the following information for each charge card: tag number and expiration; lost or stolen indicator; date, reason for destruction; and method of destruction. The charge card contractor generates a periodic report of the existing charge-card inventory. Review these reports to ensure that only one card per vehicle exists, that all cards have the correct tag number format, and that no excess charge cards exist. We discuss charge cards in greater detail below.

5.10 Receipt of Motor Vehicles

According to each Federal Agency's mission, legal authority and budget, the Federal Fleet Manager will assign some vehicles to motor pool use and others to individuals. Vehicle assignment for use begins with vehicle acceptance, which includes inspection, warranty activation and reporting of defects.

Acceptance of new vehicles shall be in accordance with: 1) Instructions to Consignee Receiving New Motor Vehicle Purchased by GSA, printed on the reverse side of the consignee copy of the delivery order; and 2) the GSA Publication, "New Vehicle Guide: Warranty, Delivery, Acceptance, and Recall of Motor Vehicles." Receipt of the final delivery shall be reported on the receiving-report copy of the purchase order.

5.10.1 Deficiency Reporting

Report vehicles delivered with defects or damage using Standard Form 368, Quality Deficiency Report. A good practice is to report all deficiencies even though the manufacturer's authorized dealer has taken corrective action and complied with any specifications or requirements on the purchase order. SF 368 should specify what actions were taken. You can find the procedures for documenting and reporting quality deficiencies in the GSA Handbook, Discrepancies or Deficiencies in GSA or DOD Shipments, Material, or Billings.

5.10.2 Vehicle Identification Form

The contractor must complete GSA Form 1398, GSA Purchased Vehicle (see FPMR 101.4902-1398), to indicate that it has performed pre-shipment inspection and servicing of each vehicle. The Form must be attached to the vehicle, preferably to the lock face or

doorframe of the right front door after the final inspection. The form should be left in place during the warranty period to permit prompt identification of vehicles requiring dealer repairs pursuant to the warranty.

5.10.3 Vehicle Warranties

All new vehicles are acquired with warranty provisions effective from date of delivery or acceptance of the vehicle, as defined in the contract. Make every effort not to invalidate the warranty in performing any repairs or maintenance during the warranty period. With prior approval of the warrantor and when conditions warrant, you may receive authority for an unauthorized service facility to perform repairs covered by the warranty. In such cases, you should seek warranty restitution (reimbursement for repairs covered under the warranty).

5.10.4 Notification of Vehicle Defects

Section 151 of the National Traffic and Motor Vehicle Safety Act requires every motor vehicle manufacturer to notify the organization using the motor vehicle (or motor vehicle equipment) of any defect in any motor vehicle. This includes notification of:

a) any replacement equipment related to motor vehicle safety that the manufacturer produced and determines to be related to motor vehicle safety, and
b) any motor vehicle item or replacement equipment found not to comply with an applicable Federal motor vehicle safety standard.

The notification is sent within a reasonable time after the manufacturer has discovered the defect.

Agencies must promptly act on motor vehicle defect notices to avoid accidents, loss of life, and costly repairs and non-availability of vehicles due to these repairs. On newly procured vehicles, a manufacturer will send "Motor Vehicle Defect Notices" to the original consignee at the consignee's mailing address shown on the vehicle delivery order. However, Agency heads shall notify manufacturers of the exact address to which "Motor Vehicle Defect Notices" are to be sent when vehicles are transferred within the Federal Government (applies only to 1971 or later model vehicles).

5.10.5 Vehicle Registration, Identification and Exemptions

5.10.5.1 Registration

Official U.S. Government tags must be used on all Government-owned or -leased motor vehicles unless specifically exempted by FMR 102-34.180, 195, or 200. The tags are numbered serially for each Executive Agency, beginning with 101, and preceded by a letter code designating the Agency having accountability for the motor vehicles as shown in FMR 102-34.160. Obtain official U.S. Government tags from the U.S. Department of Justice, UNICOR, Federal Prison Industries, Inc., 400 First Street, NE, Room 6010, Washington, DC, 20534 (http://www.unicor.gov/index.cfm).

Government motor vehicles need not be registered in the States, territories, or possessions in which they are used; however, motor vehicles exempt from the display of official U.S. Government tags and other identification shall be registered and inspected in accordance with the laws of the State, territory or possession involved

5.10.5.2 Identification and Display of Tags

Each vehicle will display official U.S. Government identification tags mounted on the front and rear of the vehicle except when use of other tags is approved. In addition, each motor vehicle acquired for official purposes (except vehicles exempted by FMR-102-34.180, 195, or 200) shall display the legends "For Official Use Only," "U.S. Government" and Agency identification. Different Agencies have varying tagging policies; tagging should be in accordance with your Agency's policy. FMR 102-34.115 governs DOD motor vehicles.

Whenever a vehicle is permanently removed from Government service, all Agency identification and any other Government identification shall be removed from the vehicle before transferring the title or delivering the vehicle.

5.10.5.3 Exemptions

Unlimited exemptions from the requirement to display official U.S. Government tags and other identification are granted to the organizational activities of the Agencies listed in FMR 102-34.195. In addition, exemptions may be authorized by the Agency head or designee upon written certification to GSA that conspicuous identification will interfere with the purpose for which the vehicle is used. These do not require GSA approval.

5.11 Vehicle Assignment and Use

Procedures and guidelines must be established to ensure that vehicles awaiting dispatch to users are safeguarded and accounted for at all times. As noted above, vehicles should be issued only after determination that they are in safe operating condition and have been properly cleaned and inspected.

5.11.1 Vehicle Assignment

5.11.1.1 Agency-controlled Vehicles

The criteria for Agency-controlled GOV assignment are usually included in an Agency's internal, personal-property regulations as a formal, written procedure. Normally, the requesting user-group must provide written justification to establish the need for full-time vehicle assignment. In the case of vehicles available for dispatch to Agency employees, the number of requests for vehicles will often exceed the number of vehicles available. Coordination with program officials is necessary to ensure that dispatch priorities are established to reflect program priorities. The Fleet Manager must maintain assignment and dispatch records to ensure necessary control and to provide for utilization review.

If you are using GSA IFMS assigned vehicles, substitute vehicles will be provided at your request if:

- Your assigned vehicle is undergoing routine repair or service and is not returned within five working days; or
- Your assigned vehicle is out of service due to an accident and is not available within five days.

Substitutes for special purpose vehicles are subject to availability.

5.11.1.2 Security and Storage

When a vehicle is stored, the vehicle is to be locked and the keys and charge card are to be secured. Establish procedures for secure pick-up and return of dispatch vehicles during other than normal operating hours.

FMR 102-34.245 provides that an Agency's Government-owned, -rented, and -leased motor vehicles be stored so as to provide reasonable protection from pilferage or damage. In the interest of economy, open storage should be used whenever practical and feasible. An Agency must determine whether it is "practicable or feasible" to use open storage space or a particular type of storage space at a particular location after considering the nature of program demands and special requirements at that location.

All unattended Government-owned/leased motor vehicles should be locked.

5.11.1.3 Assignment to a Vehicle Operator

As Fleet Manager, your responsibilities include ensuring that vehicle operators receive instruction in procedures for care and use of the vehicle, safe driving, use of and safeguarding the Government charge card, and reporting accidents.

A vehicle operator's driving record should be checked:

- ✓ when new drivers are hired,
- ✓ annually, and
- ✓ after an accident.

After receiving proper release from the individual, Fleet Managers may use either a) the National Highway Traffic Safety Administration (MHTSA) National Drivers Registry (NDR), b) private companies or c) perform driver record checks personally.

5.11.1.4 Motor Vehicle Operator Identification

When releasing motor vehicles on assignment or dispatch, verify that the vehicle operator has the required identification:

- A valid State, District of Columbia, or territorial motor vehicle operator's license or permit for the type of vehicle to be operated;
- Employee identification, identifying the operator as a Federal employee or authorized contractor employee;
- Where required by the Agency's internal regulations, an optional form 346, U.S. Government Motor Vehicle Operator's Identification Card.

The Office of Personnel Management (OPM) has established requirements governing the qualification and identification of Government-furnished vehicle operators. These requirements may be found in 5 CFR Part 930, which states in part: "Agencies must have procedures to identify employees who are authorized to operate Government-owned or leased motor vehicles."

In addition, if the vehicle is a “commercial motor vehicle” as defined by the Motor Vehicle Safety Act of 1986, the operator must possess a Commercial Driver’s License (CDL) for the class of vehicle to be operated. Some Department of Defense employees (i.e., active military) may be exempt from the CDL requirement, particularly if the motor vehicle in question will not be operated on public roads.

5.11.2 Official Use versus Incidental Use

Funds made available to a Federal Agency, by appropriation or otherwise, may be expended by the Agency to maintain, operate and repair any motor vehicle to the extent it is used for official purposes.

5.11.2.1 Definition of Official Use

"Official Use" of a motor vehicle is using a motor vehicle to perform the Agency's mission(s), as authorized by the Agency.

According to 31 USC 1349 (b) Adverse Personnel Actions:

> "An officer or employee who willfully uses or authorizes the use of a passenger motor vehicle or aircraft owned or leased by the United States Government (except for an official purpose authorized by section 1344 of this title) or otherwise violates section 1344 shall be suspended without pay by the head of the Agency. The officer or employee shall be suspended for at least one month, and when circumstances warrant, for a longer period or summarily removed from office."

5.11.2.2 Definition of Incidental Use

"Incidental Use" is the use of Government owned or leased motor vehicles for other than official purposes. Section 503 of the Ethics Reform Act of 1989, as amended, states that:

> "Not withstanding any other provision of law, the head of each department, agency, or other entity of each branch of the Government may prescribe by rule appropriate conditions for the incidental use, for other than official business, of vehicles owned or leased by the Government. Such use with respect to vehicles owned or leased by, or the cost of which is reimbursed by, the House of Representatives or the Senate shall be only as prescribed by rule of the House of Representatives or the Senate, as applicable."

5.11.2.3 Home to Work (HTW)

Alternate Terms: Domicile to Duty and Residence to Duty Station

Allowed Only When Authorized by Agency Head

Home-to-Work transportation using a Federal passenger carrier (motor vehicle, aircraft, boat, ship or other similar means of transportation owned or leased by the United States Government) is only allowed when the Agency Head authorizes it after making the necessary determination under 31 U.S.C. 1344(b)(1) through (b)(7) and Federal Management Regulation (FMR) 102.34-225 and 102-5. This determination must be in writing and shall include the name and title of the officer or employee, the reason for such determination, and the duration of the authorization.

The Agency must monitor home to work usage. Each Federal Agency shall maintain logs or other records necessary to establish the official purpose for Government transportation provided between an individual's residence and his/her place of employment.

5.11.3 Traffic Law Violation

Operators of Government-owned or leased motor vehicles must obey all the motor vehicle traffic laws of the State and local jurisdiction in which they are operating, except when the duties of their position require otherwise. Operators are personally responsible for any violation of State or local traffic laws. If an operator is fined or otherwise penalized for an offense he or she committed while performing official duties, but the cause of the penalty was not required as part of their official duties, payment is the operator's personal responsibility!

The Comptroller General of the United States indicates in 31 Comp. Gen. 246 (1952) that:

> "There is not known to this Office any authority to use appropriated monies for the payment of a fine imposed by a court on a Government employee for an offense committed by him while in the performance of, but not as part of, his official duties. Such fine or forfeiture of collateral is imposed on the employee personally and payment thereof is his personal responsibility."

In addition, operators of Government-owned or leased motor vehicles must pay any parking fees incurred. However, operators can expect reimbursement for parking fees incurred while performing official duties.

The Comptroller General of the United States indicates in 46 Comp. Gen. 624 (1967) that:

> "When the payment of a meter fee for the parking on a public street of a Government-owned vehicle used on official business imposes no impermissible burden on the performance of a Federal function, appropriated funds may be used to pay or reimburse employees for parking meter fees, unless the parking fee has been held by a court to be a tax or revenue raising measure."

Reimbursement is not allowed for parking violations. Operators of Government-owned or leased motor vehicles are personally responsible for payment if they are fined for a parking violation.

The Comptroller General of the United States indicates in 31 Comp. Gen. 246 (1952) that:

> "A fine imposed by a court upon an employee for a parking violation while driving a Government vehicle in the performance of his official duties is a personal responsibility of the employee and there is not authority for the payment thereof from appropriated monies."

5.11.3.1 Contractor Use of GOVs

Government contractors may use Government-owned vehicles (GOVs) when authorized under applicable procedures and the following conditions exist:

- The motor vehicles are used for official purposes only and solely in the performance of the contract.
- The motor vehicles cannot be used for transportation between residence and place of employment, unless authorized by the Agency in accordance with 31 U.S.C. 1344 and FMR 102-5.

The Contractors must:

- Establish and enforce suitable penalties against employees who use, or authorize the use of, such motor vehicles for unofficial purposes or for other than in the performance of the contract.
- Pay any expenses or cost, without Government reimbursement, for using such motor vehicles for other than in the performance of the contract.

See FAR Subpart 51.2 - Contractor Use of Interagency Federal Fleet Management System (IFMS) Vehicles for more information on GSA Fleet vehicle use by contractors.

5.11.4 POVs (privately owned vehicles)

Federal Agencies may decide to authorize employees to use their privately owned (or leased) vehicles (POVs) for official business rather than allowing the use of a Government-owned or leased motor vehicle. Employees authorized to use POVs to conduct official business are entitled to receive per-mile reimbursement based on rates set by GSA each year (for POV Mileage Rate, following this link: http://www.gsa.gov/Portal/gsa/ep/contentView.do?contentId=9646&contentType=GSA_BASIC).

Employees authorized to use POVs must inform their insurance company that they are using their vehicle for business. Otherwise, their insurance company may not cover them in the event of an accident, and the Government certainly will not provide coverage because the POV mileage rate includes the cost of insurance.

5.11.4.1 Reimbursable Expenses

Reimbursable expenses include:

- Mileage
- Parking fees
- Ferry fees
- Bridge, road or tunnel fees
- Insurance Deductible (a Government employee may be reimbursed for his/her deductible if the accident/incident causing the damage was not the fault of the vehicle operator).

5.11.4.2 Non-Reimbursable Expenses

Non-reimbursable Expenses include:

- Damage claims
- Charges for repairs, depreciation, replacements, grease, oil, antifreeze, towage and similar speculative expenses

5.11.5 Unauthorized POV Use

In some circumstances, an employee may be authorized to use a Government-owned or leased motor vehicle to conduct official business but elect to use a POV instead. Mileage reimbursement rates will vary depending on the circumstances involved. Generally, the reimbursement rate for unauthorized POV use will be limited to the cost that would be incurred for use of a Government automobile. If the employee's Agency determines that the cost of providing a Government vehicle would be higher because of unusual circumstances, then it may reimburse the employee at a rate not to exceed normal POV reimbursement rate established in the Federal Travel Regulations.

If an employee agrees to use a Government vehicle or would not ordinarily be authorized to use a POV due to the availability of a Government vehicle, but nevertheless uses a POV, the employee will be reimbursed a fixed cents-per-mile rate, which GSA publishes in the Federal Travel Regulations. This is the approximate cost of operating a Government vehicle with fixed costs excluded.

5.12 Fleet Charge Cards

In 1998, GSA awarded five contracts that provide Federal Agencies a new way to pay for commercial goods and services as well as travel and fleet-related expenses. Under its SmartPay program, GSA made awards to five service providers: Citibank, Bank One, Mellon Bank, Bank of America, and U.S. Bank. Under SmartPay, each Agency is responsible for choosing the fleet card company that best meets its needs. Through SmartPay, GSA Fleet issued a tailored task request, conducted a competitive evaluation, and issued a tailored task order to Citibank (with the Voyager Fleet Card providing the fleet card services under contract with Citibank).

5.12.1 GSA Fleet and the Fleet Charge Card

GSA Fleet uses a Fleet Charge Card for fuel and minor maintenance and repair services for the vehicles it leases to Agencies. A local GSA Fleet Management Center (FMC) assigns a card to a vehicle, and it should be used only for the vehicle identified on the card.

Use of the GSA Fleet Services Card for GSA Fleet vehicles (or an Agency-issued fleet card) for Agency-owned vehicles allows Agencies to reduce administrative costs and State taxes as well as to collect detailed fleet management data regarding fuel and related maintenance and services procurements.

5.12.2 Charge Card Authorizations

Agencies may establish card-by-card authorization limits for:

- Cost Per Fuel Transaction
- Cost Per Maintenance Transaction
- Daily Transaction

- Price Per Gallon
- Gallons Per Transaction

5.12.2.1 Use of the Charge Card

The charge-card user must make all reasonable efforts to find the nearest authorized location accepting the card when making fuel and maintenance purchases. The Fleet Card is accepted at over 150,000 fueling sites in all 50 States. An Agency will not be exempt from State taxes if an unauthorized vendor is used. Also, the Agency will not receive any detailed information on the purchase.

For Official Government Business Use

Under no circumstances is the card to be used for personal purchases or as identification for personal purchases. Fleet Managers and vehicle operators are responsible for ensuring that the Fleet Charge Card is used only for authorized purchases.

The person using the card is responsible for safeguarding it at all times. It should never be left in an unattended vehicle. The importance of safeguarding the card must be impressed on all motor vehicle operators.

Fuel Purchases

Agencies shall require motor vehicle operators who purchase fuel at commercial service stations to use self-service pumps. Policy exemptions may apply, such as:

- Non-availability of self-service pumps at a service station under the Fleet Charge Card contract for fuel
- Physical limitations of the vehicle operator
- Refusal by a service station to honor the card for fuel pumped at self-service islands
- Severe weather conditions

Permitted fuel purchases include regular grade, no-lead gasoline; gasohol (up to 10% ethanol blended with regular, no-lead gasoline); alternative fuels; diesel fuel; and regular and premium grade lubricating oils. The Federal Fleet Manager must specifically authorize use of higher-grade gasoline.

Service Purchases

Operators can use the Fleet Charge Card to obtain these "services":

- Tire/Tube Repair
- Tire Mounting
- Battery Charging
- Washing and Cleaning
- Permanent Type Antifreeze
- Emergency Replacement of
    - ✓ Spark Plugs
    - ✓ Fan Belts
    - ✓ Windshield Wipers
    - ✓ Lamps

- ✓ Road Repairs

Vehicle operators can use the Fleet Charge Card to purchase authorized emergency repairs from commercial sources only to the extent that it is economically advantageous.

Destruction of Charge Cards
Federal Fleet Managers should fully document the destruction of charge cards (and tags) by maintaining a destruction log or register that includes:

- Tag number and expiration
- Indicator as to being lost or stolen
- Date, reason for destruction
- Method of destruction

The card contractor generates a periodic report of the existing charge card inventory. Review these reports to ensure that only one card per vehicle exists, that all cards have the correct tag number format, and that no excess charge cards exist.

Charge Card Controls
Agencies are responsible for ensuring that purchases made with the charge card are for official use and controls must be maintained to prevent unauthorized use. One effective control is...

Screening of Fleet Charge Card Invoices

- ✓ **Check for agreement of written and imprinted amounts**
- ✓ **Check that fuel purchases do not exceed tank capacity of vehicle**
- ✓ **Check that purchases do not include unauthorized items or accessories**
- ✓ **Check that the signature is by an authorized driver**
- ✓ **Check that the date of purchase does not fall on a holiday, weekend, a day when the driver was on leave, or the vehicle was out of service**
- ✓ **Check that the tag number indicates Government tag**
- ✓ **Check that the location of purchase is within a reasonable authorized-use area**
- ✓ **Check that the amount of gasoline purchased in a given period correlates with reported miles driven**

When not in use, all Fleet Charge Cards are to be secured in a locked safe or cabinet. A charge card sent to a vehicle operator should be shipped by certified mail, return receipt requested.

5.13 Vehicle Utilization

An inventory control system should aid a Fleet Manager in accounting for and optimizing the utilization of the vehicle fleet. Typically, Fleet Managers measure improvements resulting from such effort in miles per vehicle year (MPVY). Searching for and identifying opportunities for utilization improvement is critically important because it represents a significant opportunity for cost avoidance and fleet right-sizing. Tracking and monitoring utilization can help identify possible misuse or abuse of vehicle. Improvements resulting from such efforts can be measured in increased miles per vehicle year. Key to use of this performance measure is assigning utilization targets to all vehicles to identify normal and abnormal variations in utilization.

Fleet Managers should analyze utilization data quarterly and take appropriate action when usage is falling short or excessively surpassing the guidelines. Among the actions Federal Fleet Managers may consider are "pooling" or "rotating" vehicles:

- Pooling means having employees or organizational activities share the same vehicle when usage falls below the requirements for full-time vehicle assignment.
- Rotating vehicles can be done when one activity has met or exceeded utilization guidelines and another has fallen short during a given time period.

The practice of rotating vehicles is not an end in itself. It is, however, an essential function of fleet management for realizing the objective of establishing and maintaining an efficient, fully utilized fleet. The disposal of late-model vehicles due to accumulation of excessive mileage while at the same time operating aged vehicles receiving very little usage is inefficient and uneconomical in terms of fleet-size required, high maintenance costs, and low disposal proceeds.

5.13.1 Heavy Duty Equipment

For heavy duty equipment in particular Fleet Managers need utilization information to conduct detailed analyses of the frequency, intensity, and duration (i.e., how often, how much, how long) of use of specialty equipment such as excavators and earthmovers. One important outcome of tracking this utilization data is that careful analysis can yield general guidelines as to what specific types of assets should be rented rather than purchased.

Proper analysis of fleet utilization requires data on every motorized unit to show hour-meter or mileage readings at two points in time. Fleet Managers should generate utilization reports to ensure that data being input are accurate and reliable. For example, if units have no meter reading or a reading of "1," then you should follow up to ensure operators are capturing and entering data correctly. If you find that units have meter readings ranging from 20,000 hours to more than 600,000 hours, you should follow up to ensure operators are capturing and entering data correctly. In some cases, entry of meter readings may only be off due to a decimal point being omitted.

Equipment is normally at a point of wear that merits retirement at around 6,000 to 7,000 hours, although 10,000 hours may be possible with proper maintenance. It is difficult to determine a general rule for replacement of motorized equipment, such as off-road and construction equipment, due to the extreme variations in the types of equipment in this class, and the variations in how the equipment may be used. However, the following *general* guidelines are useful benchmarks:

Group	Examples	Life - Years	Life - Hours
Light Duty	ATV's, Snowmobiles, Grounds equipment such as mowers under 20 h.p., etc.	5	1500
Medium Duty	Tractors up to 100 h.p., forklifts, small loaders and backhoes, etc.	10	3000
Heavy Duty	Tracked and wheeled dozers and loaders, graders, scrapers, cranes, etc.	20	6000

5.13.2 Using Utilization for Fleet Right-Sizing

The National Association of Fleet Administrators (NAFA) conducted a survey of its member fleet organizations in 2001, which included an inquiry regarding life expectancy of several different classes of vehicles and equipment. The survey results provide a baseline reference (but note that the data lumps all off-road and construction equipment into one large group):

NAFA Classification Code System		Life Expectancy		
		Years	Miles	Hours
Code	Class	Avg	Avg	Avg
0	Non Self Propelled	11		
1	< 8500 GVW (cars & trucks)	8	85,000	
2	8501-10,000 GVW	10	100,000	
3	10, 001-14,000 GVW	10	100,000	
4	14,001-16,000 GVW	11	100,000	
5	16,001-19,500 GVW	11	100,000	
6	19,501-26,000 GVW	11	100,000	
7	26,001-33,000 GVW	12	112,000	
8	>33,000 GVW	12	120,000	
9	Off Road and Construction	19		6,500

Fleet Managers with diverse fleet assets should take steps to ensure that all mileage and meter readings are collected regularly and accurately. After reliable data is available, undertaking an annual review of utilization will identify potentially under-utilized units. Suggested minimum utilization levels are:

Passenger vehicles and light trucks:	400 miles per month
Medium and heavy duty trucks:	200 miles per month
Motorized equipment*:	20 hours per month

*Off-road, construction, industrial, and agricultural equipment that is self-powered, driveable, and non-licensed.

Adjust minimum utilization levels to a point where approximately 10% of the units in each major class fall below the minimum level, after reliable data becomes available. This provides a fundamental tool for fleet right-sizing. Scrutinize fleet units in that 10% most carefully and consider them for either disposal, rotation, placement in a pool, or pass-along. Also consider whether renting may be more cost-effective than owning or leasing.

5.14 Maintenance and Repair

5.14.1 Best Practices

Because a fleet management organization's primary mission is to maximize the availability of vehicles so that its customers can productively perform their jobs, the focus of maintenance management needs to be to develop practices that minimize unscheduled repairs and that return vehicles requiring repair to service in as little time as possible. This should, of course, be accomplished at a competitive cost, given the requirement for a high level of service.

Fleet maintenance and repair processes significantly impact vehicle availability, reliability, safety, economy, and environmental integrity. The principal requirements for achieving

fleet maintenance are a) facilities and equipment, b) mechanic labor, c) parts, d) cross-sharing, and d) commercial (i.e., contracted or outsourced) services. The challenge of any fleet maintenance process is to mix these ingredients so as to maximize vehicle reliability, safety, availability, and operating performance while minimizing labor, parts, and contracted service expenditures.

Taken alone, direct maintenance costs represent a relatively small proportion of the total fixed and operating costs of a vehicle. Although difficult to quantify, indirect economic impacts of fleet maintenance also are important and can far exceed the direct costs. For example, mechanical failures that idle employees or disrupt service can result in productivity losses or more severe problems, the costs of which dwarf those associated with repairing the mechanical defects. Such impacts highlight the importance of using maintenance management and performance measurement techniques to control maintenance and repair quality.

Vendors may be tapped to perform fleet maintenance and repair services for various reasons, including managing in-house work backlogs; avoiding costly investments in facility construction, tooling, training, and staffing to meet low volumes of service demand in remote areas or for specialty repairs; and to achieve a degree of flexibility (e.g., in terms of locations, hours of service, etc.) in the provision of services. However, cost-effective use of vendors requires that procedures be followed for:

1) determining the comparative cost effectiveness of performing a service in house or using a vendor;
2) managing and controlling vendor performance relative to individual service orders and ongoing service levels (in the case of contract providers of services); and
3) capturing all relevant information on vendor-performed services so as to maintain a complete record of vehicle maintenance history and costs and provide for timely user billing via a charge-back system.

The heart of any fleet maintenance program is an effective preventive maintenance (PM) process. The objective of a PM program is to minimize equipment failure by maintaining constant awareness of equipment condition and correcting defects before they become serious. A PM program also minimizes unscheduled repairs by ensuring that most maintenance and repair activities occur through scheduled inspections. An effective PM program pays dividends not only in improved vehicle safety and reliability, but also financially by extending the life of vehicles, minimizing the high cost of breakdowns, and reducing lost employee productivity resulting from fleet downtime.

The principal factors impacting fleet maintenance costs are fleet age and condition. Advanced age for a fleet drives up both direct maintenance and repair costs for such things as parts, labor, and vendor services; and indirect costs resulting from a reduction in vehicle and equipment availability, reliability, safety, and technological currency/capacity. The best way to manage these direct and indirect costs is to replace vehicles and equipment in a timely manner.

Other factors that influence fleet maintenance costs are asset specifications (i.e., vehicle and equipment design and construction); operating environment and practices; asset utilization levels; and fleet maintenance and repair management practices.

The principal elements of an optimum fleet maintenance program are:

- Preventive maintenance;
- Pre-trip inspection and defect reporting;
- Work scheduling, prioritization, and backlog management;
- Warranty claims management;
- Parts procurement and inventory management and control;
- Quality assurance;
- Use and control of performance of vendors;
- Mechanic training and supervision; and
- Maintenance management performance analysis and reporting.

5.14.2 Vehicle Needs Determination

Maintenance begins with choosing the appropriate vehicle to do the required job. Fleet Managers must analyze their transportation needs in terms of Agency mission(s) and the work that must be done. Improper vehicle specifications will result in higher maintenance and repair costs. A vehicle that offers more than needed to do a job (over-spec'd) costs more initially and will most likely result in higher operating costs. If a vehicle is inadequately equipped or powered (under-spec'd), expect shorter life, more breakdowns, and a higher overall maintenance cost. For fleets that handle maintenance in-house, standardization in vehicle selection (and added features and capabilities) means reduced parts inventory, enhanced ability of mechanics to repair vehicles efficiently and dependably, and a better measure of the suitability of equipment for assigned tasks over time.

5.14.3 Objectives of a Fleet Maintenance Program

The objectives of a fleet preventive maintenance (PM) program are:

- To maximize the useful life and reliability of vehicles while minimizing total life cycle costs.
- To assure that PM work is scheduled at appropriate intervals.
- To assure that PM work is performed in compliance with schedules.
- To perform appropriate PM tasks according to vehicle requirements.
- To complete PM work in a timely manner to minimize downtime and customer inconvenience.
- To acquire the services of competent, reliable vendors at the best price available if in-house maintenance is not an option.
- To ensure all warranties and guarantees are honored.
- To minimize the cost of PM to the organization.

Federal Management Regulation 41 CFR 102-34 "Motor Vehicle Management," Subpart E – Scheduled Maintenance of Motor Vehicles, section 102-34.285, states:

What kind of maintenance programs must we have?

You must have a scheduled maintenance program for each motor vehicle you own or lease. This requirement applies to motor vehicles operated in any State, Commonwealth, territory or possession of the United States, and the District of Columbia. The GSA Fleet will develop maintenance programs for GSA Fleet vehicles. The scheduled maintenance program must:

(a) Meet Federal, State, and local emission standards;
(b) Meet manufacturer warranty requirements;
(c) Ensure the safe and economical operating condition of the motor vehicle throughout its life; and
(d) Ensure that inspections and servicing occur as recommended by the manufacturer or more often if local operating conditions require.

5.14.4 Scheduled and Unscheduled Maintenance

Maintenance must be done. Scheduled maintenance (PM) is preferred; unscheduled maintenance should be minimized.

5.14.4.1 Scheduled Maintenance Programs

Establishing a Scheduled Maintenance Program

Detecting and correcting deficiencies in any of a vehicle's systems in their early stages, before they develop into major defects, results in lower maintenance costs. Executing a planned repair in a shop is more cost-effective than fixing a breakdown. Equipment breakdowns and downtime can be significant costs. Downtime results in decreased efficiency, increased rental costs, loss of productivity and poor customer relations. Safety related defects identified before use can avoid accident, injury and death.

As noted above, under the provisions of FMR 102-34.285, Agencies must establish a Schedule Maintenance Program for all Government-owned motor vehicles (GOVs). Scheduling maintenance helps ensure that all motor vehicles are maintained and serviced according to the vehicle manufacturer's recommendations (or more frequently where warranted by local conditions).

Benefits of a Scheduled Maintenance Program

A Scheduled Maintenance Program or PM helps to ensure that motor vehicles:

- Operate safely
- Operate economically
- Meet emissions standards
- Meet warranty requirements
- Meet manufacturer's maintenance requirements
- Are energy efficient

Components of a Scheduled Maintenance Program

A PM program has three major components:

- Maintenance tasks that need to be performed periodically.
- Time/mileage intervals for the performance of these tasks.
- Key personnel involved to include the driver, the mechanic(s) performing the work and the Federal Fleet Manager.

Development of the Maintenance Task and Time/Mileage Interval Checklist

To develop effective vehicle-specific, scheduled maintenance or PM requirements, Fleet Managers will consult the manufacturer's recommended maintenance standards, understand the operating conditions of the vehicle, and study reports of past experiences with the specific vehicle/vehicle class and the history of unscheduled maintenance on the vehicle or class. Detailed record keeping will allow a Federal Fleet Manager to identify emergency repairs and separate these repairs from other unscheduled maintenance items.

Typically, a Fleet Manager will set up PM codes. Each PM code is the key to a set of rules that spell out what needs to be done and when for each type of equipment in the fleet. Because of similarities among various classes of fleet equipment, creation of a code for each unit in the fleet is unnecessary.

Maintenance managers typically refer to manufacturer guidelines and their own experience and working conditions to design a PM program and define the codes. For example, passenger car manufacturers typically publish maintenance requirements for "normal" and "severe" service conditions. The oil change interval for normal service could be 7,500 miles while the interval for severe service is 3,000. The maintenance manager might even use a mid-range interval, such as 5,000 miles, in some applications.

The PM task list itself is designed to address vehicle needs at each interval. Many fleets use "PM echelons" to identify different sets of tasks to be performed at different intervals for each class of vehicle. These echelons are fairly standard in the industry:

- PM-A: inspection and light maintenance procedure that is essentially an oil change, lubrication, filters as necessary, and safety inspection of lights, brakes, etc. PM-A is usually synonymous with the most frequent interval.
- PM-B: a more thorough list of tasks but would include all tasks in the "A" level PM, typically performed every 2nd or 3rd scheduled PM.
- PM-C: if needed, addresses long-interval procedures such as a transmission flush, cooling system flush, etc.
- For heavy equipment, even more PM echelons might be necessary. Refer to manufacturer's recommendations for details.

Help on setting up a maintenance program is addressed in the Federal Management Regulation 41 CFR 102-34 "Motor Vehicle Management," section 102-34.295. However, its guidance does not extend to off-road and heavy equipment.

A resource for establishing PM programs for heavy equipment is the Association of Equipment Management Professionals (http://www.equipment.org/). Membership of this

organization consists of fleet managers who have considerable expertise in the management of off-road and heavy construction equipment.

To simplify program management, make your PM intervals mathematically consistent (for example, if the PM-A interval is 5,000 miles, then all other intervals should be multiples of 5,000 [that is, PM-B = 15,000 miles; PM-C interval = 30,000 miles]). Specific tasks should reflect the specific needs of the equipment (for example, diesels don't need spark plugs, so the task list for their "tune up" wouldn't show spark plugs).

Sample PM Coding Table

PM Code	PM Interval
001	3,000 miles or 6 months
002	5,000 miles or 6 months
003	7,000 miles or 6 months
004	
005	
011	25 hours or 6 months
012	50 hours or 6 months
013	100 hours or 6 months
014	200 hours or 6 months
015	300 hours or 6 months
016	
017	
021	30 days
022	61 days
023	91 days
024	121 days
025	182 days
026	365 days

Task Lists

Based on the sample PM coding table shown above, a typical vehicle such as a 4x4 pickup truck might be assigned PM code 002 and would have the following interval/task schedule (also known as PM levels):

PM – A: 5,000 miles or 6 months
PM – B: 15,000 miles or 12 months
PM – C: 30,000 miles or 24 months
PM – D: 60,000 miles or 48 months
PM – E: 90,000 miles or 60 months

An example of a typical list of tasks to be performed by interval at each level is shown on the following table; however, the manufacturer's recommendations should always be followed.

PM Compliance Reports

Interval	Service Item Description
5000	Change engine oil & filter
	Check all fluids & top off as needed
	Check safety devices
	Check/clean battery & battery terminals
	Inspect belts & hoses
	Inspect engine & transmission for leaks
	Inspect exhaust & emission systems
	Inspect fuel tank, cap & lines
	Inspect undercarriage
	Rotate tires
	Test brakes
	Test lights, horn & wipers for proper operation
15000	Inspect radiator
	Lubricate hinges, latches, locks, slides & weatherstrips
	Check spring u-bolt torque
	Check/adjust headlights
	Check/adjust parking brake
	Inspect brake system
	Inspect suspension & steering system
	Lubricate transfer case shift lever pivot bolt & control rod connecting pins
30000	Change automatic transmission fluid & filter
	Flush brake fluid
	Inspect/lubricate manual hub locks
	Inspect/lubricate spindle needle bearings
	Inspect/service cooling system
	Replace air filter
	Replace differential oil
	Replace fuel filter
	Replace spark plugs
60000	Change transfer case fluid
	Replace distributor cap & rotor
	Replace drive belts
	Replace ignition wires
	Replace PCV valve
90000	Change front axle fluid

PM compliance reports should be distributed periodically, perhaps quarterly or annually, to show how various user groups are complying with the PM program. The report should show what percentages of a group's monthly PMs were not completed on time or are, in effect, overdue. For example, if Region 3 has 100 PMs scheduled for July but it completes only 87 during the month, then 13% of its PMs are overdue for that month and must be scheduled in August, the following month. Overdue PMs should be the highest priority PMs for the following month, placed ahead of PMs regularly scheduled for that month.

The Federal Fleet Manager must develop maintenance schedules for his/her fleet and maintain proper records for each vehicle. Schedules should include provisions for

appropriate safety and emissions inspections as well as other PM tasks. Scheduled maintenance (as well as unscheduled maintenance) should be documented in the repair history of the vehicle.

Emissions Inspections

The Federal Fleet Manager must coordinate with State and local officials to ensure that the Agency fleet meets the emissions program standards. In compliance with the Clean Air Act of 1977, some States have implemented mandatory emissions testing programs. Owned and leased vehicles are subject to the requirements of the jurisdiction where they are regularly housed. Not all States require the Federal Government to participate in the emissions testing program to the same degree; all require substantive compliance with the State emissions programs, but some do not require procedural compliance.

Safety Inspections

The scheduled maintenance program should ensure that all vehicles meet or exceed the standards for vehicles set by the States with respect to operation of all safety related equipment: lights, horn, brakes, tires, etc. States will normally require inspection of vehicles exempted from the use of official U.S. Government tags (and other identification) for mechanical and/or emission defects. The using Agency is responsible for ensuring that these inspections are kept current and bearing all associated costs.

Tires

Changing a tire in the shop is cheaper than on the road. Achieving the lowest tire-cost per mile begins with getting the correct tire and maintaining it properly. Tire preventative maintenance includes inspection for tread depth, wear patterns, sidewall cuts, proper inflation, balance and alignment.

Except as otherwise noted, replace tires when the remaining tread depth is 2/32 of an inch (or according to state or local laws), when the tread-use bars indicate that the tire shall be replaced, or when the tires are otherwise deemed unsafe. A tread depth of 4/32 of an inch is to be maintained on the front steering wheels of any vehicle exceeding 10,000 GVWR that is operated on the highway, any vehicle that carries hazardous or explosive material, all buses, and all ambulances.

Snow tires are installed only where geographic locations and local weather conditions warrant. To extend the useful life of the tires and to reduce fuel usage, remove them when such conditions no longer exist.

Larger fleets can justify using manufacturer's recommendations to start a tire maintenance program and, as their fleet tire-history develops, look for ways to reduce costs and downtime and improve fuel economy.

Motor Vehicle Systems

Federal Fleet Managers and other Federal employees involved in maintaining the Federal Fleet need to understand the characteristics of the assets they manage. Reading and research regarding automotive technology should be an on-going effort. For a review of the basic systems present in any type of motor vehicle, go to the Primer on Primary Motor Vehicle System in the Appendix.

Predictive Maintenance

Another key to an effective PM program is to know which vehicles are trouble-prone and which are reliable. That knowledge can save a fleet time, money, and grief. If a Fleet Manager can identify before-hand those vehicles that are prone to certain mechanical problems, he or she can:

1. Cut the model from the selector list
2. Dispose of the vehicle(s) before the end of their life cycle; or
3. Be prepared for the mechanical problems likely to appear on these models or vehicle types.

A fleet predictive maintenance program offers a means for a Fleet Manager to schedule vehicle repairs before components fail, and this is especially important for vehicles with long replacement cycles. For example, if a Fleet Manager knows a component is likely to fail or a system to malfunction at 60,000 miles or 5,000 hours, the component or system can be replaced or serviced before that mileage or time limit has been reached. To put it in simpler terms, the operating philosophy of predictive maintenance, as with the overall PM program, is: "Fix equipment before it fails." A predictive maintenance program consists of three basic steps:

1. Collect vehicle repair data
2. Analyze (collected data); and
3. Correct, repair, or replace selected component(s).

Importance of the Driver

Routine inspection of a vehicle before, during and after operation by the driver is where an effective PM program begins after unit assignment and delivery. Repair of defects found during these inspections can then be scheduled to prevent more costly repairs or excessive downtime later.

Drivers can perform three types of inspections:

- Before-operation inspection is a visual check to make sure the vehicle is safe and in sound operating condition before being driven. Many defects, especially leaks, are more apparent after the vehicle has been parked overnight.

- During-operation inspection merely requires that the operator be alert to indications of vehicle malfunction while driving (such as unusual vibrations, noise, odors, abnormal instrument readings and erratic break and steering operations).

- After-operation inspection consists of a walk around and may, for some missions, also include detailed checks covering damage, leakage, tire/spare, fuel, oil, coolant, battery, horn, lights/reflectors, instrument, wipers, windshield, cargo/mounted equipment, steering, safety devices, drive belts/pulleys, brakes and lubrication/oil.

As needed, drivers should file discrepancy reports, and Federal Fleet Managers should assure the proper personnel review them and appropriate actions taken. Some Agencies require drivers to review the last-use report before operating a vehicle, particularly in motor pools.

Importance of the Mechanic
Properly trained mechanics in well-managed shops are an integral component in a successful PM program, whether work is performed in-house or off-site, under a leasing arrangement or through a commercial vendor.

Importance of the Federal Fleet Manager
Whether the Federal Fleet Manager is in charge of vehicle maintenance or has his/her maintenance performed under lease arrangement, the Federal Fleet Manager remains responsible for ensuring that the required maintenance is performed on time and correctly.

Scheduled Maintenance and GSA Fleet Vehicles
For GSA Fleet assigned vehicles, when service is due, GSA Form 3478, Motor Vehicle Service Authorization, is sent to the Agency customer contact electronically, unless an email address is unavailable. The form serves as authorization to perform the listed services. Operators may contact the servicing Maintenance Control Center (MCC) for authorized service facilities. Any scheduled service under $100 is automatically approved, and services beyond $100 require the vendor to have an approval. All vendors must call MCC for authorizations.

When unscheduled or emergency repairs are required, review the PM schedule of the vehicle. If scheduled maintenance is due within 30 days or 500 miles, arrange to have the service performed concurrently with the other repairs if it will be advantageous to the Government in reducing vehicle downtime, cost and inconvenience. When the vendor calls MCC for authorization, the MCC technician should identify the scheduled service and ask the vendor to undertake the work.

GSA Fleet will make available Fleet Management technicians, on a reimbursable basis, to assist Agencies in establishing or revising their scheduled maintenance programs.

5.14.4.3 Unscheduled Maintenance and Repairs
Repair authorizations for unscheduled maintenance and repairs should be in accordance with Agency procedures and dollar thresholds to ensure that:

- The repair or service is necessary.
- The price is fair and reasonable and is in accordance with applicable contracts and/or informal price quotations.
- The vendor is competent and reliable and is not prohibited, by debarment, from doing business with the Federal Government.
- Applicable procurement regulations and objectives are met.

Review the repair history and your long-term vehicle replacement plan for the vehicle to ensure repair is cost effective. Cost-analysis for a repair versus replace decision for special equipment and heavy-duty vehicles includes:

- Present value of money
- Present cost of vehicle
- Estimate of the next year's cost of the old vehicle based on historical cost escalation

- Physical inspection and diagnosis of the old vehicle

5.14.5 Four Approaches to Federal Fleet Maintenance

Federal Fleet Managers have four options to meet their fleet maintenance requirements:

- Maintenance for GSA Fleet vehicles
- Commercial maintenance
- Cross-servicing agreements
- In-house maintenance

5.14.5.1 GSA IFMS Vehicles - Maintaining Appearance and Condition

GSA Fleet vehicles are assets owned by GSA and provided to Federal Agencies under lease. The GSA IFMS is not only to provide motor vehicles to Federal Agencies but also to help them manage those assets while recovering all related costs.

Wet and Dry Leases

Agencies can get what are termed "wet" or "dry" leases. A wet lease with GSA provides the lessee (the using Agency) with an array of fleet maintenance and maintenance management services. A dry lease with GSA means the Agency must provide for its own fleet maintenance and maintenance management needs.

Maintenance and Repair Services

GSA Fleet will establish service arrangements to provide for the control and performance of maintenance and repair services. GSA Fleet policy is to rely on the commercial sector, wherever possible.

Fuel, Oil and Charge Card Services

GSA Fleet provides fuel, oil, and charge card services for the operation of GSA Fleet vehicles. Again, GSA Fleet policy is to rely on the commercial sector for these services, wherever possible.

Cost Recovery

While the lease rates cover most of GSA's expenses, GSA recovers some costs (such as those for accident damage, abnormal wear and tear, unauthorized repairs, and abuse or neglect) by billing the using Agency. This practice is in accordance with FPMR § 101-39.406.

Agencies will be billed for the total cost of all damages resulting from neglect or abuse of assigned or issued GSA IFMS vehicles:

- Neglect: Failure to maintain a vehicle in a safe and operable condition and to comply with GSA IFMS maintenance standards.
- Abuse: Failure to exercise reasonable care of a vehicle or to operate a vehicle in a manner not consistent with the purpose for which it was built.

In addition, GSA IFMS will charge an Agency a handling fee if operating units turn vehicles in to the GSA FMC that need maintenance or repairs that should have been done while the vehicle was assigned. GSA has established guidelines to apply in determining appropriate appearance standards for vehicles and what it will charge back to the using

Agency. The guidelines cover such factors as vehicle age, mileage, overall condition, cost of repairs, estimated residual value from making the repairs, and future vehicle use.

GSA IFMS Maintenance Control Centers (MCC)

GSA has established technologically current MCCs at their Fleet Management Program offices. The MCCs are responsible for scheduling, procuring and controlling vehicle maintenance and repairs for GSA IFMS vehicles. To reduce the number of repetitive or duplicate repairs as well as the workload at individual Fleet Management Centers (FMC), the MCC electronic system maintains a complete vehicle history that personnel review when authorizing repairs. The MCC information system also provides complete information relative to a vehicle's assignment, utilization and maintenance history.

MCC personnel must authorize all transactions that would exceed a predetermined amount that changes from time to time. In addition, regardless of the dollar amount, MCC personnel must authorize expenditures for tires, tune-ups, brake relining, new batteries, wheel balancing, wheel alignment, carburetor work and shocks. MCC personnel enter repair authorizations into the system, specifying the appropriate vendor number, repair codes, labor rate, and estimated hours.

Authorized purchases under a predetermined amount that may change from time to time require the signature of an FMC representative or Agency driver to signify inspection and acceptance of services performed. Purchases over the predetermined amount require issuance of GSA Form 1458, Motor Vehicle Shop Work Order, Repair and Purchase Order. An MCC or FMC Warranted Contracting Officer must sign the receiving-report copy of this form, and it must be attached to the invoice as certification for payment.

5.14.5.2 Commercial Maintenance

Commercial vendors can provide a cost-effective maintenance and repair solution for Federal Agencies both with and without in-house maintenance and repair operations.

Federal Agencies with in-house maintenance and repair operations routinely review commercial vendor rates to assure competitiveness. In addition, commercial vendors may be used by in-house maintenance and repair operations for work that is uneconomical for the in-house operation to handle or requires special skills, tools or equipment not available in-house.

5.14.5.3 Cross-Servicing Agreements

In the absence of commercial alternatives, cross-servicing arrangements may be established with other Government Agencies or firms on contract with other Federal Agencies to provide additional service facilities for both Agency-owned and GSA Fleet vehicles. The Agency providing the service must maintain comparable standards of timeliness, quality and reliability. Invoicing requirements and procedures will be included in the cross-service agreement.

Before a repair facility can enter a cross-service agreement with GSA Fleet, GSA Fleet must certify the facility. If an Agency has excess in-house capacity, such facilities can be used in lieu of, or as any other open-market vendor, but there is no guarantee that GSA will direct a specific amount of repair work to them.

5.14.5.4 In-House Maintenance Operations

Of the four maintenance options (in-house maintenance services, GSA Fleet maintenance, commercial vendors or cross-servicing agreements), in-house maintenance is most common among fleets that are in close geographical proximity and whose vehicles are used more that eight hours per day.

The cost effectiveness of maintaining an in-house maintenance capability depends upon an analysis of the best use of funds. In-house maintenance programs represent a significant investment of capital, human resources and management time; consequently, these programs must be demonstrably more effective and at least as cost efficient as the other options.

Where in-house maintenance services have been authorized, primary responsibility for the maintenance program is vested in the Fleet Manager. He or she is responsible for diagnosing, procuring, and controlling motor-vehicle service, maintenance and repairs. Agencies must consider the provisions of OMB Circular A-76 in determining the preferred approach to providing required maintenance and repair services.

Federal Fleet Managers who provide in-house maintenance and repair services are concerned with:

- Maintaining competitive fully burdened labor rates,
- Direct and indirect labor management,
- Mechanic and technician performance management,
- Parts markup, and
- Inventory management.

In-House Maintenance Shop Responsibilities

The Federal Fleet Manager responsible for an in-house maintenance facility must establish administrative and procedural guidelines and controls to ensure a safe, efficient in-house maintenance shop operation. Guidelines include implementing:

- Compliance with Occupational Safety and Health (OSHA) regulations including "Right to Know" laws mandating employee training regarding their rights under the law, the nature/general use of hazardous chemicals/materials in their workplace, accident/spill procedures, information contained on the labels of these chemicals/materials and the access/use of Material Safety Data Sheets (MSDS) detailing the trade and chemical name of the product, the manufacturer, all ingredients, health hazards and the product's physical description to include color, odor, permissible exposure limit (PEL), threshold limit value (TLV), gravity, boiling point, freezing point, evaporation data and volatility rating and shop documentation requirements on hazardous materials in the workplace, proof of training programs, records of accidents/spills, proof of satisfaction of employee requests for MSDSs and a "Right to Know" compliance procedure.

- Compliance with Environmental Protection Agency (EPA) regulations for disposal of hazardous materials/hazardous waste (such as cleaning chemicals, fuels, paints, thinners, battery acid, used engine oil, refrigerants, asbestos and engine coolant or

antifreeze), identifiable Hazardous Waste Policy, use of a licensed waste hauler for disposal and manifest records for all waste disposal.

- Investigation, acquisition and use of thermal cleaning units, close-loop steam cleaners, waste oil furnaces, oil filter crushers, refrigerant recycling machines and engine coolant recycling machines as appropriate to reduce hazardous waste generation.

- Compliance with mandated regulations for emissions and other required vehicle inspections.

- A work order system that distinguishes between Preventative Maintenance (PM) tasks and repairs, uses comprehensive work task definitions and tracks parts usage.

- Controls on tools, parts, supplies, tires, and other sensitive or pilferable items.

- Up-to-date mechanics' training with follow-up repair application.

- Inspection of mechanics' work against standards.

- Obtaining reimbursement for warranty work performed.

- Workload, standards and performance measurement for mechanics and technicians.

- A vehicle operator maintenance program that requires operators to perform daily/weekly maintenance procedures and to report problems.

- Disposal program which complies with applicable local, State and Federal regulations for handling, disposal and/or recycling of asbestos brake/clutch pads, antifreeze, used oil, refrigerant, solvents, batteries, oil filters and tires.

- Specific procedure for managing repairs resulting from vehicle accidents.

- An effective inventory and parts control system that balances in-house stock for high-volume and critical stock, rapid delivery from vendors for low-volume, readily available items and standard purchase orders to receive volume discounts or specialty items.

- Routine analysis of contract versus in-house repairs to identify tasks that can be contracted out at lower cost and high quality.

- Constant testing of the competitiveness of the overall maintenance and repair function.

Repairs

Documentation of all in-house repairs must include labor hours, as well as parts and tires issued from stock. Parts and tires in inventory are Government assets and subject to

accountability requirements. These issues and inventories must be controlled and reviewed at least monthly.

The Fleet Manager should establish a Repair Limitation Policy to ensure that high dollar value repairs are subject to supervisory review and approval. The repair limitation may be a specific dollar threshold (for example, all repairs over $500), a percentage of the fair market value of the vehicle (for example, all repairs exceeding 25% of the fair market value) and may include provisions that all repairs of a specific type (for example, engine replacement) be referred to the supervisor. For GSA Fleet vehicles, approval for repairs exceeding the limitations should be recorded on GSA Form 2553, Vehicle Capitalization, Repair, and Disposal Request (or Agency equivalent for Agency-owned vehicles) and filed in the vehicle jacket file or in the on-line fleet information system. The Fleet Manager should establish formal guidelines regarding the inspection of vehicle repairs.

Tire Replacement

Except as otherwise noted, replace tires when the remaining tread depth is 2/32 of an inch, when the tread use bars indicate that the tire should be replaced, or when the tires are otherwise deemed unsafe. Maintain a tread depth of 4/32 of an inch on the front steering wheels of any vehicle exceeding 10,000 GVWR operated on the highway, any vehicle carrying hazardous or explosive material, all buses, and all ambulances.

Snow tires are installed only where geographic locations and local weather conditions warrant. Have them removed when such conditions no longer exist to extend their useful life and to reduce fuel usage.

Analysis of tire-replacement data is a best practice of many fleets to identify tire costs, premature failure, theft or driver abuse.

A fleet best practice is to track accident repairs and costs separately from regular mechanical repairs.

Performance Indicators

A number of performance measures are common to operating an efficient in-house maintenance program and include:

Measure	Indicates
Fully burdened labor rate for light duty, heavy duty and miscellaneous equipment	Efficiency of maintenance and repair services compared with other providers
Ratio of direct labor hours to indirect labor hours	Utilization rates for mechanics and technicians for each maintenance and repair shop
Ratio of total labor for scheduled- maintenance labor to direct-maintenance labor	Percentage of direct labor performing scheduled maintenance versus repair
Ratio of maintenance employees to administrative employees	Possible opportunity for better control of indirect labor and reduction in overhead for each maintenance and repair shop
Mechanic and technician performance by repair and preventative maintenance task versus standards	Efficiency of mechanics and technicians

Average commercial labor cost per repair order by repair task and by preventative maintenance service (PM)	**Commercial work productivity**
Ratio of preventative maintenance to unscheduled repair	**Adequacy of preventative maintenance program in preventing repairs**
Percentage markup on price of parts by light duty and heavy duty	**Efficiency of parts services compared with other providers**
Average commercial parts price per repair order by repair task and by preventative maintenance service (PM)	**Commercial work productivity**
Parts turnover ratio	**Stock utilization**
Total annual value of stock lost	**Security and efficiency of parts services**
Inventory adjustments by line Item and dollar value	**Accountability and accuracy of parts inventory control services**
Ratio between request fill-rate and level of investment in inventory	**Ideal level of investment in inventory which results in total lowest cost**

5.14.5.5 Procurement for Operations

Federal Fleet Managers are responsible for procurement of services, equipment and supplies necessary to the fleet management operation, and may include administrative equipment, furniture, and parts or maintenance shop supplies. Federal procurement officials are mandated to represent the Government's best interests and to serve socio-economic goals legislated by Congress. Fleet Managers must ensure that all procurements for the fleet management activity comply with the Federal Acquisition Regulation (FAR), the FPMR, and internal Agency procurement procedures.

Sources to consider for obtaining goods and services include:

Supplies and Services
Excess property
Federal Prison Industries or UNICOR http://www.unicor.gov/index.cfm
DC Department of Corrections
Blind/Severely Handicapped (JWOD: www.jwod.com; NISH: www.nish.com)
GSA Customer Supply Centers
Federal Supply Schedules
GSA Consolidated Vehicle Purchase
Term Contracts
Cross-Service Agreements
Open Market (commercial sources using competitive procurement)

Environmentally Preferable Purchasing (EPP)

EO #13101 encourages Federal Agencies to use environmentally friendly products wherever possible. Supporting the Government's recycling program by buying recycled products is one important way to comply. EPA has published Comprehensive Procurement Guidelines (CPG) and Recovered Materials Advisory Notices (RMANs), which recommend recycled-content levels for CPG items, to assure environmentally preferable purchasing by Federal Agencies.

At a minimum, Federal Fleet Managers can purchase re-refined lubricating oils, retread tires, tires containing post-consumer recovered rubber and bio-based products, wherever they are reasonably available and meet vehicle manufacturer specifications. Federal Fleet

Managers have a responsibility to seek out additional environmentally preferable products for their operations.

5.15 Fuel Management

5.15.1 Fuel Management Best Practices

Fuel management is the process of assuring that vehicle and equipment fuel and services meet these criteria:

- Conveniently accessible, both on- and off-site, and at any time needed
- Provided at the best available price
- Dispensing tracked by user and vehicle and properly accounted for
- On-site stations meet environmental regulations and are secure from theft
- Emergency supply plans in place and tested
- Mobile fueling via fuel delivery trucks is available (if appropriate)

For many Agencies, a strategic approach is necessary to assure that fuel is always available, is conveniently accessible for drivers, and that the right *types* of fuel are available to fulfill the mission and meet organizational goals. World petroleum supply fluctuations and their cost implications should be anticipated to the best of the Fleet Manager's ability. Those responsible for the long-term satisfaction of these objectives should strive to overcome the next fuel "crisis" or fuel-availability "surprise" through effective planning.

Fuel-management tactics include such activities as weighing in-house versus commercial fueling facilities, establishing processes for theft avoidance, determining the level of fuel transaction detail recorded and reviewed, complying with environmental regulations, and identifying how to minimize fueling administration activities.

Ultimately, fleet managers can do little on a *daily* basis to manage fuel effectively. Fuel management must always be planned and executed strategically and far in advance of potential threats to organizational needs. This is especially true when regulations require use of alternative fuels, so that vehicle acquisition becomes a factor in fuel management and vice versa.

5.15.2 Fuel Consumption

Fuel consumption and conservation are critical concerns of Federal Fleet Managers. Laws and regulations require acquisition of fuel-efficient passenger motor vehicles and trucks. Executive Order #13149 requires Federal Fleets to reduce their petroleum usage. Agencies can reduce petroleum usage by acquiring alternative fuel vehicles and fuel-efficient vehicles. In some instances, Fleet Managers can reduce petroleum consumption by increasing vehicle load factors (accomplish the maximum amount of work with each vehicle) and thereby decreasing vehicle miles traveled (VMT). Alternatives to using vehicles represent the greatest petroleum reduction opportunities, so teleconferencing, video-conferencing, telecommuting programs, and mass transit should be encouraged.

Reporting of fuel use is input annually into FAST, and Agencies report fuel use and reduction progress to the Department of Energy (DOE).

5.15.2.1 Fuel Conservation

Fuel conservation techniques include:

- Using public transportation
- Car pooling
- Avoiding prolonged engine warm-up
- Planning and scheduling trips to reduce distance traveled and to avoid rush hour traffic
- Accelerating slowly
- Driving at a steady speed
- Limiting use of electrical accessories when not needed
- Eliminating engine idling while waiting
- Keeping tires properly inflated
- Ensuring proper maintenance is performed on vehicles.

5.15.2.2 Motor Vehicle Fueling

Drivers may obtain fuel for any motor vehicle owned or leased by the Government by using:

1. A Government-issued charge card;
2. A Government Agency fueling facility; or
3. Personal funds and obtaining reimbursement from your Agency.

Operators may use a fleet charge card specifically issued for fueling. The card program has been designed to enable collection of motor-vehicle data at the time of fuel purchase. Where appropriate, the fleet charge-card contractor deducts State sales and motor-fuel taxes from fuel purchases before billing the Agency. GSA's contractor-issued fleet charge card is the only Government-issued charge card that may be used for GSA Fleet motor vehicles.

For information on acquiring these fleet charge cards and their use, contact the:

General Services Administration,
ATTN: FCX,
Washington, DC 20406.

Operators may use a Government purchase card if they do not have a fleet charge card or if the Agency's mission requires use of a Government purchase card. However, Fleet Managers should be aware that the Government purchase card does not enable collection of motor vehicle data or deduction of State sales and motor-fuel taxes.

When fueling Government owned or leased vehicles, operators should:

a) Use the grade (octane rating) of fuel recommended by the motor vehicle manufacturer.

b) Not use premium grade gasoline unless the motor vehicle specifically requires premium grade gasoline.
c) Use unleaded gasoline in motor vehicles designed to operate on gasoline and used overseas unless:

(1) Such use would be in conflict with country-to-country or multi-national logistics agreements; or
(2) Such gasoline is not available locally.

Operators must use self-service fuel pumps to the fullest extent possible.

5.15.2.3 Fueling Software Systems

Federal Agencies that maintain in-house fueling sites should use fuel-management software programs to manage fuel transactions. Generally, fuel records from the pumps at each fuel site can be downloaded on a set schedule into a database. This information can then be printed and input into spreadsheets and other applications. However, best practice is to interface the fuel management software program with the Agency FMIS, thereby improving data accuracy and efficiency. Additionally, Agencies using more than one fuel-management software program should standardize on one fuel-management solutions for greater control over data quality, reporting capability, and efficiency.

5.15.2.4 Teaching Operators about Alternative Fuel Usage

In addition to making alternative fueling locations known to vehicle operators, Federal Fleet Managers can increase alternative fuel usage in their fleets by training users on the range, specific performance attributes, fueling techniques and maintenance/service considerations applicable to each type of alternative fuel vehicle.

Alternative Fuel/Alternative Fuel Vehicle	Range	Performance	Fueling Techniques	Maintenance/ Service
CNG (Compressed Natural Gas) or Liquefied Natural Gas (LNG) in a Natural Gas Vehicle (NGV)	Bi-Fuel Vehicles: driving range similar to gasoline vehicles. Dedicated Natural Gas Vehicle: Less than gasoline vehicles because of the lower quantity of fuel storage. Extra storage tanks increase range, but the additional weight may displace some payload capacity.	Power, acceleration and cruising speed comparable to gasoline vehicles.	Technology can now provide a similar fueling experience to that of gasoline.	High-pressure tanks holding CNG require periodic inspection and certification by a licensed inspector. Oil change intervals may be half as often as similar gasoline or diesel models (10,000 - 12,000 miles). Refer to the vehicle owner's manual or consult the manufacturer.

Biodiesel --2% to 5% Blend --20% Blend (B20) --Pure Biodiesel (B100) in a conventional diesel engine vehicle or a converted diesel engine vehicle	Energy content of B100 is 10% to 12% lower than conventional diesel, leading to roughly 2% lower energy content in B20 blends.	Power, acceleration, cruising speed and torque comparable to conventional diesel vehicles. Engine Heaters, blending biodiesel with No. 1 diesel or using anti-gel additives can help eliminate cold flow performance problems.	Biodiesel does not require special a fueling method and can be stored in the same way as gasoline, except in concrete-lined tanks.	In older vehicles, high-percentage blends of biodiesel can affect fuel hoses and pump seals. Biodiesel-compatible elastomers (such as hoses and gaskets) are required for use with B100 and high-percentage biodiesel blends.
Electricity in an Electric Vehicle (EV) or a Hybrid Electric Vehicle (HEV)	Limited storage capacity of an EV's battery system greatly reduces the distance it can travel between charges. HEV range equals or exceeds gasoline counterpart.	Power, acceleration and cruising speed comparable to gasoline vehicles.	Drivers use on-board charger or plug vehicle into external charger.	EVs require less service as they have no timing belts, water pumps, radiators, fuel injectors or tailpipes and no oil usage. HEV's require special training for technicians.
Hydrogen (Fuel Cell) in a Fuel Cell Vehicle	Practical applications in development.	Practical applications in development.	Practical applications in development.	Practical applications in development.
Ethanol/E-85 in a Flexible Fuel Vehicle (FFV)	Energy content of E85 is 30% less than gasoline, so vehicles running on E85 will obtain fewer miles per gallon. Some manufacturers are installing larger fuel tanks in FFVs, providing driving ranges similar to gasoline-powered vehicles.	Power, acceleration and cruising speed comparable to gasoline vehicles.	Fueling similar to gasoline.	Special engine lubricants may be required (refer to vehicle owner's manual or consult the manufacturer). When ordering replacement parts for an FFV, let the dealer or parts supplier know you are fueling with ethanol.

Methanol M85	No longer any methanol vehicles available to purchase and no fueling stations available to the public.			
LPG (Liquefied Petroleum Gas or Propane) in a Propane Vehicle	Dedicated propane vehicles: power lower than gasoline vehicle. Extra storage tanks increase range, but added weight may displace some payload capacity. Bi-Fuel Vehicles: power similar to gasoline vehicle.	Acceleration and cruising speed comparable to gasoline vehicles.	Because propane is stored in pressurized tanks, it cannot be simply pumped into the gasoline tank.	Under development.
P-Series Fuels in a Flexible Fuel Vehicle (FFV)	Practical applications in development.	Practical applications in development.	Practical applications in development.	Practical applications in development.

5.15.3 Performance Measures

All Federal Fleet Managers are interested in fuel-cost performance measurement and management and alternative fuel usage. Federal Fleet Managers who provide on-site fueling services, automatic fuel-dispensing systems and other fueling services are especially interested in maintaining a competitive, fully burdened rate for a gallon of fuel and in fuel-inventory management and should be familiar with these performance measures.

Measure	Indicates
Average fuel consumption (miles per gallon) by vehicle and by class	**Energy efficiency of the fleet**
Fuel cost per mile	**Fuel efficiency**
Fully burdened rate per gallon of fuel	**Efficiency of fueling services for comparison with other providers**
Month-end inventory in dollars and gallons and turnover ratio	**Inventory efficiency**
Percentage of alternative fuel used versus petroleum-based fuels	**Compliance with EPAct**

5.16 Motor Pool Management

5.16.1 Best Practices

Where several departments and contractors have similar, basic transportation needs and are located in close proximity, an efficient inter-departmental vehicle pool can provide a cost-effective solution. Vehicles in such a pool tend to be more consistently used than those that are individually or departmentally assigned because they are effectively rotated among

users, balancing out usage. If a pool were well organized, fewer vehicles per user would be needed without sacrificing availability or quality of transportation.

Cleanliness, reliability and uniformity of the pooled vehicles directly affect the success of such an arrangement. Ideally, any given vehicle in the pool should be no less desirable than any other within its duty class. For users to obtain a vehicle for an assignment or outing easily, the pool must be located close to their base workplace, and documentation should be as simple and streamlined as possible while still tracking essential information on usage and accounting. Passenger cars, general-duty pickup trucks, cargo vans, passenger vans, and sport utility vehicles are all ideal candidates for pooling, as are specialty trucks and equipment that can be used by a variety of departments (for example, a dump truck or tractor backhoe).

5.16.2 Assignment through Use of Dispatch or Shared Vehicle Usage (Pools)

In the case of vehicles available for dispatch to Agency employees, the number of requests will often exceed the number available. Coordination with program officials is necessary to ensure that dispatch priorities are established to reflect program priorities. Assignment and dispatch/pool records must be maintained to ensure necessary control and to provide for utilization review.

5.16.3 Motor Pool Performance Measures

Among other metrics, Federal Fleet Managers who operate motor pool services should ensure that they maintain a competitive, fully burdened rate for use of the motor pool and assess the use and adequacy of the motor pool in meeting customer requirements.

Federal Fleet Managers who operate motor pools should be familiar with these performance measures.

Measure	Indicates
Average number of available pool vehicles per number rented per day	**Use of the motor pool**
Fully burdened daily rate for motor pool vehicle by class	**Measures the cost of motor pool services compared with other providers**
Ratio of motor pool vehicles to total number of organization employees	**Compares the size of the motor pool to the total number of employees to be served**
Net motor pool revenues by class and by vehicle	**Total profit or loss of motor pool, by class of vehicle and by vehicle**
Number of customers who could not be supplied with a motor pool vehicle	**Adequacy of the size of the motor pool**

5.16.4 Rental: A Motor Pool Alternative?

Although many transportation needs arise only sporadically, such as off-site travel to meetings (frequently known in the Federal Government as TDY), in most organizations those needs are met using vehicles that are individually assigned and/or department-owned and which may potentially spend a lot of idle time in the parking lot. In many of these cases, transportation needs can be met more cost-effectively by renting vehicles. Renting is a particularly effective solution when the organization contracts exclusively with a rental

company in return for reduced rates. If an organization pro-actively adopts a transportation strategy that includes renting, it saves money by not having to shoulder the financial burden of maintenance and replacement of vehicles that would otherwise not be consistently utilized.

Two primary types of vehicle duty can most readily be provided through rental strategies: basic personal transportation (i.e., people movers such as cars, sport utility vehicles and passenger vans) and light-duty utility (i.e., cargo vans, pickups, etc.). In some cases, larger trucks such as dump trucks, flat beds and cargo vans, and some construction equipment, such as tractor backhoes, are also available for rent. Notably, rental passenger vehicles are often more desirable than Government vehicles because they are usually newer. Although work vehicles need not be appealing cosmetically, their high-maintenance nature makes passing the cost of maintenance to the rental company very desirable. Using rental vehicles is a good way to augment a vehicle pool in cases where the workplace of a department or individual is located prohibitively far from the pool or in the rare instance when more vehicles than the pool can provide are needed (that is, “peak shaving”).

Section 6
Risk Management

This section addresses competencies concerned with Risk Management, including Safety Management, Accident Management, and Hazardous Materials. Click on any of the topic links below to go to the related content.

Section 6 Table of Contents

6.1 Useful Links

This link takes you to the Department of Transportation portal where you can access content on automobiles, trucking, truck driving, and much more.
http://www.dot.gov/
This link takes you to the portal for the National Highway Traffic Safety Administration (NHTSA, part of the Department of Transportation) and its research and information vehicles and highway safety.
http://www.nhtsa.dot.gov/
The U.S. DOT's Transportation Safety Institute offer self-paced training for motor carriers over the Internet. Administrators, drivers, safety managers, mechanics, owner/operators, auditors, and inspectors can access training on the Federal Motor Carrier Safety Regulations (FMCSRs Title 49) anytime, anyplace, 365 days a year.
http://www.motorcarriertraining.com/
GSA's National Safety Program - Driver Safety & Vehicle Operation Video Library. It's free.
http://www.gsa.gov/Portal/gsa/ep/contentView.do?noc=T&contentType=GSA_BASIC&contentId=16052
The Federal Motor Carrier Safety Administration (FMCSA) was established as a separate administration within the U.S. Department of Transportation on January 1 to provide safety resources for DOT and OSHA compliance. You can access regulations and training materials through this link.
http://www.nsc-dot.com/
This link takes you to OSHA's portal and information affecting hazardous materials and employee safety.
http://www.osha.gov/

6.2 Safety Management: Drivers & Vehicles

Aside from personal hardship, the costs associated with injuries, fires, and other accidents are significant when one considers not only replacement or repair of damaged materials or equipment but also, and perhaps more importantly, medical and compensatory expenditures. Accidents may also result in costly delays in fulfilling an important mission

or providing service. Adequate planning to prevent such occurrences is essential to the efficient, economical and safe operation of the vehicles and support services.

The Fleet Manager is responsible for the implementation and enforcement of a safety and health program. The program should be coordinated with Agency safety and health staff, where available. Supervisors are responsible for ensuring that employees are trained in their safety and health responsibilities. Processes should be in place and an attitude of responsiveness should be evident so that employees can and will advise the Fleet Manager of any suspected hazards which they cannot correct. In addition, each employee should be held responsible for working in such a manner as to prevent injury to self and others, and for safeguarding property from damage.

In addition, Fleet Managers should work closely with resources such as the National Highway Traffic Safety Administration (NHTSA) and the National Safety Council to promote safe vehicle operation through the use of ongoing safety programs, instruction, and displays featuring safety posters and accident awareness charts. A vehicle safety-inspection program should be in place and vehicle operators should have access to safe-driving training.

Certain activities will yield safety improvements both on the road and in the shop. These activities include enforcement of laws and regulations; traffic engineering; safety-related education, information and promotion; safe-driver publicity and related incentive/award programs; accident investigation/analysis/reporting and appropriate disciplinary action.

Organizations can contribute to maintaining interest in motor vehicle safety through:

- Management interest and example
- Safety meetings
- Awards for safety
- Safety contests
- Posters
- First aid training

Top management has the ultimate responsibility for the safety performance of the fleet. This responsibility extends directly to the Federal Fleet Manager and the supervisors, drivers and other employees. To achieve the highest possible safety performance of the fleet, everyone must believe that accountability for safety is as important as any other job responsibility.

During the 1980s and 90s, the cost of fleet insurance for organizations that did not self-insure, doubled, tripled, and, in some instances, just became unavailable, due, in particular, to liability coverage. Consequently, for private sector fleets, controlling insurance costs has become a critical issue. Generally, private sector Fleet Managers work to control those aspects of the fleet operation that contribute to rising insurance premiums. In contrast, public sector fleets typically function under a full or partial self-insurance umbrella, so Fleet Managers have historically believed they had little to do with controlling insurance costs.

This belief is absolutely not true, however, and professional Fleet Managers working in the public sector have increasingly recognized that fact and taken steps to reduce exposure to risk through risk management, safety and training programs. Indeed, the fundamental practices of maintenance and repair of fleet vehicles, whether done in-house or by contractors or service providers, should be recognized as part of a comprehensive safety program. In the event of a mishap involving a poorly maintained or inadequately repaired vehicle, which leads to a lawsuit in which negligence is shown, the public sector organization can be made to pay a high sum for bodily injury or property damage.

Another key fact to bear in mind is that it makes no difference whether the cost of insurance is in the form of direct payments by the self-insurance program (the Federal Government, for example) or insurance premiums; in either case, the money is spent. Federal Fleet Managers have a fiduciary responsibility to taxpayers to control insurance-related costs despite working under a self-insurance umbrella.

6.2.1 Risk Management and Accident Management Programs

Fleet Managers can take various steps to reduce the number of accidents, ensure driver safety, and contribute to their organization's effort to control insurance-related expenditures. The management strategy must be to implement effective programs to contain those exposures and losses that result in hefty expenditures. Every successful loss-prevention program has these six best-practice characteristics:

1. An effective policy that will help to weed out potential problem drivers
2. Formation of a safe-driving committee or an accident review board or both with representation by fleet representatives, safety-program personnel, and management
3. The keeping of detailed and accurate statistics and the analysis of all accidents
4. Development and implementation of a continuing educational program
5. Institution of a program for employee motivation and recognition
6. Implementation of an effective maintenance program

Concerns over productivity losses and human suffering, together with the cost pressures of workman's compensation, repairs, and other accident-related expenditures, have been driving forces in establishing these best practices.

Safety is, of course, a shared responsibility in any organization. Nevertheless, the responsibility for an effective and efficient fleet-safety program should rest with one department or person, and quite often that person is the Federal Fleet Manager. The depth and breadth of the Fleet Manager's authority (or the authority of a fleet-safety team) largely determines the success of the program. Aside from the actions a fleet manager can take, commitment from all levels of management is fundamental to success. To that end, the cost of accidents can prove quite persuasive. You will need these facts:

1. Present accident frequency rate (see details on this below). This is calculated from the number of accidents multiplied by 1 million, the result being divided by total fleet mileage.
2. The number of preventable accidents.
3. The average cost per accident. Include the following:

Property Costs	
Parts and labor	$
Vehicle downtime	$
Replacement vehicle	$
Cargo/contents damage	$
Cost of delay (or avg daily "production" lost per operator)	$
People Costs	
Employee(s)' medical pay	$
Disability payments	$
Hiring/training replacements	$
Morale factors	$ "?"
Self-Insured Retention	
Workers' comp. increases	$
In-house personnel costs of handling claims (including subrogation), clerical, administrative	$
Total	$

6.2.1.1 Basics of a Risk Management Program

The person responsible for developing or improving a fleet safety program should review or refine these components: policy on fleet safety, accident recordkeeping, accident analysis, accident review board, and driver safety.

Policy

A written safety policy should carefully phrase organizational attitude towards safety. The policy statements will serve as a checkpoint whenever a conflict arises between safety and expedience, and they prove useful when supervisors enforce safety rules. The policy statements should make it clear that:

1. The organization considers accident control essential both for humanitarian and economic reasons
2. The accident control program will apply to all departments and operations
3. The cooperation of all employees is required

Several key policy areas are:

Checking Motor Vehicle Records (MVRs)

Organizations should check the MVR of each new employee to discover whether he or she has a history of accidents, speeding tickets, or any other violations. Every-other-year follow-ups will also assist in identifying problem-prone drivers.

Personal Use

The Federal Government has restricted personal use of Government-provided vehicles. Enforcement of this policy reduces exposure to risk and is one aspect of a fleet-safety program.

Vehicle Eligibility

Tightening vehicle eligibility and reducing the number of vehicles in the fleet reduces exposure. In general, to the extent that the number of Government-provided fleet vehicles

drops, the exposure of the fleet to the risk of accidents diminishes. Consequently, policies and processes that contribute to fleet right-sizing contribute to risk management.

Accident Analysis

In developing a safety program, keep in mind that past experience is important, inasmuch as it presents problems in their full scope to win support for accident-prevention policies and practices.

First, the Fleet Manager must determine accident frequency by developing appropriate facts and figures. A formula used by the National Safety Council achieves this goal:

$$\frac{\text{Number of Accidents X 1,000,000}}{\text{Total Fleet Mileage}}$$

For example, a fleet had 20 accidents during the past year and the total mileage driven by the fleet's cars was 2,881,000. The fleet's accident frequency rate is:

$$20 \text{ X } 1{,}000{,}000 = \frac{20{,}000{,}000}{2{,}881{,}000}$$

or an accident frequency rate of 6.94

Second, the Fleet Manager should determine the number of preventable accidents.

Third, the Fleet Manager must calculate the average cost per accident, the elements of which we detail below.

Motor vehicle accidents have similar causes and many accidents are preventable. Defensive driving instruction and awareness that cover these causes can reduce accident frequency. The most common causes of accidents are:

- Excessive speed
- Improper maneuvers, such as U-turns, parking in no-parking zones
- Driving while under the influence of drugs and alcohol
- Inattention, such as eating, drinking, sorting paperwork, talking on a cellphone
- Right-of-way violations, such as not yielding at stop signs, yield signs, or unmarked intersections

To prevent accidents, Federal Fleet Managers should implement an effective accident analysis program. Typically, accident-analysis programs provide:

- A system that assures accurate and timely reporting of all accidents and injuries
- Personnel to analyze accident reports to ascertain trends and areas in need of corrective action
- Requirements for responsible staff to institute appropriate corrective action to prevent future accidents
- Data to calculate the fleet's accident frequency rate (number of accidents in year multiplied by 1,000,000 divided by total fleet mileage)

- Data to identify preventable accidents
- Data to calculate accident costs

The National Safety Council identified these accident factors, which are usually selected for accident analysis (and should be incorporated into your software program for accident-analysis purposes):

- Date of accident
- Date reported
- Name of driver
- Age of driver
- Length of service of driver
- Hours on duty
- Driver's home terminal or usual work location
- Weather conditions
- Light conditions
- Road conditions
- Accident location
- Direction traveling
- Type of accident
- Vehicle type
- Vehicle number
- Time of day of accident
- Traffic violation
- Other vehicle type
- Vehicle speed versus posted speed limit
- Pedestrian(s) involved
- Property damage
- Vehicle or object struck
- Driver striking vehicle or object
- Responsibility for accident
- Failure by driver
- Cost of accident.

After analysis, the Federal Fleet Manager knows who, what, why, when, and where of the accident - key information which, if applied property, can reduce the probability of future accidents.

Having accident data available, the Fleet Manager can more effectively work to prevent accidents by removing or controlling their causes. Indeed, a large part of a Fleet Manager's job is to identify accident causes and to recommend ways to remove or to guard against accidents and thereby protect the employee.

A carefully planned system to gather all pertinent information about fleet accidents is essentially not only to determine and reduce accident causes, but also for these additional reasons:

- Court action: The possibility always exists that the employee operator of the vehicle will be cited to traffic court or indicted in a criminal action because of an accident. The thoroughness with which accident data has been gathered is often the factor upon which court action hinges. Many cases have been won because of the thoroughness with which an organization obtained the facts about the particular accident.
- Places responsibility where it rightfully belongs: When gathering information, the Fleet Manager (and the accident review board) must never "whitewash" the actions of the employee-driver. Any attempt to do this nullifies the entire value of the process. Only by knowing the full facts, whether favorable or unfavorable to the organization, can necessary corrective action be taken.

The primary purpose of this monitoring system is to provide a needs analysis. The needs analysis identifies those key factors that contribute to accidents and, therefore, need to be eliminated.

Accident Review Board

The primary responsibility of this board should be to review all fleet-related accidents involving employees and to determine whether such accidents were preventable. The board should, at a minimum, consist of representatives from fleet administration, safety, employee-drivers, and management.

If drivers are to take their safety records seriously, accidents must be classified in such a manner that drivers will feel their rights have been scrupulously protected. Consequently, the decision on border-line cases should reflect the weight of informed opinion of the entire organization. To provide drivers with this protection, organizations should establish an Accident Review Board for these reasons:

1. The importance of the individual safety record is emphasized
2. The help of all departments is enlisted
3. The Fleet Manager is protected from the possibility of creating ill will among drivers who have had accidents
4. The driver is assured that his or her rights are being protected
5. For the driver involved, it takes some of the "sting" out of an adverse decision
6. The responsibility for the decision is removed from front-line supervision

Driver Safety

Beyond gathering data to uncover the causes of accidents, a Fleet Manager can turn to a number of inexpensive methods to enhance driver safety. For example:

- Publicly recognizing safe drivers (those who hit mileage or time thresholds)
- Posting safety-promoting stickers in work areas. Posting "wear seat belt" notices in all fleet vehicles.
- Enrolling drivers in driving improvement courses. Almost every driver can benefit from periodic "refresher courses" in defensive driving. In addition, specialized driving techniques can benefit drivers if the geographical area in which they operate is subject to unusual or extreme weather conditions. Many successful safe-driving training programs exist that can improve driver skills, develop strategies for defensive driving, and provide reinforcement.

- Providing drivers with CDs on safe driving. Many fleet vehicles now contain CD players. Organizations can make or purchase CDs that cover safe-driving techniques and habits. In general, all communication efforts represent a low-cost way to promote and achieve driver safety.
- Periodically inspecting seat-belt assemblies to ensure they are working properly.

Air bags and seat belts are safety features that contribute to driver safety in case of a crash. But the best safety feature is the driver of the car, and that fact is too often overlooked. A well-trained, alert, and sober driver can avoid an accident and never need an air bag and seat belt to save his or her life.

6.2.1.2 Risk Management

A significant way in which Fleet Managers can control insurance costs is through managing the exposure to risk experienced by the drivers and their vehicles. Even without knowing the specifics of a self-insurance program, because it falls outside their jurisdiction, Fleet Managers can perform a significant insurance function by helping their organizations to manage risk. Loss control translates into cost control, and that alone should motivate Fleet Managers to develop a risk management program. Basic characteristics of such a program include:

- Sustained management support and direction
- Active participation by supervision
- Organized for accident prevention
- Effective employee safety education
- Control of accident hazards
- Regular inspection to detect unsafe conditions and practices
- Investigations of accidents to determine corrective measures
- Recordkeeping
- Performance measures
- Improvement

6.2.2 Insurance Coverage

6.2.2.1 Understanding Self-Insurance

To insure is to transfer risk to an insurer through an insurance contract. The insurance company has evaluated the risk and set a premium, or a price, to assume that risk. The premium pays the insurer for expected losses, claims handling expenses, policy production and administration costs, other overhead items, and profit. The ability of the insurance buyer to control insurance premium expenses is fairly limited over the long run. An alternative to paying premiums, however, is to self-insure.

Self-insurance has become increasingly popular because of climbing insurance costs. Simply stated, this approach to insurance means that a business or public entity takes upon itself the burden or risk retention; that is, of making itself liable for a particularly type of risk, rather than insuring the risk through an insurance carrier.

6.2.2.2 Government-Furnished Vehicles

In the absence of express statutory authority to the contrary, appropriated funds are not available to purchase insurance to cover loss or damage to Government property or the liability of Government employees. The Government is essentially a self-insurer in the areas of a) loss or damage to Government property and b) liability of Government employees for actions within the scope of their duties (for official travel performed within the contiguous 48 States, Alaska, Hawaii, Puerto Rico or United States territories and possessions).

The Federal Tort Claims Act (28 USC 2671, et seq.), as implemented by individual Federal agencies, covers claims for the injury or death of third parties or damage to their property (third-party loss and damage claims) arising from operation of a Government-furnished vehicle by a Federal employee. It states that:

> "The head of each Federal Agency or his designee, in accordance with regulations prescribed by the Attorney General, may consider, ascertain, adjust, determine, compromise, and settle any claim for money damages against the United States for injury or loss of property or personal injury or death caused by the negligent or wrongful act or omission of any employee of the Agency while acting within the scope of his office or employment, under circumstances where the United States, if a private person, would be liable to the claimant in accordance with the law of the place where the act or omission occurred: Provided, That any award, compromise, or settlement in excess of $25,000 shall be effected only with the prior written approval of the Attorney General or his designee."

When a Federal employee operates a vehicle on official business in a foreign area, whether it be Government-furnished, rented, or privately owned (or leased), the employee is responsible for obtaining trip insurance to cover third party loss and damage claims. In addition, employees operating Federal motor vehicles in Canada or Mexico must have insurance coverage as required by the host country.

Federal Travel Regulation (FTR) 301-10.451(b) states that Federal employees will receive “reimbursement for collision damage waiver [CDW] or theft insurance when traveling outside CONUS (the 48 contiguous States and the District of Columbia) and such insurance is necessary because the rental or leasing Agency requirements, foreign statute, or legal procedures could cause extreme difficulty for an employee involved in an accident."

6.2.2.3 Commercially Rented Vehicles

The rental firms listed in the Federal Travel Directory provide discount rates to the Federal Government. These rates include the cost of collision damage insurance (CDW) with no deductible. Additional insurance is not necessary because the Government is a self-insurer.

6.2.2.4 Privately Owned (or Leased) Vehicles

An employee authorized to use a POV to conduct official business receives reimbursement based upon mile traveled. Because the cost of collision and liability insurance is a study component of the mileage reimbursement rate-setting process, third party loss or damage claims are the responsibility of the employee and his or her personal insurance carrier. Employees may receive reimbursement for the amount of their deductible if the accident/ incident causing the damage was not the fault of the vehicle operator.

6.2.3 Motor Vehicle Safety

This starts with ensuring that a vehicle is in safe operating condition (for example, has been properly cleaned and inspected) before being issued. But drivers also have a role. Processes should be in place to motivate drivers to see to necessary vehicle repairs as quickly as possible. Encourage vehicle operators to check safety-related vehicle equipment and systems daily by making available a checklist that includes these steps:

Weekly Passenger Vehicle Walk around Inspection

- ✓ Check tire pressure and tire condition
- ✓ Check brake fluid, power steering fluid, coolant, oil, transmission fluid, windshield washer fluid
- ✓ Check headlights, high beam lights, parking lights, reverse lights, tail lights, brake lights
- ✓ Check turn signals
- ✓ Check instrument panel lights (oil, temperature, engine, brake lights)
- ✓ Check horn, windshield wipers, windows, mirrors, seat belts, door locks, brakes and emergency brake
- ✓ Check for leaks, drips and inspect hoses for condition
- ✓ Check that emergency kit and tools are in trunk and operator's packet is in glove box

Commercial vehicle inspections are governed by the requirements of Title 49 Transportation Chapter III - Federal Highway Administration, Department of Transportation Part 306.17 Periodic Inspection.

At a minimum, inspect each vehicle at 12 months or 12,000 miles, whichever comes first. For many vehicles, safety inspections can be efficiently done at the same time as the scheduled reliability inspection in accordance with manufacturer's recommendations. Of course, all deficiencies should be corrected before the vehicle is released for operation.

Federal Fleet Managers have a responsibility to develop and implement programs to maintain vehicles in safe operating condition. Timely vehicle repair and routine vehicle checks are fundamental steps toward that goal.

6.2.3.1 Occupant Protection - Safety Belts/Air Bags

Federal Standard 122 AE requires that all new passenger vehicles acquired under the Standard be equipped with an automatic occupant protection system. Three-point safety belts are required at rear-seat outboard positions. Executive Order #13043, dated April 16, 1997, mandates use of seat belts by all Federal employees occupying the front seat of a motor vehicle being used on official business. Each Federal Agency, in contracts, subcontracts, and grants, shall seek to encourage contractors, subcontractors, and grantees

to adopt and enforce on-the-job seat-belt policies and programs for their employees when operating company-owned, rented, or personally owned (or leased) vehicles.

A fundamental rule that all should recognize and adopt is that vehicle operators should not start the engine of a vehicle until all occupants have properly fastened their safety belts.

6.2.4 Driver Training

Vehicle life can be extended through a program that teaches drivers to improve their driving skills and fosters awareness of the differences in driving various types of vehicles (for example, automobile, SUV, van, pickup, tractor/trailer, utility). Improvements in driver training, awareness and performance can lower maintenance costs as well as the costs associated with accidents. To increase fleet safety, develop a process for tracking employees' driving performance and report the results throughout all levels of the organization.

An optimum driver-training program includes in-class instruction along with written examinations and, most importantly, hands-on exercises to improve and ensure driver proficiency. For many Federal Fleet operations, driver training should emphasize improvement in hazard recognition, vehicle handling, space management and speed management. But programs that focus solely on communication of safe-driving habits (delivered by audio or video tapes, DVDs, or the Internet) can also be beneficial because they heighten awareness and can supply safe-driving tips. According to the National Safety Council, the most effective time for extensive, systematic driver training is right after the driver is hired but before the driver is assigned to a vehicle. This is particularly true for drivers of special equipment, heavy-duty vehicles, emergency-response vehicles, and law-enforcement vehicles.

Safe-driving and vehicle-safety training and education can include:

- Operating procedures and requirements of the Federal Agency's current motor vehicle safety program
- Direct and indirect costs of accidents
- Safety performance measures currently used in your organization
- Specific State and municipal driving regulations that affect your drivers
- The Federal Motor Carrier Safety Regulations if interstate commerce is conducted
- Appropriate hazardous materials training (a frequent OSHA citation is failure to train)
- Causes of accidents (such as driver's physical, mental and emotional condition; the vehicle's mechanical condition; acts of pedestrians and drivers of other vehicles; road surface; lighting, and weather conditions)
- Personal traits that affect driving (such as the physical, mental and emotional well-being of the driver)
- Defensive driving for cars, vans, emergency vehicles, buses and medium to large trucks
- Two-vehicle collision prevention (vehicles can collide from six positions and defensive measures apply in each case)

- Backing accident-prevention (the cumulative costs of accidents occurring while the driver is backing up can mount; backing around corners or out of driveways is especially dangerous and should be avoided)
- Stopping distance (maintaining a safe distance)
- Mechanical defects (drivers able to recognize mechanical problems)
- Basic driving maneuvers
- Driving in traffic
- Boarding and de-boarding procedures for vans and buses
- Handling freight
- Procedures in case of accident

Besides initial training, Agencies should investigate provision of refresher, remedial and ongoing training in an effort to expose drivers continuously to safety ideas and information and to stress that safety matters. The goal is to impress each driver with the importance of good driving habits and the hazards of bad ones. Good driver education programs expose each driver to useful driving information, establish a sense of traffic responsibility, and develop favorable attitudes and, most importantly, techniques for avoiding accidents.

6.2.4.1 Commercial Drivers License Training

Federal Fleet Managers should assure that all drivers of Federal vehicles have correct and current licensing for the type of Federal commercial vehicle they drive. This is particularly important for Commercial Drivers Licenses (CLS), which are available in the following categories: Air Brakes, Cargo Vehicles, Combination Vehicles, General, Hazardous Materials and Passengers. State and Federal regulations govern the qualifications and standards for truck drivers. All drivers must comply with Federal regulations and any State regulations that are stricter than Federal requirements. Drivers of trucks designed to carry at least 26,000 pounds, including most tractor-trailers, as well as bigger straight trucks, must obtain a commercial driver's license (CDL) from the State in which they live.

All truck drivers who operate trucks transporting hazardous materials must obtain a CDL, regardless of truck size. Training for drivers who transport hazardous materials is required within 90 days of employment with recurrent training to be done semiannually. Drivers may also be trained as first responders in the event of a spill with separate training requirements.

To qualify for a commercial driver's license, applicants must pass a written test on rules and regulations and then demonstrate that they can operate a commercial truck safely. A national databank permanently records all driving violations incurred by persons who hold commercial licenses. A State will check these records and deny a commercial driver's license to a driver who already has a license suspended or revoked in another State. Licensed drivers must accompany trainees until the trainees get their own CDL. Information on how to apply for a commercial driver's license may be obtained from State motor vehicle administrations.

Federal regulations governing the CDL exempt certain groups, including farmers, emergency medical technicians, firefighters, some military drivers, and snow and ice removers. In many States, a regular driver's license is sufficient for driving light trucks and vans.

6.2.4.2 Special Emergency Vehicles Training

Additional training shall be provided to all operators of police vehicles, ambulances, fire trucks, crash rescue vehicles, motorcycles and all Federal vehicles used principally to convey groups of passengers.

Drivers of police vehicles, ambulances, fire trucks and crash rescue vehicles must also complete the National Highway Safety Administration's Emergency Vehicle Operator Course (EVOC). An EVOC refresher course training must be accomplished very three years to retain a license for operating these emergency vehicles.

Federal Fleet Managers should assure that all drivers of Federal emergency vehicles meet these licensing requirements.

6.2.4.3 Fueling Safety

Fleet Managers should make sure that their drivers are aware that static electricity at gas pumps is a real hazard:

- Drivers should never use cell phones when pumping gas.
- Drivers should never get back into their vehicle while filling it with gas.
- If drivers absolutely have to get in the vehicle while the gas is pumping, when they get out, they should close the door touching the metal before pulling the nozzle out so the static from the driver's body will be discharged before the nozzle is removed.

6.3 Safety Management: Garage Operations

6.3.1 In-House Maintenance Shop Safety

Shop safety programs can minimize job-related injuries and lost time; improve job efficiency, productivity, and morale; and save money. A job-safety analysis, commonly referred to as a JSA, identifies the sequence of basic job steps, the potential hazards and the recommended action or procedures to eliminate the hazard and provides a systematic and logical analysis of all work steps and hazards which could lead to injury or death.

Inadequate mechanic training, poor housekeeping, negligence and inadequate shop design are the primary causes of a poor safety record in the shop.

6.3.1.1 Shop Safety Committees

One of the most effective techniques to improve shop safety is to set up a Shop Safety Committee to emphasize the importance of shop safety, exchange effective safety improvement ideas and to solve problems. Shop-safety meetings are generally held monthly and safety inspections of the shop should be regularly scheduled to catch problems before they become bad habits and accidents.

Shop-safety inspections should inspect the worker, the workplace and the interaction between the worker and the workplace to identify unsafe work practices as well as unsafe work areas:

- Check the quality of the housekeeping in the shop (for example, oil spills or debris cluttering the shop floor)

- If the housekeeping quality is poor, review employees' workload to ensure they have the time to perform this job properly
- Provide employees with the right tools to perform the job properly (improvising with tools often leads to injury)
- Keep employee workloads at reasonable levels and rotate jobs between mechanics at the same grade level
- Check quality and care of tools
  - ✓ Are they properly maintained and repaired
  - ✓ Should they be disposed of
  - ✓ Are they clean (are clean shop rags handy for wiping tools grease free)
  - ✓ Are edged tools sharp
  - ✓ Are tool housings on electrical tools cracked (exposing wiring)
  - ✓ Have tool housings been wrapped with electrical tape
  - ✓ Have the grounding blades been removed from grounding plugs
- Inspect extension cords and work lights regularly
  - ✓ Are hazardous-service work-light bulbs being used
  - ✓ Are all extension cords property grounded
- Never allow operation of electrical tools near standing water
- Inspect air tools, hoses and couplings daily and air compressor drive belts regularly
- Ensure employees have necessary safety gear (and ensure they use it when required)

If the inspection surfaces any safety infractions, indicate those on your inspection checklist. Note the employee, situation, and action taken. Also, provide an area on the form to record at a later date whether the corrective measure(s) has been effective.

6.3.1.2 Employee Safety

Federal employee OSH program requirements are set out by the Department of Labor (DOL) in 29 CFR 1960, and by Executive Order #12196. Reference should be made to 29 CFR 1910, General Industry Standards, for requirements covering specific operations.

Housekeeping

As noted above, the employee safety program should begin with good housekeeping. Good housekeeping fosters safe and healthful working conditions and high morale. It substantially reduces the risk of personal injury, damage to property, and loss of tools.

Fire Protection

The Fleet Manager is responsible for implementing a sound fire-prevention program, conducting periodic drills, and maintaining emergency fire fighting apparatus to provide immediate measures for safeguarding life and property.

Occupational Safety and Health (OSH)

Major responsibilities of the Fleet Manager regarding OSH are locating and correcting unsafe and unhealthful conditions and training personnel to eliminate unsafe and unhealthful work practices. Appropriate personal protective equipment must be provided for the tasks performed. Two or more employees should attend first-aid training; that is, C.P.R. and basic emergency procedures. Any accident, even if minor, must be reported to the employee's supervisor. If an injury or illness results, it is to be reported according to

DOL Office of Workers' Compensation Programs (OWCP) requirements and internal Agency guidelines.

Facility Safety

Service and/or repair facilities must be provided properly designed and maintained tools, equipment and machines. Machine safety guards must be used where mechanical hazards may occur or exist. Safety guards include the shielding of moving parts of machinery, the guarding of electrical fuse boxes and switchgear, the grounding of electrical machines, and the installation of limit switches on lifts and hoists.

User safety considerations include identifying pedestrian crosswalks in vehicle passageways and the posting of caution and speed limit notices on ramps, turn areas, and approaches. For buildings with two or more vehicle access doors, consider designating one door "Entrance" and the other(s) "Exit" to establish the movement of vehicles to a one-way traffic pattern.

6.3.1.3 Motor Vehicle Protection

When a vehicle is stored at the Fleet Management Center (FMC), the vehicle is to be locked and the keys and credit card secured. Procedures should be established for pick-up and return of dispatch vehicles during other than normal operating hours, when the FMC is closed.

6.3.1.4 Safeguarding Supplies and Materials

The Fleet Manager has the overall responsibility to safeguard all supplies, materials, tools, tags, credit cards, and equipment against loss and theft. Stocked parts, tires, tags, credit cards, etc., are to be secured in a locked parts room or locked cabinet, when unattended. Further, procedures should be established to ensure that only authorized personnel are permitted access to these areas.

6.4 Crash Management

6.4.1 Accidents and Claims

FMR 102-34.300 covers reporting of motor vehicle accidents involving Agency-owned or -leased vehicles. Use of standard forms (available to all Agencies for reporting motor vehicle accidents) is recommended. These include the SF 91-Motor Vehicle Accident Report, which should be completed at the time and on the scene of the accident, if possible, regardless of the extent of injury or damage. This Form should be carried at all times in Government-owned and leased motor vehicles. The SF 94, Statement of Witness, should be carried at all times in Government-owned and -leased vehicles to be completed by persons who witness an accident.

6.4.1.1 Reporting Accidents and Fires

Follow your internal, Agency accident reporting procedures for Agency-owned or -leased vehicles. The following reporting requirements for accidents involving vehicles assigned by GSA IFMS Fleet Management Centers (FMC) may serve as guidelines for your fleet.

When a GSA IFMS vehicle is involved in a fire not caused by a motor vehicle accident, the fire is to be reported on GSA Form 53, GSA Fire Incident Report, by the FMC manager.

In accordance with FPMR 101-39.4, the operator of a GSA IFMS vehicle must to notify the following persons immediately – either in person, by telephone or by fax – of any accident or fire in which the vehicle is involved:

- The Maintenance Control Center or the Fleet Manager of the FMC assigning the vehicle;
- The employee's official supervisor; and
- State or local authorities, as required by law.

These regulations also specify that the FMC assigning the vehicle must receive a copy of the investigation report completed (within five working days) by the Agency having custody of the vehicle or employing the operator of the vehicle. When local, State or Federal police are at the scene of the incident or accident, copies of their report(s) will be provided to the FMC. Copies of Police Reports are of particular importance where third parties are involved; they greatly assist in recoveries and assignment of fault. When fire results from a motor vehicle accident, the total extent of damage from fire and collision shall be reported on the investigation report.

The vehicle operator must obtain the name, address, and telephone number of each witness and have each one complete a SF 94. If the vehicle operator is injured and unable to complete the reports, his or her supervisor shall complete the required forms and make the necessary notifications of the accident.

In the event of personal injury, the injured employee must complete and submit the Office of Workers' Compensation Programs (OWCP) Form CA-1, Federal Employee's Notice of Traumatic Injury and Claim for Continuation of Pay/Compensation, to his or her supervisor. The supervisor must complete the form and forward it, along with appropriate documentation, to OWCP.

Motor vehicle operators will collect information from third parties of vehicle accidents to assist in the collection or payment of accident claims. As a minimum, the vehicle operator will record the third party insurance company name and address and the individual insurance policy number.

Upon notification of a motor vehicle accident, the FMC will complete GSA Form 1593, Motor Vehicle Accident Resume, assign a control number to the accident, maintain a suspense file until all documentation has been received, and replenish the Accident Reporting Kit in the glove box of the vehicle.

In the event a vehicle defect caused the accident, the FMC will complete a SF 368, Notification of Vehicle Defect, and forward it through channels.

Operator Responsibilities Checklist

- Check for injured persons.
- Check for witnesses and get the name and address of anyone observing any portion of the accident. If possible, use the SF-94 Statement of Witness form (individual Federal Agencies may require the use of additional forms).
- Notify your immediate supervisor.
- Call the police and obtain and on-site local police report if such report is required by local law for the type of accident involved (note: on-site police reports are not always required for minor accidents without personal injury).
- When no on-site report is written, inform the local police of the accident immediately after the fact.
- Get information from the other driver(s), if appropriate, to include name, address, phone, insurance carrier, policy number for all non-Federal vehicles involved.
- Secure the vehicle and its contents if the vehicle is towed.
- Ensure that the vehicle will be stored in a secure area.
- Report the accident on the SF-91 Operator's Report of Motor Vehicle Accident (individual Federal Agencies may require the use of additional forms).

In addition, operators or their supervisors may be required to:

- Obtain estimates of the costs of repairs to all non-Federal vehicles and property.
- Obtain estimates for damages to all GOV(s) involved in the accident.
- Obtain photos of the damage to all GOV(s) involved in the accident.
- Complete CA-1 Federal Employees Notice of Traumatic Injury and Claim for Continuation of Pay and CA-16 Report for Examination or Treatment for injury to Federal employee(s) (individual Federal Agencies may require the use of additional forms).

6.4.1.2 Accident Investigation and Analysis

An independent accident investigator should investigate all accidents, using the forms, reports, and other available information to document the event and lay a foundation for further fact-finding, as necessary. The accident documentation often plays an important role in claims for compensation or in cases where litigation results. A properly documented accident investigation may serve to support or refute such claims. Reconstructing an accident situation long after the occurrence should be possible due to accurate recording of details.

As discussed above, your analysis of accident investigation reports should establish the cause of the accident so that you can identify potentially corrective actions to prevent recurrence of similar incident. For example, if the cause is identified as operator error, do you need to strengthen your driver training program or offer the training more frequently and require participation?

GSA prepares a nationwide Annual Accident Report for GSA Fleet assigned vehicles. This report reflects accident frequency per million miles driven for each using Agency. Developing a similar report for your fleet operation may be of assistance in monitoring the accident experience of using activities.

6.4.1.3 Claims in Favor of the Government

When facts indicate that a party other than the operator of the GSA Fleet vehicle is at fault and that party can be reasonably identified, the Agency responsible for investigating the accident shall submit all original documents and data pertaining to the accident and its investigation to the servicing FMC. The FMC Fleet Manager will initiate the necessary action to effect recovery of the Government's claim.

6.4.1.4 Claims against the Government

When a GSA Fleet vehicle is involved in an accident resulting in damage to the property of, or injury to, a third party, and the third party asserts a claim against the Government based on the alleged negligence of the vehicle operator (acting within the scope of his or her duties), the Agency employing the vehicle operator is responsible for taking steps to settle the claim administratively to the extent that Agency is empowered to do so. If an administrative settlement proves unsuccessful, the Agency is also responsible to take administrative steps to prepare the Government's defense of the claim. The Agency General Counsel will typically undertake these actions.

6.4.1.5 Responsibility for Damages

Except for the exclusions listed in § 101-39.406, the Agency employing the vehicle operator shall be financially responsible for damage to a GSA Fleet vehicle. If an Agency is held responsible for damages, GSA will charge to that Agency all costs for removing and repairing the vehicle. If the vehicle is damaged beyond economical repair, GSA will charge all costs to that Agency, including fair market value of the vehicle less any salvage value.

When contractors or subcontractors of using Agencies are in accidents involving GSA Fleet vehicles, the Agency employing the contractor will usually be billed directly for all costs associated with the accident. The Agency is responsible for collecting accident costs from the contractor should the contractor be at fault.

6.5 Hazardous Materials

6.5.1 Employees' Right to Know about Hazardous Materials

Fleet Managers must know the "right-to-know" regulations of the Occupational Safety and Health Administration (OSHA). Two classes of hazardous materials about which shop personnel have a right to know are 1) health hazards (chemicals that may cause acute or chronic ill-health in exposed employees) and 2) physical hazards (chemicals that are combustible liquids, compressed gases, oxidizers, pyrophorics, flammables, unstable materials or water-reactive materials). Inform all employees who handle hazardous materials about the potential risks involved with the substances.

Employees should know about a) the operations in their work area where hazardous materials are used or stored, b) the location of the lists of hazardous chemicals and Material Safety Data Sheets (MSDS), and c) safe use and storage of hazardous materials. Particularly helpful is a hazard communication package, which should include an explanation of the organization's labeling system and the MSDSs supplied by the manufacturers. The package should be available to all employees.

Safety information should be available in dressing rooms, near the time clock, in the rest area and in the work area. Fleet Managers should provide training to shop personnel in the methods and observations that can be used to detect the presence or release of a hazardous chemical in the work area and how to take measures to protect themselves from hazardous substances through the use of protective gear, safe work practices and emergency procedures.

6.5.2 The Fleet Manager's Responsibility

Fleet Managers should enforce the use of protective gear, assure adequate ventilation and provide washing facilities. Fleet Managers should also forbid the storage of hazardous substances in the work area, keep flammables separate from other substances in a storage area conforming to fire code, never re-use containers for the storage of other substances, make sure labels are not removed from containers, provide airtight containers to store oily rags and store small quantities of gasoline only in approved containers.

Attachments

Attachment 1: Communication

The 8 Cs of Communication

Eight key characteristics are the basis for successful communication by management within an organization.

1. Credibility

Those with whom you are communicating must be willing to believe you. Make too many mistakes or factual errors when trying to persuade or inform management or drivers or peers, and they will eventually question almost all you say. Policy and program recommendations will not receive the support they deserve. Long-term competence and demonstrated knowledge are essential to gaining confidence and credibility.

2. Context

Employees often criticize upper-level management for being in an "ivory tower," for not understanding "how things are in the trenches." This response to memos, policies, strategy statements, laws and regulations generally develops when the communicators do not recognize the context for their message. The environment and events relating to your communication must confirm what you convey. The reality in which others sit will shape their acceptance of your message, whether conveyed by e-mail, memo, personal letter, cassette tape, video tape, DVD, video conference, telephone, or in person.

3. Content

Managers are often convinced that what they have to say is important, but the person to whom they are communicating may not see the point. The response is often: "So what?"

No manager should assume that an "audience" is aware of the significance or the importance of the message. A good rule is to explain why the message is significant. Provide the background information that puts the message into a context. This makes communication credible and meaningful.

4. Continuity, and 5. Consistency

Too often, employers and managers prepare and rely on a single means of communication, such as a policy document. They depend solely on this medium to carry the communication load, and, as a consequence, they spend considerable time dealing with crisis calls or poor data or other signals of inadequate management.

A fundamental rule of communication is that you should pass messages along through at least three channels to be effective. Rely on a single communication effort and you will have a fairly low success rate. Effective managers will recognize that communication must be continuous, that messages require repetition to penetrate the minds of people who are busy with their own work and priorities. Repetition (with variations of course) contributes to understanding, retention, learning, and acceptance. At the same time, the variations should keep the facts, the story, consistent with each communication. If the facts change, your credibility will deteriorate.

6. Channels

Communication in today's technological environment has the potential to be more successful than at any previous time. This is because managers have more avenues and media through which to communicate, ranging from the written word to the spoken and visual modes of presentation. Written communication can take place through e-mails or electronic libraries as well as published employee handbooks. In addition to a fleet policy and handbook, you can communicate driver safety through cassette tapes or CDs being played while drivers are on the road. In a world in which VCRs and DVD players are common, video tapes or DVDs can become part of a communication program. The main caution is to understand that some communication channels are more effective than others and that different channels affect audiences in different ways. A video of a talking head may be ignored or jeered rather than respected or listened to.

7. Capability (of the audience)

The complexity of the language used to communicate is important to the success or failure of the communication effort, particularly when the message is written. Managers should measure word choice (which sets tone and largely determines a receiver's ability to comprehend), sentence structure, and organization of the information against the capability of the intended audience. Simply put, managers should not use the same diction when communicating with senior management that they use when addressing the work force. Beyond this, managers should understand several basic truths about message-receivers on all levels:

a. They do not like to be bored.
b. They perceive themselves as busy people; they will not tolerate having their time wasted.
c. They like order and hate chaos; they need to be able to sense where the communicator is going.

And, regarding written communication efforts:

d. Many readers are reluctant to read; they would rather be watching television or playing tennis or even sleeping then reading.

The point is that good managers will shape their message according to the character of the audience.

8. Clarity
If a message is not clear, it will not be understood, and the effort to communicate will fail, so put the message in simple terms. Remember that the words must mean nearly the same thing to all involved. (Words never mean "precisely" the same thing to everyone in an audience, and that includes a room of high-level decision-makers.) Present complex issues with simplicity and clarity. A biblical question makes the point in strong King James language: "Except ye utter by the tongue words easy to be understood, how shall it be known what is spoken? For ye shall speak into the air" (1 Corinthians 14:19). Perhaps this is where the phrase "hot air" comes from?

The 8 Rules of Writing

When writing, keep the following rules for achieving clarity in mind:

1. Use active, direct verbs.
Don't rely on nouns for verbal force. An editorial technique to improve this aspect of writing is to circle all uses of the verb "to be" (is, am, are, was, were, etc.), then look for more active and descriptive words nearby that can take the place of those you have identified.

2. Prefer the active to the passive voice.
An editorial technique to improve this aspect of writing is to ask: "Who is kicking whom?" That is, determine the "actor" in a sentence and then state the action in a simple, active verb. For example, "All expenses incurred by drivers will be reimbursed by the Agency within 15 days after expense reports have been submitted" can be more effectively stated as: "Within 15 days after drivers submit their expense reports, the Agency will reimburse them for their expenses."

3. Prefer the concrete to the abstract.
The more decentralized the organization, the more abstract policy tends to be. Choosing the language to set policy within certain boundaries can be difficult under such a circumstance. Nevertheless, Fleet Managers must select words and shape phrases that are not vague. In many instances, mentally picturing process actions and writing to describe those actions results in more precise, more concrete statements.

4. Prefer the personal to the impersonal.
Refer to your audience when speaking or writing to them. For example, "Expense reports must be completed and submitted to the Finance Department" can be more effectively stated as: "Drivers must complete and submit their expense reports to the Finance Department." (Note: Policies sometimes state that "Drivers must turn their expense report into the Finance Department." This typical, ungrammatical use of language suggests that drivers have magical powers.)

5. Prefer the shorter version to the longer.
Make your point and move on.

6. Use variety.

Mix sentence lengths and sentence structures. To vary your sentence patterns, consider starting with an infinitive phrase, as this sentence does, or open with a prepositional phrase – in the future, after completing the form, before signing the release.

7. Avoid –ility and –ize and –tion and –ment if possible.
Words with these endings usually replace an active verb. For example, "Utilization of the credit card will facilitate the transaction" can be translated into "Use the credit card to avoid problems." In general, steer clear of the word "utilize," which is vastly overused in place of the word "use." Keep in mind that "utilize" means "used to the fullest extent possible," so "fleet utilization" is an appropriate use of the word.

8. Avoid starting many sentences with "It was" and "There were."
Consider repackaging a sentence such as "There are five forms that must be utilized by drivers if reimbursement is to be received," to look like: "Drivers must fill out five forms to receive reimbursement." As a test, go through something you recently wrote and circle every time you started a sentence with either phrase, then go through this complete *Guide* and circle every time we started a sentence with either phrase.

In short,

- ✓ Use effective language
- ✓ Stop mumbling when you write
- ✓ Do not be ambiguous
- ✓ Be accurate
- ✓ Be clear
- ✓ Be vivid
- ✓ Be concise

Avoid the "dirty dozen" faults of writing:

1. Too many words
2. Vagueness
3. Jargon and technical words
4. Overuse of big words
5. Trite expressions
6. Omitting an explanation of an abbreviation
7. Talking down to readers
8. Thoughts and ideas expressed negatively
9. Addressing readers inappropriately
10. Too self-centered
11. Inadequate attention to detail
12. Overdoing messages

Attachment 2:
Primer on Primary Motor Vehicle Systems

1.0 Vehicle Systems

Segment a vehicle into its parts and everyone can improve his or her knowledge and understanding of automotive technology. Federal Fleet Managers and other Federal employees involved in maintaining the Federal Fleet should understand the characteristics of the assets they manage.

The primary systems to be maintained in a motor vehicle are:

- ✓ Engine
- ✓ Fuel
- ✓ Electrical, including ignition, charging, starting
- ✓ Cooling
- ✓ Lubrication
- ✓ Drive Train
- ✓ Running Gear
- ✓ Emission Control

Federal Fleet Managers should understand the purpose and basic operation of each of these systems.

2.0 Engine System

The engine is the heart of the vehicle. It converts fuel into the energy that powers the vehicle. More precisely, the internal combustion engine burns fuel within the cylinders and converts the expanding force of the combustion or "explosion" into rotary force used to propel the vehicle.

To operate a conventional gasoline or diesel engine requires clean air for the fuel, water for cooling, electricity (which it generates) for igniting the fuel, oil for lubrication and the fuel itself. A battery and electric starter get it going!

Routine Preventative Maintenance for the Engine System

Shop

- ✓ Change the oil and the oil filter per the manufacturer's recommendations and at mileage and time intervals appropriate to driving conditions.
- ✓ Inspect drive belts; replace belts with damage or wear.

Operator

- ✓ Use only the fuel recommended by the manufacturer.
- ✓ Conduct pre-trip inspection for leaks.

2.1 Engine Basics

In a conventional gasoline or diesel engine, the pistons are housed in cylinders that, in turn, are housed in the engine (or cylinder) block, which forms the main body of the engine. The cylinder head sits on top of the cylinder block and contains all or most of the combustion chamber where the air/fuel mixture is burned between the cylinder head and the piston. The pressure of the expanding gases from burning the air/fuel mixture forces the piston down and rotates the crankshaft in the crankcase. The crankshaft converts linear motion (i.e. the downward thrust of the piston) into a rotating motion, which, in turn, is used to drive the vehicle.

A series of valves, called a valve train, opens and closes intake and exhaust ports that move air and fuel into and out of the cylinders. A camshaft controls the movement of the valves and rotates once for every two rotations of the crankshaft. An intake manifold delivers a mixture of air and fuel to the intake ports and an exhaust manifold carries away the exhaust from the exhaust ports.

Engine Classifications		
Classification	**Description**	**Types**
Combustion Method	How the engine uses fuel to power the engine	Internal combustion, 4-stroke cycle, piston, rotary, alternative fuel vehicle
Cylinder Arrangement	Position of cylinders in relation to crankshaft	In-Line: Cylinders lined up in single row with each cylinder lined up in a straight line parallel to the crankshaft V-Type: Viewed from either end, a V-Type engine looks like the letter "V" with two banks of cylinders positioned at an angle to each other Slant: One bank of cylinders angled or leaning to one side Opposed: Cylinders lie flat on either side of the crankshaft
Number of Cylinders	Number of cylinders in the engine block: all cylinders are numbered in Service Manuals and the cylinders have a firing order	4, 6 or 8 is common 3, 5,10, 12 or 16 are found Firing order important when servicing ignition, spark plug wires, distributor or tune-ups
Cooling System Type	The method of cooling the cylinders and the engine during operation to prevent engine damage	Liquid: surrounds cylinders with coolant (common in automobiles) Air: Circulates air over fins (common in motorcycles)
Valve Location	Relationship of valves to other engine components	L-Head or Flat Head: no longer used in motor vehicles I-Head or Over Head Valve (OHV): both valves are in the cylinder head

Engine Classifications		
Classification	**Description**	**Types**
Camshaft Location	Relationship of camshaft to other engine components	Cam-in-Block: camshaft is located in the engine block Overhead Cam (OHC): camshaft is located in the top of the cylinder head; commonly found in small, economy-car engines Single Overhead Cam (SOHC): has only one camshaft per cylinder head Dual Overhead Cam (DOHC): two camshafts per cylinder head with one operating the intake valves and one the exhaust valves Pancake Wedge Hemispherical
Combustion Chamber Design	Shape of the combustion chamber	Swirl Four-Valve Three- Valve Stratified Charge Air Jet Precombustion
Type of Fuel Burned	Fuel to powers the engine	Gasoline, diesel or alternative fuel
Type of Ignition	How the fuel is ignited in the engine	Spark ignition Compression ignition

2.2 Engine Power and Efficiency

Engines are rated by their horsepower. Horsepower, or hp, is a unit of power for measuring the rate at which a device can perform mechanical work. One horsepower is defined as the amount of power needed to lift 33,000 pounds one foot in one minute. Engines may also be rated by their torque (turning force at the engine's crankshaft) and is expressed in ft. lbs. of torque at a specific revolution per minute.

Two important factors affect the power and efficiency of an engine – compression ratio and detonation (abnormal combustion). The higher the compression ratio of an engine, the greater the power output and efficiency of that engine. The better the efficiency, the less fuel consumed to produce a given power output. A high compression ratio also indicates an engine of greater structural integrity.

When detonation occurs, a premature self-ignition of a pocket of air/fuel mixture occurs in the combustion chamber and a hammering, pinging or knocking sound results. The

absence of detonation sounds in an engine is therefore desirable because the sounds would signal the possibility of physical damage to the engine.

2.3 Engine Size

Engine size is determined by cylinder diameter, amount of piston travel per stroke and the number of cylinders. Engine size information is often used in vehicle specifications and in parts ordering.

3.0 Fuel System

A motor vehicle burns fuel as a source of energy. Petroleum, also called crude oil, comes directly from the earth. Most commonly it must be found, drilled for, pumped and distilled into LP-gas, gasoline, kerosene, fuel oil and lubricating oils.

Motor vehicles today use unleaded gasoline, also called no-lead or lead-free, to meet emission control laws, regulations and standards. Using leaded gasoline in a motor vehicle requiring unleaded gasoline will lead to damage to the catalytic converter. Octane ratings provide the antiknock ability of gasoline. Vehicle manufacturers recommend the octane number ratings for their engines.

Diesel fuel or diesel oil contains more heat energy than gasoline. Diesel fuel can produce more cylinder pressure and vehicle movement than an equal amount of gasoline. The American Society for Testing Materials (ASTM) has set diesel fuel grades to assure that diesel fuel sold across the country has uniform standards of service. There are three grades: Number 1 Diesel, Number 2 Diesel and Number 4 Diesel. Numbers 1 and 2 diesels are sometimes blended to improve starting in cold weather. Cetane ratings denote the ignition quality of the diesel fuel.

Federal Fleet Managers deal with a growing number of fuel systems besides petroleum-based gasoline and diesel because of the requirements in law and regulation to acquire alternative fuel vehicles (AFVs) and to reduce the petroleum consumption of the Federal Fleet.

The components of a gasoline fuel system are fuel tanks, fuel lines, fuel filters and fuel pumps. Alternative fuel vehicles may have similar as well as different components specifically suited to the type of fuel used.

Fuel systems store the fuel for later use, collect and clean the outside air, deliver fuel to a device that controls the amount of fuel going to the engine, break down the fuel into droplets and mixes the fuel with outside air to form a vapor, and changes the fuel and air mixtures to meet the needs of the engine during varying operating conditions.

4.0 Electrical Systems

The four electrical systems in the typical motor vehicle are:

1. Ignition system
2. Starting system
3. Charging system
4. Electrical/Electronic control system

Routine preventative maintenance for the electrical system includes: inspect battery, battery cables, battery tray and battery hold-down fixtures for corrosion, damage and dirt; clean or replace as required.

4.1 Ignition System

A gasoline engine uses an electrical spark to ignite the fuel/air mixture in the cylinder. The ignition system generates this spark. The ignition coil transforms the low voltage of the battery into a voltage burst which ignites the fuel/air mixture at the proper time when the piston is in the proper position in the cylinder so that combustion occurs. The voltage burst must be distributed to the correct cylinder because only one cylinder is fired at a time. In the past, the distributor performed this job. Today, it is handled by several coils for each pair of spark plugs.

In most engines, the motion of the piston and the rotation of the crankshaft are monitored by a crankshaft position sensor which relays information on the position of the crankshaft to an ignition control module. Based on input from the crankshaft position sensor, as well as the engine control computer, the ignition control module turns the battery current on and off at just the right time so that the voltage surge arrives at the cylinder at the correct moment.

4.2 Starting and Charging Systems

The starting system is responsible for getting the engine started. When you turn the ignition key to the start position, a small amount of current flows from the battery to a solenoid or relay which allows full battery power to reach the starter motor. The starter motor rotates the flywheel located on the rear of the crankshaft. As the crankshaft turns, the pistons in the cylinders move. At the correct time for each cylinder, the ignition system provides the spark to ignite the fuel/air mixture. If good combustion occurs, the engine will now rotate on its own without the starter motor and the ignition key returns to the on position.

The electrical power for the engine and the rest of the motor vehicle comes from the battery. Starting takes a lot of electricity from the battery. The charging system recharges the battery and provides electrical power for the ignition system, air conditioner, heater, lights, radio and all electrical accessories while the engine is running.

The charging system includes the alternator, voltage regulator, indicator light and wiring. Rotated by the crankshaft of the engine through a drive belt, the alternator turns mechanical energy into electrical energy. When the electrical current from the charging system flows back to the battery, the battery is recharged.

4.3 Electrical/Electronic Control System

Nearly all vehicles now have an electronic engine control system which continuously monitors the operation of the engine and makes adjustments to improve engine efficiency. The electronic engine control system improves fuel mileage, engine performance and drivability, and reduces emissions. Electronic engine control systems consist of input sensors, a microprocessor or computer and output devices. Having so few moving parts, these systems maintain calibration indefinitely.

Routine Preventative Maintenance for the Electrical System

Shop

- ✓ Inspect battery, battery cables, battery tray and battery hold-down fixtures for corrosion, damage and dirt; clean or replace as required.

5.0 Cooling System

The burning of the air/fuel mixture in the combustion chambers of the engine produces tremendous heat, which must be reduced to avoid damage to the engine. The cooling system circulates a liquid coolant through passages in the block and cylinder head. A typical cooling system relies on a water pump to circulate the coolant. The heat picked up by the coolant is sent to the radiator, which transfers the heat to the outside air. To help remove heat from the coolant, a cooling fan is used to pull cool air in through the radiator fins. Hoses connect the system and keep it sealed.

Routine Preventative Maintenance for the Cooling System

Shop

- ✓ Check the level of the coolant in the recovery tank
- ✓ Visually inspect all hoses in the cooling system for swelling or signs of leakage

Operator

- ✓ Check the level of the coolant in the recovery tank
- ✓ Squeeze or feel for hose fabric deterioration
- ✓ Conduct pre-trip inspection for leaks

6.0 Lubrication System

The moving parts of an engine need constant lubrication. Oil is the fluid used to lubricate the engine. Regular replacement of the oil and oil filter is crucial. The oil pan (or crankcase or oil sump), bolted to the bottom of the engine block, stores several quarts of oil. When the engine is running, an oil pump draws oil from the pan and forces it through the oil filter before moving it through the engine. The filter removes dirt and metal particles from the oil, which, if not removed, can result in premature, wear and damage to the engine.

Routine Preventative Maintenance for the Lubrication System

Shop

- ✓ Change the oil and the oil filter per the manufacturer's recommendations and at mileage and time intervals appropriate to driving conditions

Operator

- ✓ Check oil level at each refueling
- ✓ Pre-trip inspection for leaks

7.0 Drive Train System

The drive train is made up of all components that transfer power from the engine to the driving wheels of the vehicle. The exact components used in a vehicle's drive train depend upon whether it is equipped with front-wheel drive (FWD), rear-wheel drive (RWD) or four wheel drive (4WD)/all-wheel-drive (AWD).

Today, most passenger automobiles are front-wheel drive. Power-flow in a front-wheel drive vehicle passes through the clutch or torque converter, through the front differential, the driving axles and onto the front wheels.

Most pickup trucks, mini-vans and utility vehicles are rear-wheel drive. Power flow in rear-wheel drive vehicles is through the clutch or torque converter, manual or automatic transmission, the driveline (drive shaft assembly), through the rear differential, the rear driving axle and onto the rear wheels.

Four wheel drive/all-wheel-drive vehicles combine systems features of both front-wheel drive and rear-wheel drive so that power can be delivered to both front and rear wheels on a permanent or on-demand basis.

7.1 Rear-Wheel Drive Transmissions

There are two types of transmission used in rear-wheel drive vehicles: manual or automatic.

The driver manually selects the gear in a manual transmission. A typical manual transmission has four or five forward gears and neutral and reverse. When starting, stopping or shifting from one gear to the next, the driver depresses the clutch pedal to disengage it so as not to damage the transmission. Allowing the clutch pedal to come up re-engages the clutch and allows power to flow from the engine to the transmission.

An automatic transmission does not need a clutch pedal and shifts through the forward gears without driver intervention. It uses a torque converter to transfer power from the engine's flywheel to the transmission input shaft. Shifting is controlled by an hydraulic and/or electronic control system.

Drivelines connect the output shaft of the transmission to the gearing in the rear axle housing on RWD vehicles and to the front and rear axles on a 4WD vehicle. On RWD vehicles, power flows into the differential where it changes direction, the torque is

multiplied, divided between left and right driving axles and then power flows to the rear axles and wheels.

7.2 Forward-Wheel Drive Transaxles

A transaxle is used on forward-wheel drive vehicles. The transaxle houses the transmission and differential in a single unit. The drive axles extend from the sides of the transaxle. The gear sets in the transaxle provide the required gears and direct the power flow to the differential. The differential provides the final gear reduction and splits the power flow between the left and right drive axles.

7.3 Four-Wheel Drive and All-Wheel Drive Systems

Four-wheel drive and all-wheel drive systems combine the features of rear-wheel drive transmissions and front-wheel drive transaxles. A transfer case splits the power flow between a differential driving the front wheels and a rear differential driving the rear wheels.

Routine Preventative Maintenance for the Drive Train System

Shop

- ✓ For vehicles with automatic transmissions, check the level of the transmission fluid

8.0 Running Gear

The running gear of a vehicle includes the suspension, steering, brakes, wheels and tires.

8.1 Suspension System

The suspension system includes springs, shock absorbers, struts, torsion bars, axles and connecting linkages. These components are designed to support the body and frame, the engine and the drivelines.

8.2 Steering System

The driver controls the direction of the vehicle with the steering system. Passenger automobiles commonly use rack-and-pinion steering. Pickup trucks, utility vehicles and luxury automobiles use recirculating ball systems.

Steering gears provide a gear reduction to make changing the direction of the wheel easier and on most vehicles the steering gear is power-assisted to ease the effort of turning the wheels.

8.3 Braking System

Brakes are located at each wheel and use friction to slow and stop the vehicle. A master cylinder, brake hoses and lines move hydraulic fluid to the brake assembly on each wheel. Two types of brakes are used – disc brakes and drum brakes. Many vehicles use a combination of the two; i.e., disc brakes for the front wheels and drum brakes for the rear wheels or disc brakes for all four wheels. Today, most vehicles also have antilock braking systems to reduce skidding.

8.4 Wheels and Tires

Wheels are bolted to the axles or spindles and hold the tires in place. Tires are made or rubber and other materials to give them strength and are mounted on the wheels. Wheels and tires come in many sizes and must be matched to each other and to the vehicle.

Routine Preventative Maintenance for the Running Gear

Shop

- ✓ Check the level of the power steering fluid; replace as required
- ✓ Check the level of the brake fluid; replace as required
- ✓ Check tires for damage or wear; repair or replace as required
- ✓ Check tire pressure in all four wheels and spare
- ✓ Check for loose wheel lug nuts

Operator

- ✓ Check tires for damage or wear
- ✓ Look for underinflated tires
- ✓ Check tire pressure in all four wheels and spare
- ✓ Check for loose wheel lug nuts
- ✓ Check operation of brake lights, turn signals and hazard warning flashers
- ✓ Check windshield wiper spray and wiper operation

9.0 Emission Control/Exhaust System

9.1 Emission Control

Emission control systems on motor vehicles are necessary to meet the requirements of law, regulation and policy intended to reduce air pollution. The Environmental Protection Agency (EPA) establishes the standards that limit the amount of hydrocarbons, carbon monoxide and oxides of nitrogen a vehicle can emit.

Pollution and emission control devices include

- ✓ Positive crankcase ventilation systems (PCV)
- ✓ Evaporative emission control systems
- ✓ Exhaust gas recirculation systems (EGR)
- ✓ Catalytic converters
- ✓ Air injection systems.

9.2 Exhaust System

A typical exhaust system consists of these components:

- ✓ Exhaust manifold and gasket
- ✓ Exhaust pipe, seal and connector pipe
- ✓ Intermediate pipes
- ✓ Catalytic converter(s)
- ✓ Muffler
- ✓ Resonator
- ✓ Tailpipe
- ✓ Heat shields

- ✓ Clamps, gaskets and hangers.

Routine Preventative Maintenance for the Emission Control/Exhaust System

Shop

- ✓ Check the muffler, exhaust pipes and clamps

Operator

- ✓ Do not authorize any emission control system to be disabled