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Standard Guide for Fleet Management[1]

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1. Scope

1.1 This guide addresses considerations for effectively managing fleets of mobile assets.

1.2 This guide primarily addresses fleets of non-tactical motor vehicles and aircraft but may also include other commodity groups such as waterborne vessels and specialized mobile assets.

1.3 This guide does not override or increase requirements specific to governmental authorities. However, to the greatest extent practicable, the guidance in this guide should be considered by these entities where efficiencies may be gained.

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*[2]

E2135 Terminology for Property and Asset Management

E2306 Practice for Disposal of Personal Property

E2608 Practice for Equipment Control Matrix (ECM)

3. Terminology

3.1 *Definitions:* For definitions related to property and asset management, refer to Terminology E2135.

3.1.1 *fleet, n*—grouping of similar assets that are designed to be mobile.

3.1.1.1 *Discussion*—Typical fleets include motor vehicles, aircraft, and vessels. Fleets may also include wheeled trailers of various types that are intended and licensed for on-road use and towed by vehicles operated by a driver. A fleet may be restricted to one location or may be national or international.

3.1.2 *motor vehicles, n*—motor vehicles are non-tactical; usually operated by a driver but may be remotely or autonomously controlled; owned or leased in both the public and private sectors; may include both light and heavy duty assets; and, operate either on- or off-road.

3.2 *Acronyms:*

3.2.1 *EVM*—Earned value management.

3.2.2 *FMIS*—Fleet management information system.

3.2.3 *GVWR*—Gross vehicle weight rating.

3.2.4 *OEM*—Original equipment manufacturer.

3.2.5 *TCO*—Total cost of ownership (may also refer to as LCC; Life Cycle Cost).

3.2.6 *VIN*—Vehicle identification number.

4. Summary of Guide

4.1 Entities should be able to realize significant cost savings and increases in efficiency when fleet assets are managed strategically and holistically.

4.2 An individual fleet asset (for example, a single sedan) may be managed as such (an individual asset) under other ASTM International asset management standards, but there are additional economies to be gained if the fleet is considered holistically. For example, an entity may realize reduced maintenance costs because of commonality of maintenance parts, test equipment, and breadth of expertise required of maintenance personnel.

4.3 Effective management of fleet assets is multi-faceted. An entity can choose the effort and resources dedicated to its fleet management effort based on factors such as the entity's mission, its level of investment in the fleet assets, the complexity of the assets themselves, and the risks correlated to the assets' availability.

4.4 The goal of effective fleet asset management is to maximize the value to the entity while ensuring availability to fulfill the mission and minimizing exposure to risks.

4.5 Fleet management is separate and distinct from fleet operations. Effective fleet management incorporates appropriate strategic operational policies.

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[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

5. Significance and Use

5.1 This guide promotes the considerations that may be applied to the management of fleet assets as a business process of the entity.

5.2 The central objective of this guide is to ensure that fleet assets are managed in a manner best suited to the entity taking into account the needs and mission of the entity and the respective capabilities of the assets.

5.3 Measuring and managing the effectiveness of a fleet program will result in improved accountability and enhanced operational performance. Accountability will be evident through standard performance measures such as cost savings, increased asset utilization, extended asset life, and increased mission effectiveness.

6. Decision Process

6.1 *Assets*—Entities will consider which management methods and tools to apply and the level of effort to exert in managing their fleet assets. Decision points are reached at each stage of the asset lifecycle:

6.1.1 *Acquisition Phase*—Determine appropriate type of fleet asset, financing method, procurement procedure, and funds management strategy to acquire the optimal number of assets best suited to meet the entities requirement;

6.1.2 *Use Phase*—Manage the operation, utilization, deployment, and dispatch of assets, including maintenance and repairs; and

6.1.3 *Disposal Phase*—Manage the disposal of the fleet asset to maximize potential recovery of residual value of the asset or minimize the cost for disposal to best meet entity goals.

6.2 *Personnel*—Entities should determine the level of knowledge and expertise required for the management program to succeed at each of the lifecycle phases identified above (6.1.1 – 6.1.3). Management responsibilities should be identified, clear, and defined; this should include where personnel fit within the structure of the entity. To be fully aware of the capabilities and opportunities of applying these fleet asset standards and implement or improve its fleet management program, an entity should develop a comprehensive training program consistent with the fleet assets managed.

7. Aspects of a Fleet Management Program

7.1 *Operational Aspects for Consideration:*

7.1.1 *Reasons for and Benefits of an Efficient Fleet and Management System*—The entity should define its current fleet management program and what it is seeking from an effective fleet management system. A statement of mission, goals, and strategies should be in place to guide the program. The statement should be reviewed periodically.

7.1.2 *Management Program Scope*—The entity's mission(s), goals, and concerns to be incorporated in the scope of the overall asset management program should be considered. The entity should identify and weigh which management concerns to include in its current activities and which should be considered as its mission(s) changes. Fleet management program areas, methods, and tools to consider may be identified in this section.

7.1.3 *Fleet Management Information System (FMIS)*—In whatever form, the record-keeping component of the fleet management program will be able to support the entity's data requirements for mandatory information (such as information required by the government), as well as furnish information for making informed management decisions that will improve the fleet management program. The requirements for an FMIS go beyond the basic requirements of a generic (non-fleet) property management system. The FMIS should also include information that will support the fleet operations side of the program, such as vehicle identification number (VIN), license plate number, installed options, and information on entity installed equipment such as communications and audio/visual warning equipment. Informational needs for both management and operations should be identified and guide functionality requirements.

7.1.4 *Fuel Efficiency*—Fuel-efficient assets generally reduce expenditures on fuel compared with those assets that are less efficient. However, the costs and benefits of switching to more fuel-efficient assets will be considered using a total cost of ownership (TCO) perspective.

7.1.5 *Safety*—The entity should consider the safety of the asset operator; the general public; and the people who service, repair, and maintain the assets. Safety should extend to risk management, mitigating exposure to risk, and subsequent accidents through effective management.

7.1.6 *Sustainability/Environment*—The entity should consider the impact its fleet has on sustainability and the environment in terms of legal and regulatory compliance, public relations, the desire to be environmental stewards, and ensuring the capability of powering fleet assets for the foreseeable future. A fleet management program may need to incorporate research into alternative fuels and alternatively fueled assets to ensure the ability to fulfill the entity's mission(s) in the future.

7.1.7 *Disposal*—Many options are available for asset disposal, some of which are discussed in Practice E2306. The method of disposal can provide an opportunity to recapture value invested in the asset and achieve other entity goals.

7.1.8 *Replacement/Acquisition*—All financial options for acquiring and replacing fleet assets should be considered. A lease versus ownership comparison should always be performed. Timing of replacement should be based upon total cost analysis over the lifecycle of the asset, particularly under an ownership program. Some other examples of acquiring needed assets include:

7.1.8.1 *Exchange or Sale*—When an entity "trades in" an asset for another asset that fits the entity's need better or the entity sells its asset and uses the sales proceeds to acquire the replacement asset;

7.1.8.2 *Reutilization*—Acquiring assets already in the entity's possession, or in the possession of associated entities, should be used to the greatest extent possible; and

7.1.8.3 *Construction*—Asset replacement may require costly and time-consuming construction, which can benefit from application of earned value management (EVM) or other project management tools.

7.1.9 *Compliance with Laws and Regulations*—Entities should be aware of the layers of governmental or management policies affecting fleet activities. Comprehensive management and operational plans should be developed to ensure compliance.

7.1.10 *Registration*—Assigning/allocating the fleet asset to an entity is an early step in the process of effective management. Registration could be through a government or a nongovernmental activity.

7.1.11 *Identification*—Property identification of an entity's assets is critical to effective management. This concept applies both to the individual asset (the end item) and the asset's capabilities and components.

7.1.12 *Maintenance*—Maintenance is a critical activity that shall be managed diligently to maximize the return of value to the entity. Maintenance can be planned, periodic, or as needed. Maintenance schedules should seek to optimize the availability of the asset with minimal downtime and costs. Maintenance may be performed in-house or by vendors. Maintenance performed by vendors requires effective management oversight for cost and quality control purposes. In some situations, specific maintenance activities may be required by regulation.

7.1.13 *Vehicle Use*—"Use" relates to mission or purpose.

7.1.14 *Vehicle Utilization*—"Utilization" refers to an important operational measure, such as number of miles, trips, hours, and takeoffs/landings. The data serve numerous needs, including replacement timing, maintenance scheduling, identification of vehicle misuse, and tracking personal use, for example. Sharing of assets should be considered rather than acquiring separate, redundant assets among associated entities or divisions within the same entity. Technology exists to track real-time utilization and electronically communicate data to a FMIS.

7.1.15 *Fleet Rightsizing*—Entities should understand the needs for its fleet assets and own or lease only that number needed to fulfill the mission. A method that includes data should be in place to justify each fleet asset (number and type). Fleet size tends to increase more than the mission requires when a fleet asset allocation protocol is ignored, informal, or not in place. Controlling asset inventory is a fundamental management task because it drives all costs and operational activities, as well as exposure to risk.

7.1.16 *Fleet Asset/Motor Pool Operations*—All operational activities should be identified and managed. This requires appropriate policies and procedures, systems for monitoring and measuring, and performance standards.

7.1.17 *Accidents and Incidents*—Asset operators should know and understand the process of reporting accidents and incidents. Documenting and reporting should be in accordance with the goals of the entity as well as any governmental laws, regulations, or policies.

7.1.18 *Assurance of Proper Use*—Procedures should be in place to ensure that only qualified users operate or maintain the assets, such as through appropriate training, certification, or licensing. Also, procedures should be in place in the event that the asset is improperly used, stolen, damaged, or destroyed.

7.1.19 *Reporting Systems (Reports to Government, Public, Board of Directors, and so forth)*—Systems should be in place to track, analyze, and report fleet asset data to meet legal and regulatory requirements. Systems should also possess the functionality for reporting that meets fiduciary cost-control and due-diligence management demands.

7.1.20 *Visibility of Assets to Public*—Visibility takes two forms. One form is individual assets being seen fulfilling the entity's mission. The asset should reflect the image the entity wants to project to the public. A second form of visibility is through reports that describe aspects 196 or issues associated with the assets, which can include accidents, misuse, costs, performance, maintenance, and research efforts. A fleet management program should recognize and address all aspects of asset visibility.

7.1.21 *Personal Use of Vehicles*—For fleet assets for which personal use may be possible, the entity and its fleet management program should address whether personal use may be allowed, the associated compensation costs and reporting issues, the means of tracking personal use, and charging back costs, where applicable. Policies and procedures should clearly state the entity's position on personal use, legal issues, accident and liability considerations, and penalties where they apply.

7.1.22 *Parts, Accessories, or Unique Capability Requirements (for example, Tires, On-Board Navigation, and so forth)*—During the process of identifying the specifications for the fleet asset, the fleet program should incorporate steps to address safety features, navigation requirements, electronic tracking, type of use (on-road/off-road), and similar considerations.

7.1.23 *Asset Specifications*—Fleet asset management should include a process for developing and evaluating asset specifications to ensure that the asset design is appropriate for the mission. Some essential specification considerations are:

7.1.23.1 *Capacity*—A combination of two factors—minimum/maximum load weights (also known as "payload") and cubic feet of storage space;

7.1.23.2 *Size*—A combination of several factors including overall length, width, and height; wheelbase (where applicable); and gross vehicle weight rating (GVWR);

7.1.23.3 *Shape*—Can be addressed as two components—cargo space and driver space;

7.1.23.4 *Drive Side*—A consideration for international or specialized-use fleets;

7.1.23.5 *Commercial, Custom, or Mix*—Options are for commercial vehicles procured from original equipment manufacturers, design and purchase of custom vehicles, or a mix or combination of commercial with customization (perhaps through upfitting);

7.1.23.6 *Fuel and Engine*—Manufacturers are offering a greater variety of powertrains than ever along with the capability to use several alternative fuels; and

7.1.23.7 *Vehicle Life Expectancy*—Best practice is to use a TCO approach that incorporates acquisition costs, resale values, maintenance costs, and fuel costs to determine the optimum replacement cycle for each type of asset class.

7.1.24 *Upfitting*—Fleet assets may require the addition of special parts or features not available through the original equipment manufacturer (OEM). The fleet management program should apply its oversight and systems' methods and tools to this activity to ensure cost and quality control.

7.1.25 Special considerations given for aircraft and other types of fleets.

7.1.26 *Training/Certification (Operators, Fleet Technicians, Mechanics, and Users)*—The fleet management program should recognize and address the need for training. Not only should asset operators be trained but also all fleet technicians and mechanics. See 7.2 for a list of possible training curriculum topics. Associations with appropriate training and certification programs exist and should be identified and assessed for securing membership for essential fleet personnel. Free, on-line training should be identified and assessed for application within the fleet program, where appropriate and applicable.

7.2 *Training Aspect*—The entity should have training curriculum developed that targets specific fleet-related tasks and skill sets:

7.2.1 Security;
7.2.2 Hazardous materials;
7.2.3 Accident management;
7.2.4 Laws, regulations, and policies;
7.2.5 Vehicle utilization;
7.2.6 Vehicle allocation/rightsizing;
7.2.7 Inventory management;
7.2.8 Safety and risk management;
7.2.9 Maintenance and repair;
7.2.10 Reporting requirements;
7.2.11 Vehicle fueling;
7.2.12 Vehicle assignment;
7.2.13 Alternative fuels and fueling;
7.2.14 Acquisition and disposal;
7.2.15 Customer relationship management;
7.2.16 Budgeting;
7.2.17 Procurement policies and practices;
7.2.18 Operation management;
7.2.19 Short-term vehicle rentals;
7.2.20 Vehicle costing; and
7.2.21 Shop mechanic training management.

7.3 *Risk Management*—The entity should have a risk management plan that includes a list of possible adverse occurrences (for example, accident, mechanical failure, theft, improper use, and misuse of vehicles, and so forth); mitigating practices applied; possibilities, consequences, and frequencies of occurrence; and impacts on the entity and mission accomplishment. Practice E2608 should be consulted for guidance on risk management.

8. Keywords

8.1 acquisition; aircraft; disposal; fleet; fleet management; use; utilization; vehicles; vessels