2018 Benchmarking Survey Report

September 2018

TABLE OF CONTENTS

ACKNOWLEDGEMENTS

This report was produced by Mercury Associates, Inc. under the direction of the NCSFA Executive Committee.

NCSFA Executive Committee

Additionally, the NCSFA Executive Committee wishes to thank their Executive Director Tommy Morrison for his efforts on this project.

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INTRODUCTION

OBJECTIVE

The National Conference of State Fleet Administrators (NCSFA) partnered with Mercury Associates, Inc. to develop and administer a survey of state government and state university[1] fleet management organizations (FMOs). The survey was designed to collect information aimed at understanding current fleet management practices in this "industry." NCSFA's primary goals and objectives for the survey were to:

1. Inform and educate its members and other fleet professionals about industry conditions, practices, and trends so that they can improve their fleet management programs;

2. Identify and establish consensus on standards of measurement that are relevant to government fleets;

3. Establish a reference document that will give NCSFA membership the necessary information to leverage with their leadership to improve fleet management programs;

4. Continue to build on NCSFA's position as a respected source of government fleet management practices and performance measurement information.

APPROACH

Mercury and NCSFA developed a Web-based questionnaire for gathering a broad array of qualitative and quantitative information about the respondents' FMOs and the fleets they manage. This questionnaire is appended to this report.

It goes without saying that there are many differences among the survey respondents that may affect the costs and some other quantitative attributes they reported for their fleets. These metrics cannot be normalized for the purpose of comparing the FMOs against one another without knowing quite a bit more about each individual respondent than it was possible to learn in a study of this type. These differences pertain to geographic region and other environmental factors; fleet asset types and ages; maintenance and repair practices; vehicle allocation, utilization, and operating practices; meter reading and maintenance and repair work order data capture practices; and cost accounting and cost charge-back practices, to name a few. Consequently, much of the information collected through the survey aimed to understand industry *practices* associated with, say, identifying and managing fleet costs rather than to simply identify the *values* different respondents report for those costs.

[1] The term "university" is used generically throughout this report to refer to any type of higher education institution that participated in the survey.

The survey covered the following 10 topic areas, eight of which focused on a specific aspect of fleet management practice:

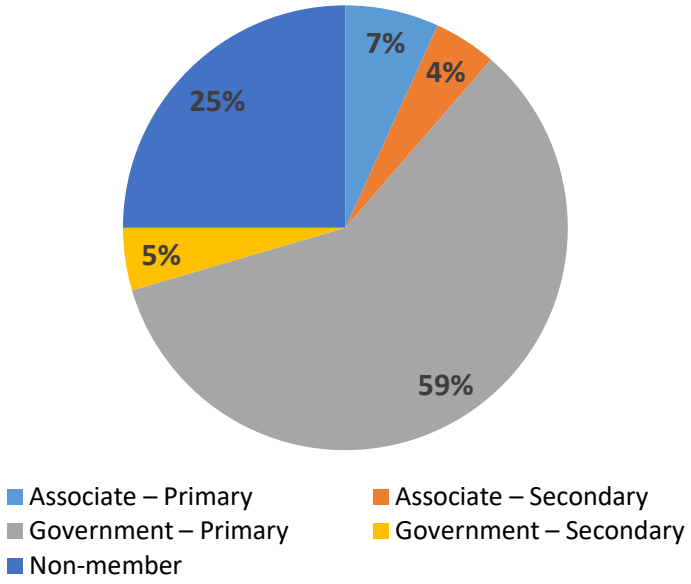
1. Fleet Management Organization Information
2. Asset Allocation and Utilization
3. Asset Acquisition and Disposal
4. Fleet Safety Management
5. Fleet Maintenance and Repair
6. Fleet Fueling
7. Fleet Replacement
8. Fleet Management Information Technology
9. Cost Charge-Back Practices
10. Fleet Industry Trends, Challenges and Opportunities

Forty-four FMOs provided complete responses to the questionnaire, key observations from which are discussed in the remaining sections of this report. A list of these respondents can be found in the appendix. A complete set of survey response data has been provided to NCSFA members in a Microsoft *Excel*® file under separate cover.

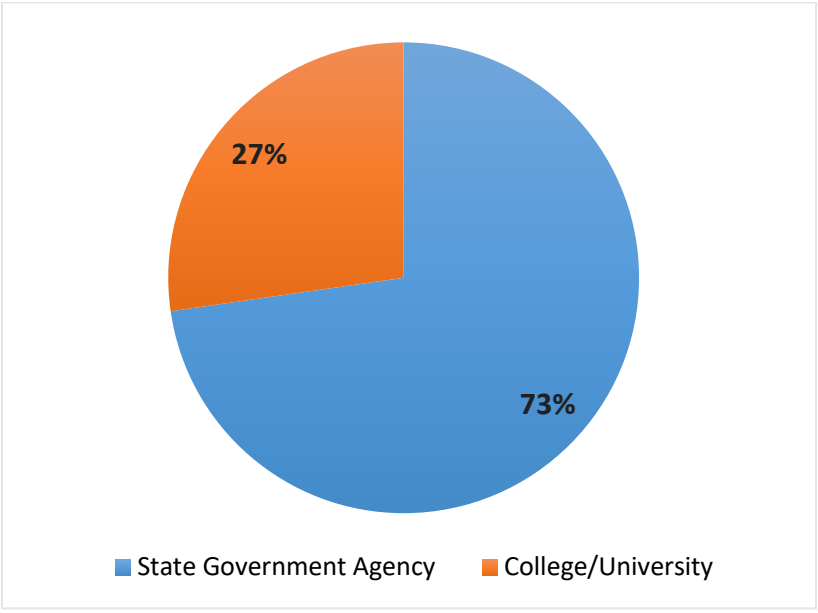
FLEET MANAGEMENT ORGANIZATION INFORMATION

The figures below show the nature of the responding FMOs that participated in the survey were broken down into two main groups: state government agencies (33) and state universities (11).[2] Figure 1 shows the NCSFA membership status of the respondents.

Survey Respondents by NCSFA Membership Status

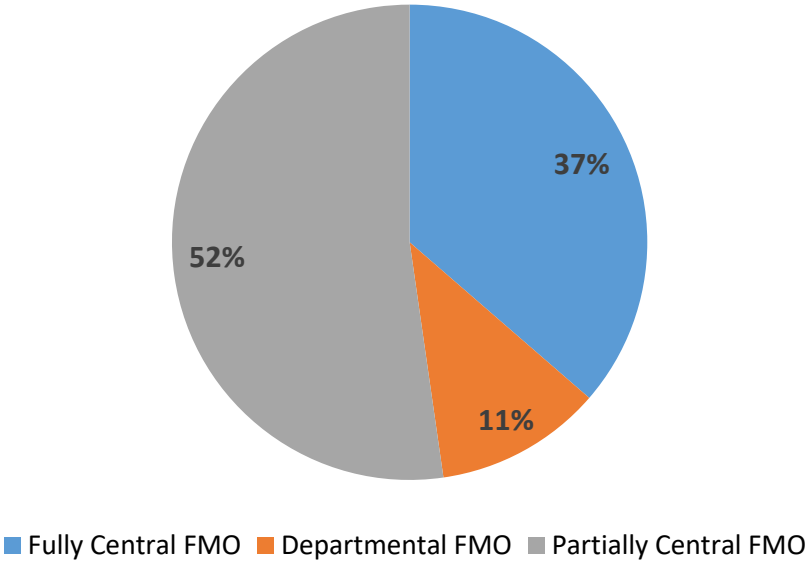


Fleet Management Organization Type

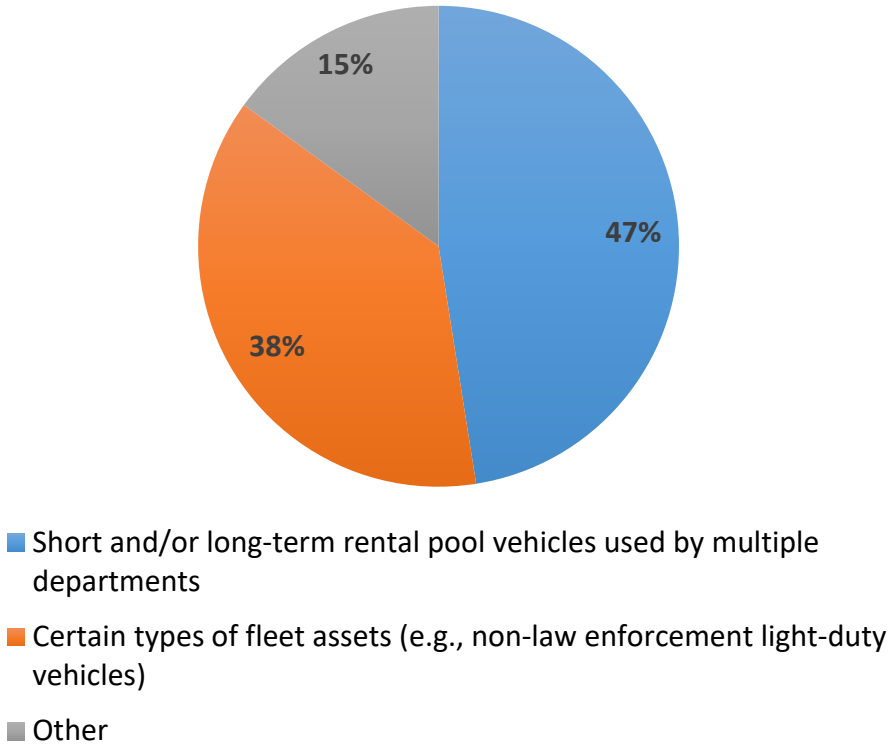


[2] See Appendix for the complete list of FMO respondents

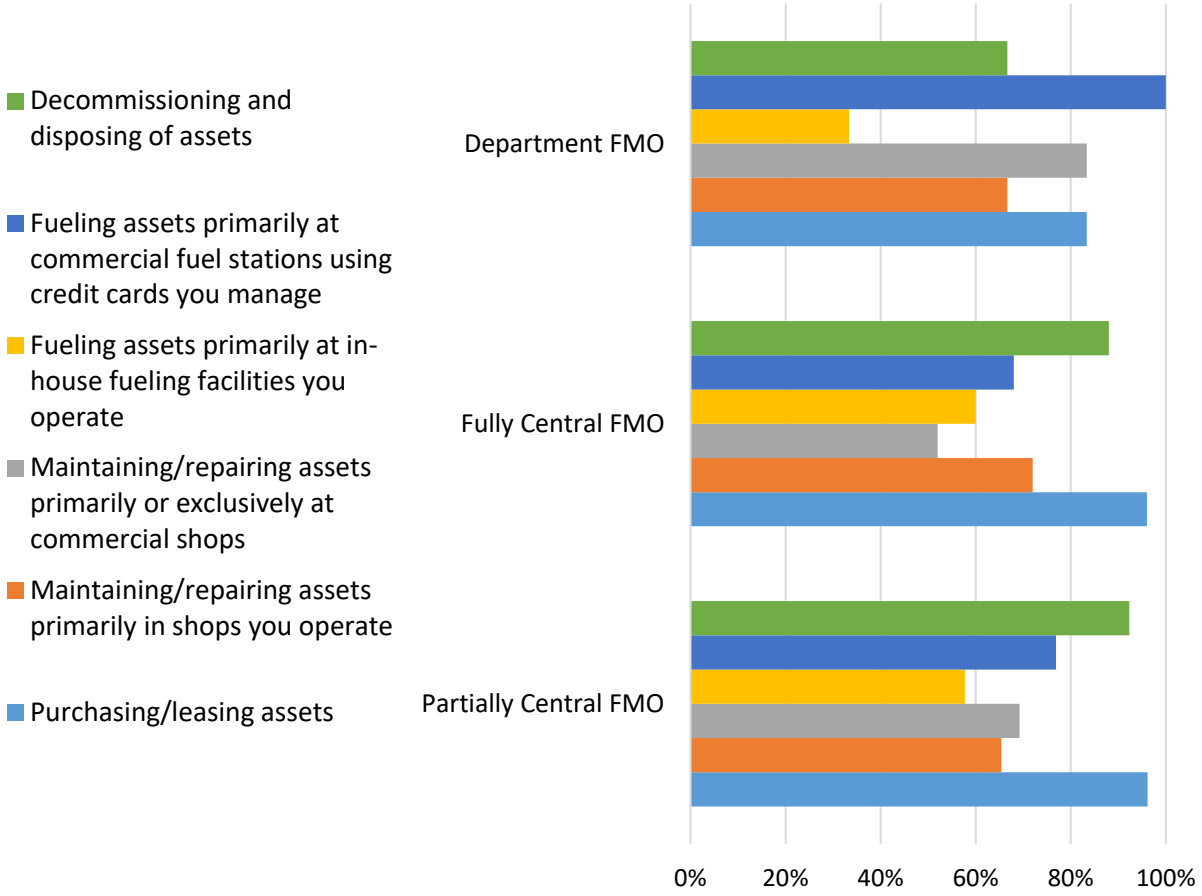
FMO Scope of Responsibility



Nature of the Fleet Managed



Activities/Services Performed by FMO Type



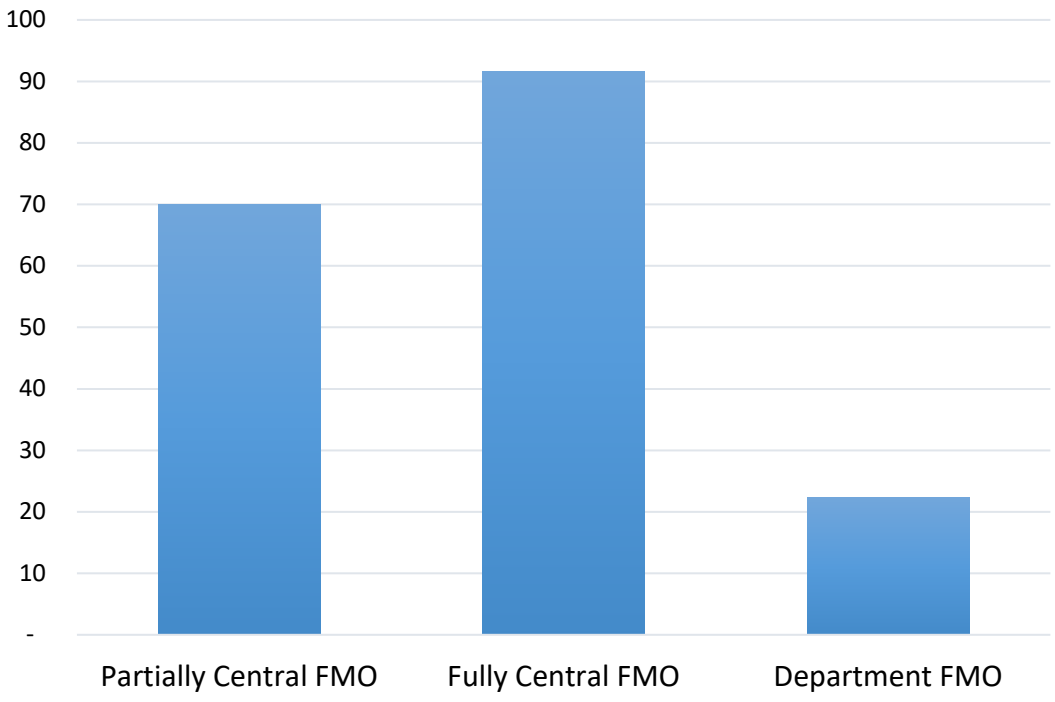
Size of FMO Directly Managed Fleets

Category	Mean	Min	Max
Number of Assets Managed	4,413	15	25,000
Number of User Orgs Served	82	1	697
Number of In-house Fueling Facilities	21	0	434
Number of In-house Repair Shops	11	0	153

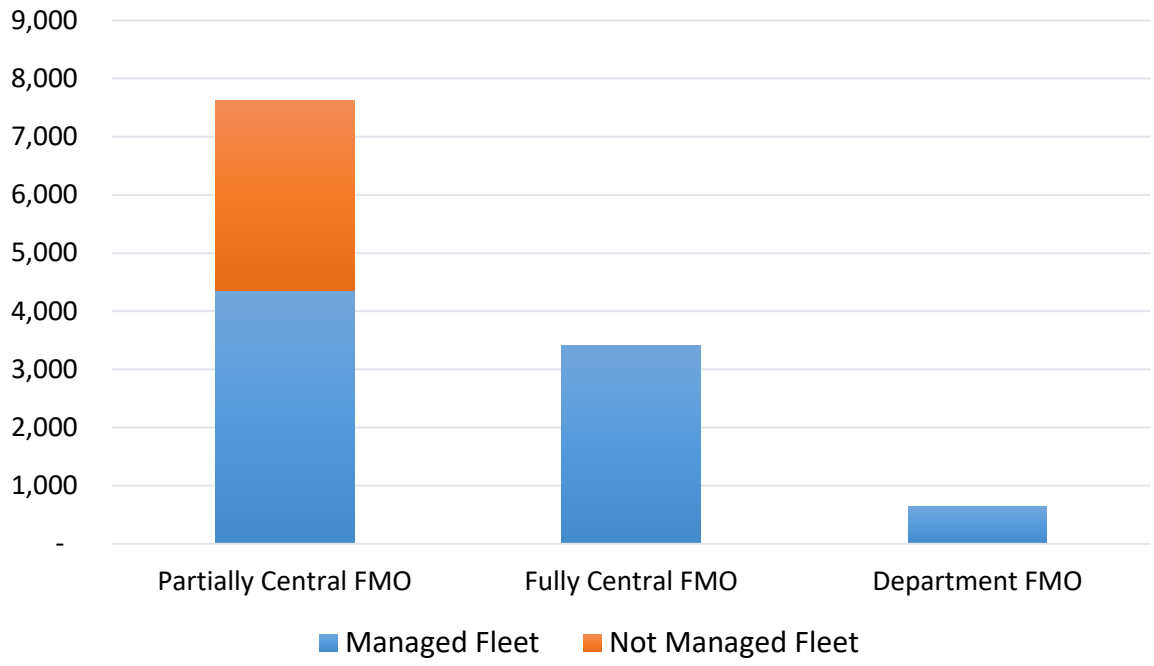
Size and Composition of Fleets Managed

Asset Type	Mean	Median	Min	Max
Law Enf Sedan	431	29	0	2,820
Non-Law Sedan	1,090	772	2	5,000
Law Enf SUV	268	38	0	1,594
Non-Law SUV	380	197	0	1,965
Class 1-3 LD Truck	846	343	0	6,195
Class 4-6 MD Truck	182	36	0	1,400
Class 7-8 HD Truck	356	15	0	2,508
Small Van	277	166	0	1,404
Large Van	185	69	0	954
Off-Road (Cons/Ag)	437	4	0	4,762
Unlicensed/Attach	506	8	0	8,652

Average Number of User Organizations Served by FMO Type



Average Fleet Size by FMO Type

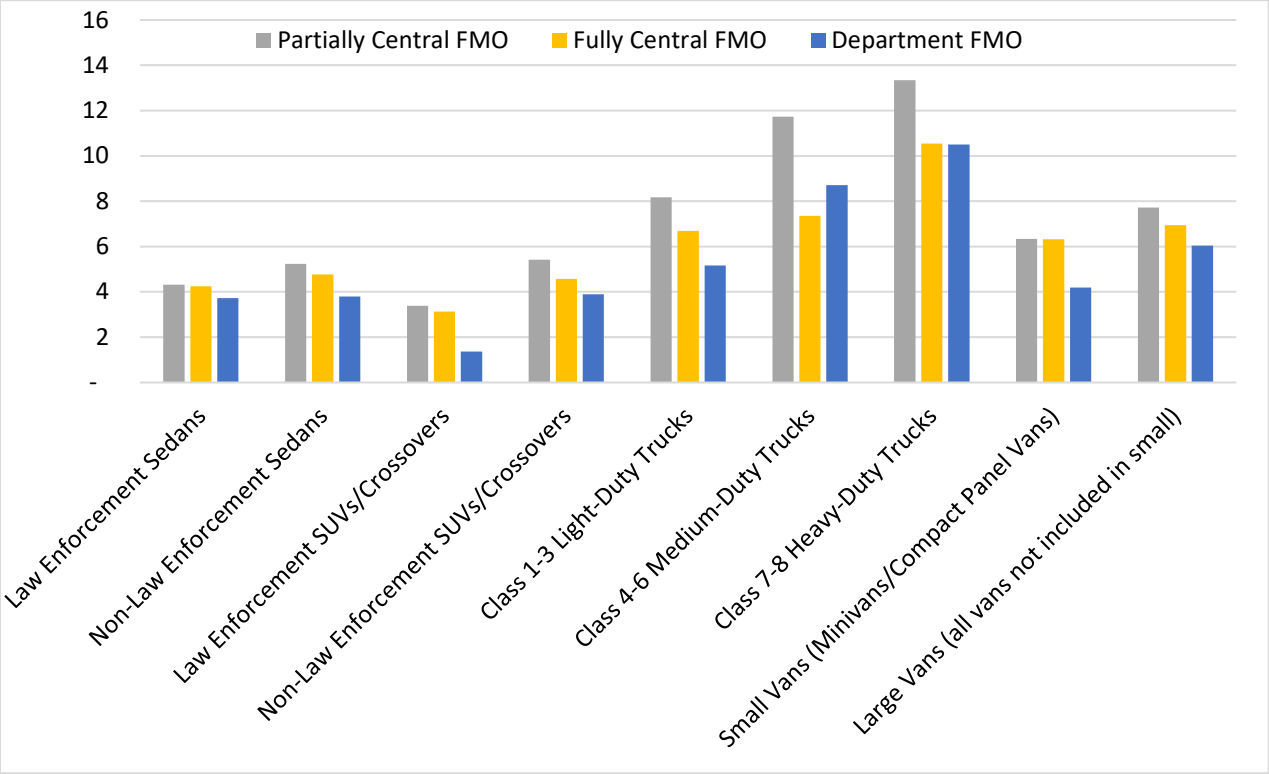


Vehicle Age and Cost by Type

Asset Type	Mean Age	Avg Meter Reading[3]	Average Purchase Price	Average Annual M&R Cost
Law Enf Sedans	4.3	58,727	$24,026	$1,255
Non-Law Sedans	5.2	54,468	$19,036	$1,011
Law Enf SUVs	2.9	43,713	$31,498	$1,237
Non-Law SUVs	5.1	56,271	$26,215	$1,383
Class 1-3 LD Trucks	6.2	79,527	$26,609	$967
Class 4-6 MD Trucks	7.7	45,552	$41,593	$2,570
Class 7-8 HD Trucks	9.3	61,752	$93,406	$4,017
Small Vans	5.4	54,405	$22,249	$886
Large Vans	6.0	55,186	$27,602	$911
Off-Road (Cons/Ag)	8.0	8,165	$43,801	$2,325
Carts/Attachments	5.8	2,225	$11,201	$606

[3] Off-Road (Construction and Agriculture) and Unlicensed & Attachments are in hours. All others in miles.

Average Asset Age (years) by Asset Type



ASSET ALLOCATION AND UTILIZATION MANAGEMENT PRACTICES

Simply put, the goal of fleet asset allocation and utilization activities is to ensure that a fleet contains the right types and quantities of vehicles and equipment to meet the business needs of its users. Allocation activities should determine the most cost-effective way to meet a particular organizational unit's fleet asset needs: through the provision of an "assigned" unit to a particular employee or organization; through the provision of access to an in-house motor pool; through the use of commercial rental vehicles or equipment; or through the use of a personally owned vehicle. Utilization management activities aim to ensure that assets are properly utilized once they are in the fleet.

KEY OBSERVATIONS

- As expected, many FMOs use multiple techniques to guide asset allocation decisions. However, more than one-third do not consider alternative ways of meeting a fleet user's need for a vehicle such as renting or reimbursement versus owning.

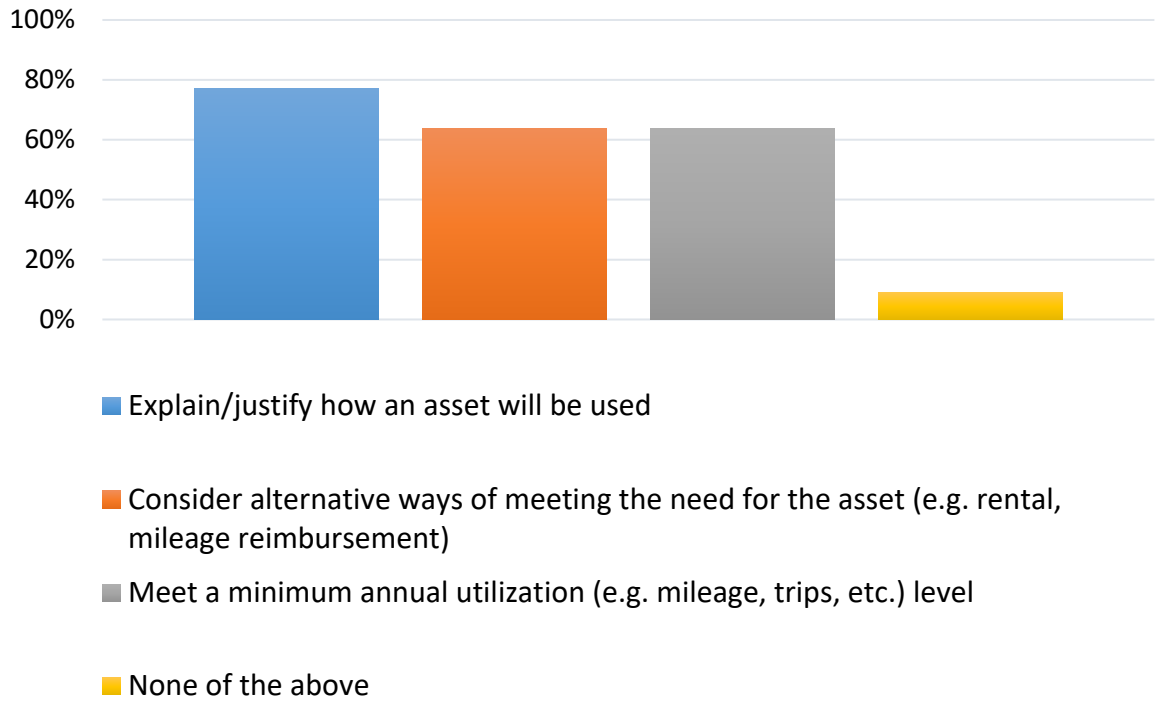
- Most FMOs that employ minimum use standards or guidelines to manage fleet utilization rely on mileage-based thresholds for flagging assets that may be underutilized. The problem with this is that, in many business applications, a vehicle can be used heavily without accumulating a lot of miles.

- While most FMOs have policies and procedures governing the take-home use of vehicles, fewer than half audit such usage to ensure compliance with the policies and procedures, including IRS regulations governing such use.

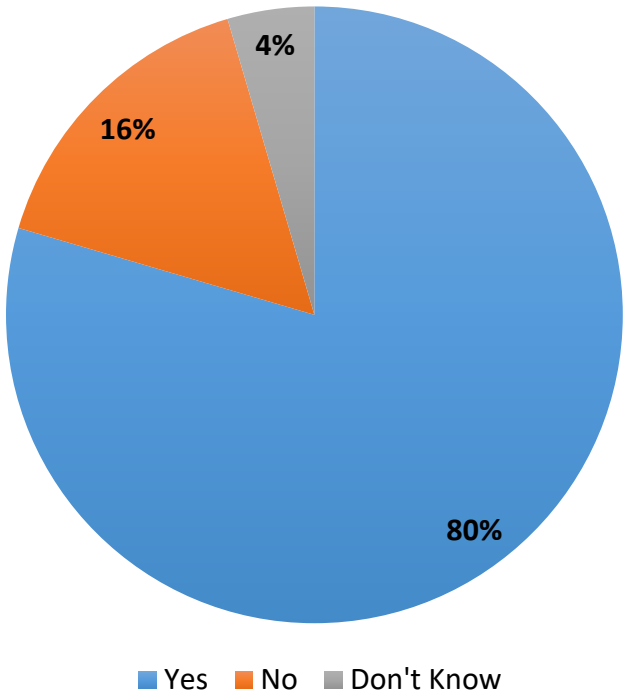
- Three-quarters of the FMOs operate one or more motor pools to meet the short-term and intermittent vehicles needs of their customers. While the most widely used rental rate is a rate per day, similar to what commercial rental car companies use, several other types of rates also are used, reflecting a lack of agreement in the industry on how best to distribute the costs of such vehicles.

- Half of the survey participants rate their asset allocation and utilization management performance as not better than moderately sound (a rating of 3 or less on a 5-point scale), suggesting that there is substantial room for improvement in this area.

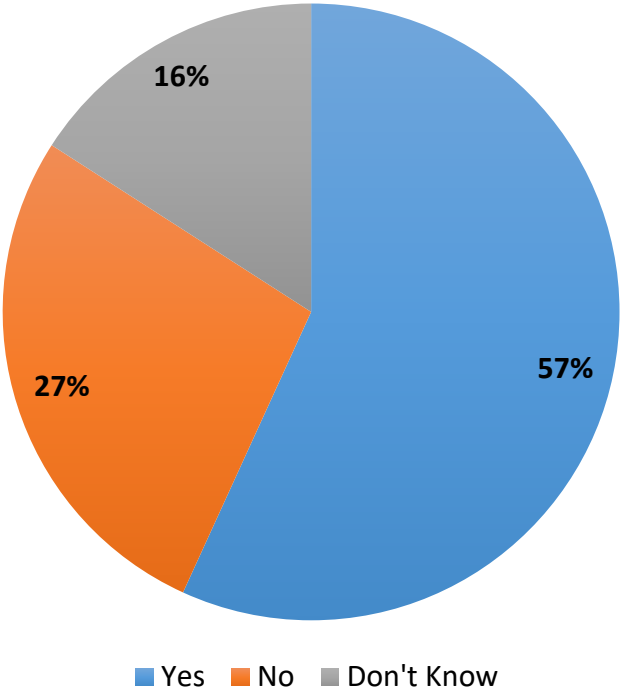
Asset Allocation Methods Used



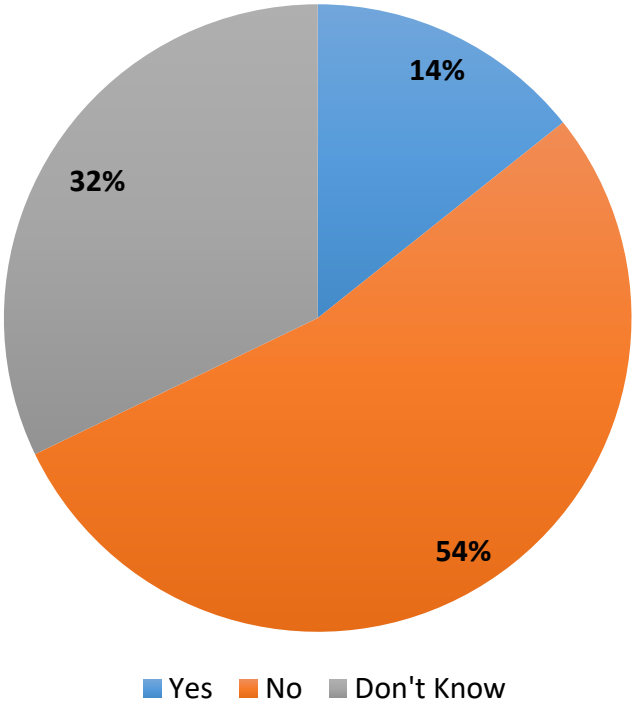
Have Written Policies Governing Use of Personally Owned Vehicles (POVs)



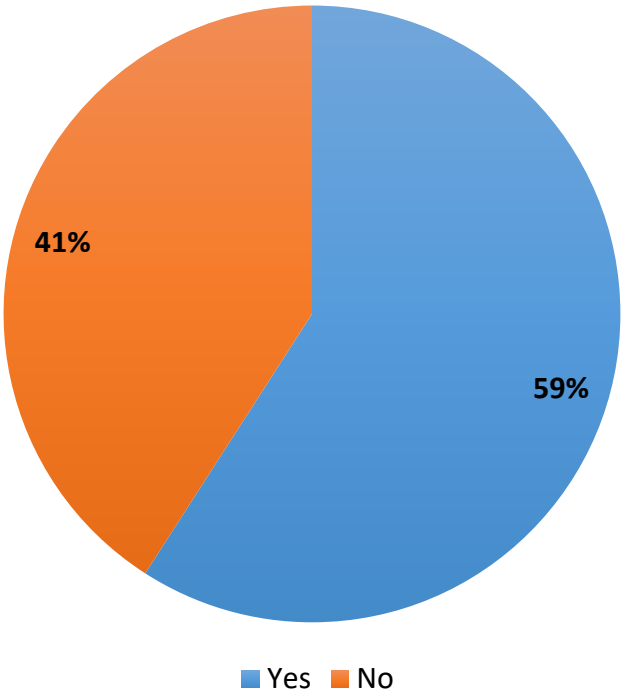
Require Certain Insurance Coverages for POVs Used for Business



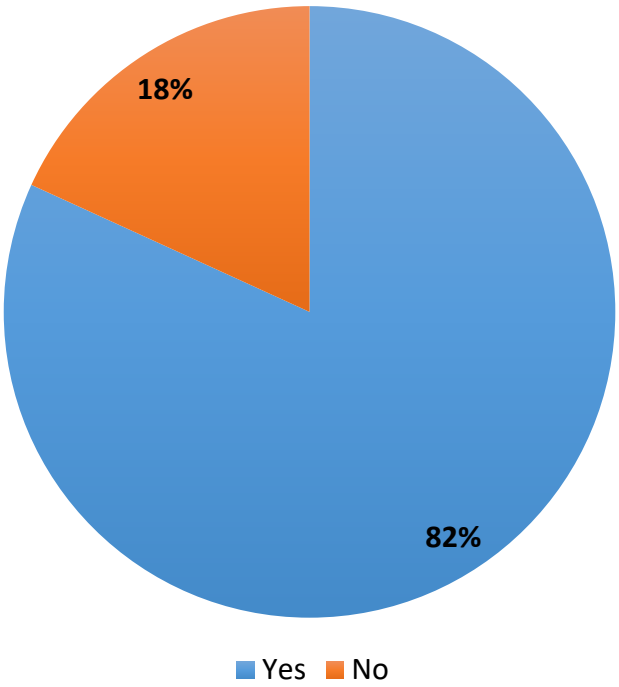
Require Proof of Proper Insurance Coverage for POVs



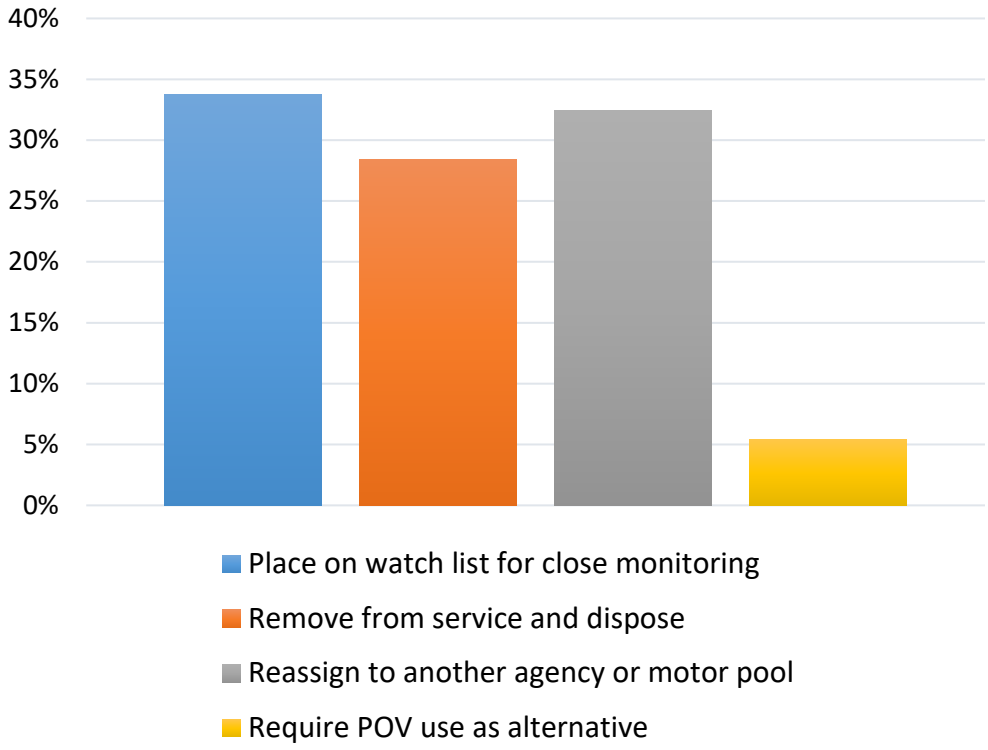
Employ Minimum Use Standards for Different Asset Types



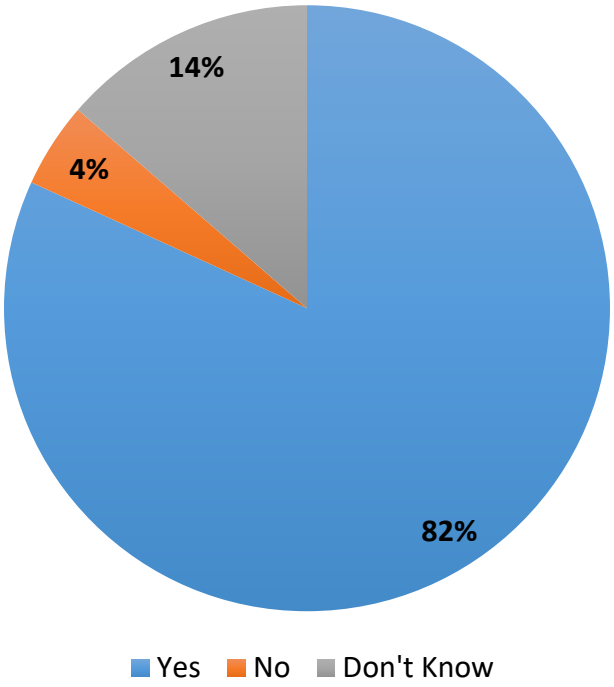
Track Asset Utilization to Determine if Continued Assignment is Justified



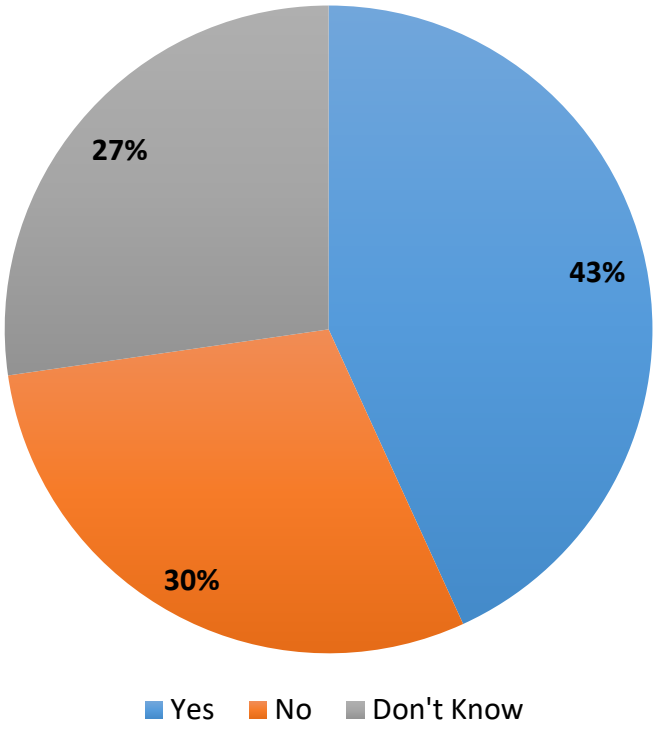
Consequences of Underutilization of Assets Relative to Standards



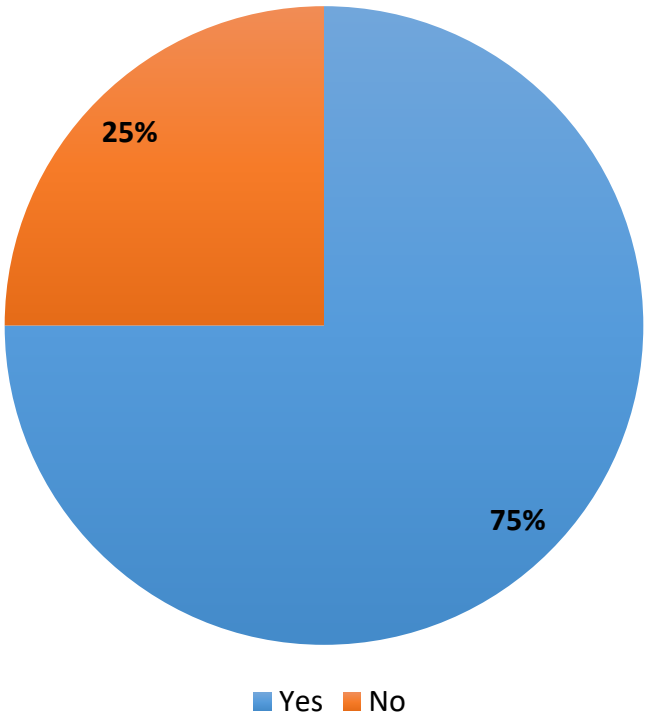
Have Take-Home Use Policies and Procedures



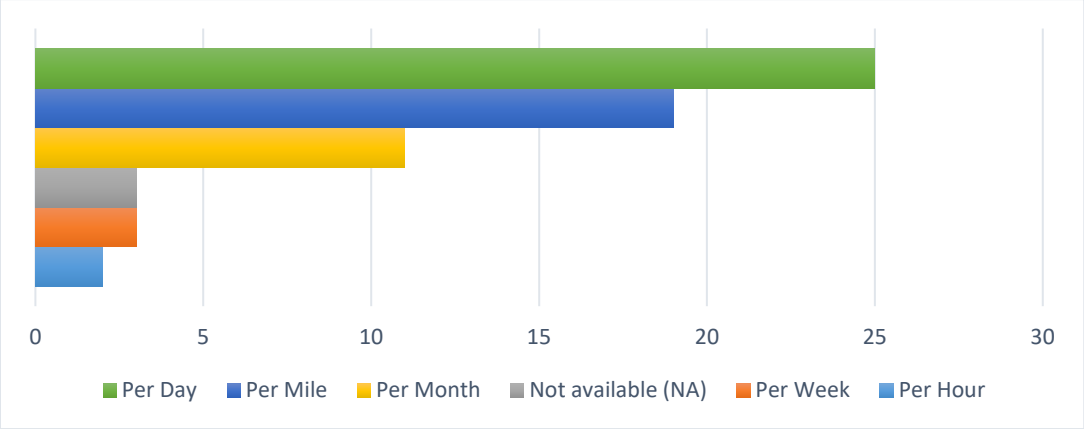
Audit Take-Home Use for Compliance



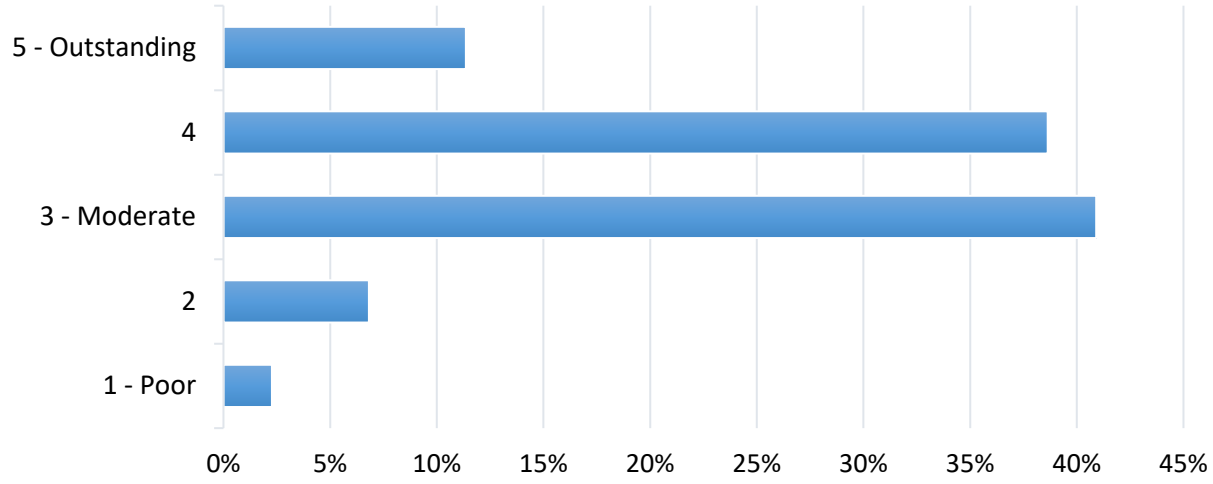
Operate One or More Motor Pools



Motor Pool Charge-Back Rates



Self-Assessment of Effectiveness of Asset Allocation and Utilization Management Practices



ASSET ACQUISITION AND DISPOSAL PRACTICES

Asset acquisition and disposal practices encompass far more than just buying and selling vehicles. Acquisition activities should ensure that assets meet fleet user needs, streamline vehicle procurement, take advantage of technological advances, comply with applicable procurement rules and regulations, and facilitate standardization of fleet composition (where appropriate) in the most cost-effective manner reasonable. This includes ensuring that specifications and ongoing contracts are consistent with fleet user organization needs and operational priorities; leveraging purchasing power through cooperative purchasing agreements and market competition; minimizing the use of in-house resources for vehicle upfitting; selecting assets based on best overall value among those that meet functional requirements as opposed to lowest possible cost; and placing newly acquired vehicles into service as quickly as possible. Disposal practices should ensure assets are disposed of in the most cost-effective manner possible by streamlining associated activities to maximize residual values, and minimizing the expenses necessary for disposal.

KEY OBSERVATIONS

- Fully centralized FMOs aside, there is a lack of consistency among FMOs regarding the responsibility for asset specification. It is not surprising therefore that nearly half of respondents do not use or do not know if their organization uses cooperative purchasing agreements.

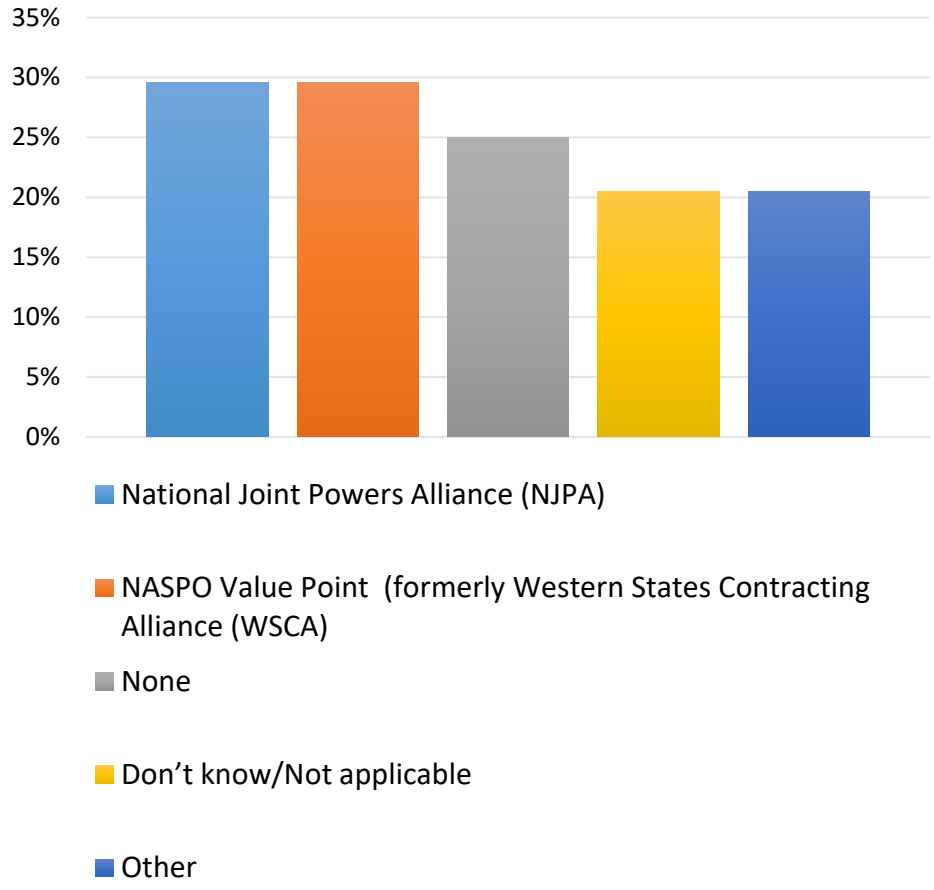
- There is lack of uniformity in vehicle upfitting practices. More than half of respondents perform this activity in-house, which disregards inherent economies of scale available from industry suppliers who specialize in these tasks.

- Asset disposal practices generally align with industry-recognized sound practices. These include having formal policies in place to govern asset decommissioning and remarketing activities, not reconditioning or cannibalizing assets before selling them, and utilizing auctions to sell the assets. That said, nearly three-quarters of survey respondents do not measure the performance of surplus property agencies or third-party auction companies.

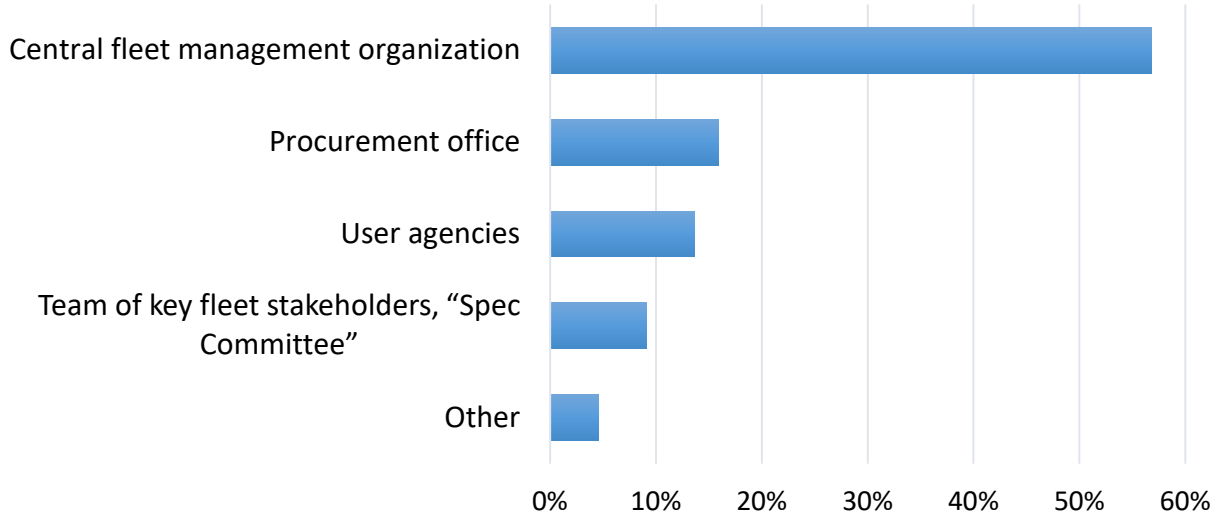
- Sale proceeds are managed inconsistently by state and university fleets, with over 70 percent of respondents failing to return sale proceeds to the replacment reserve fund. Other options hinder the ability of FMOs to properly account for residual value in replacement practices. Net proceeds from the sale of asset should be used to offset the future cost of fleet replacement.

- More than half of the survey participants rate their asset acquisition and disposal management performance as better than moderately sound (a rating of 4 or 5 on a 5-point scale), however the lack of performance measurement indicates that this perception is somewhat misplaced.

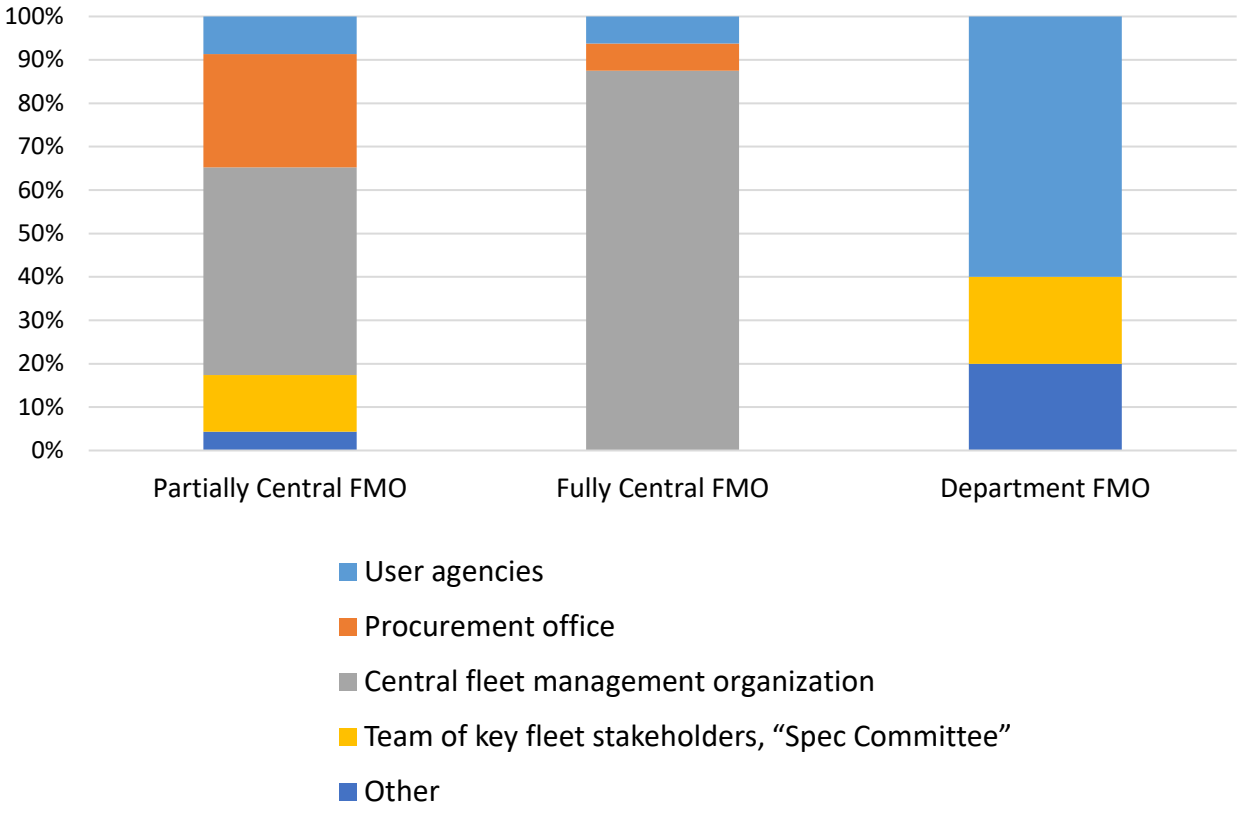
Use of Cooperative Purchasing Programs



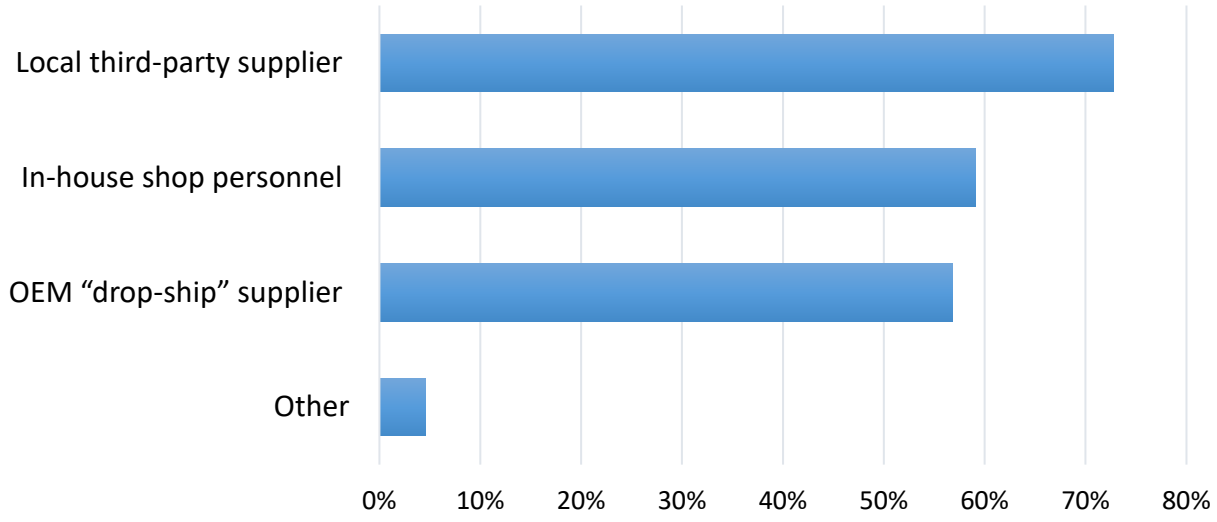
Primary Responsibility for Asset Specification and Purchase



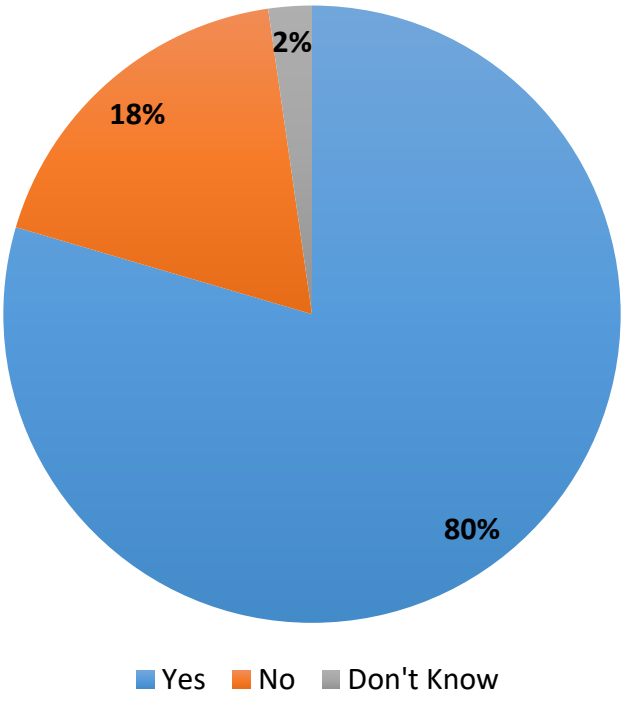
Primary Responsibility for Asset Specification and Purchase by FMO Type



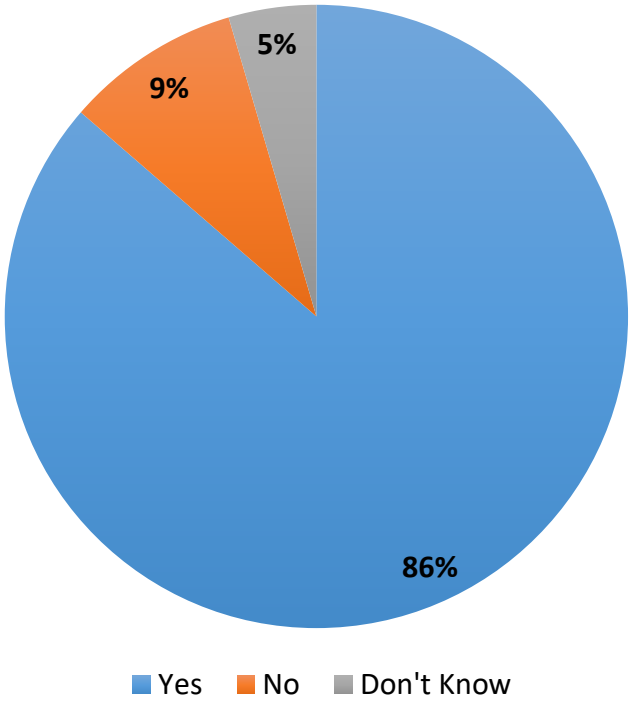
Asset Upfitting Service Provider



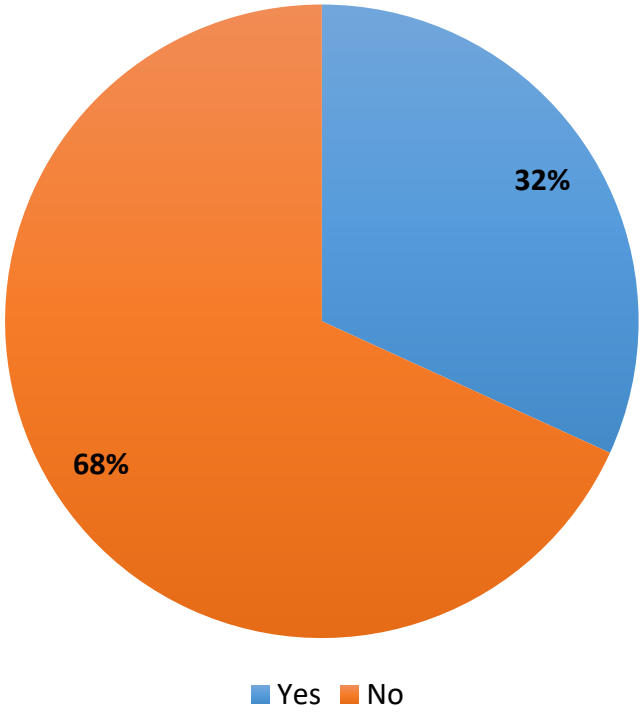
Formal Policies and Procedures for Asset Delivery Acceptance



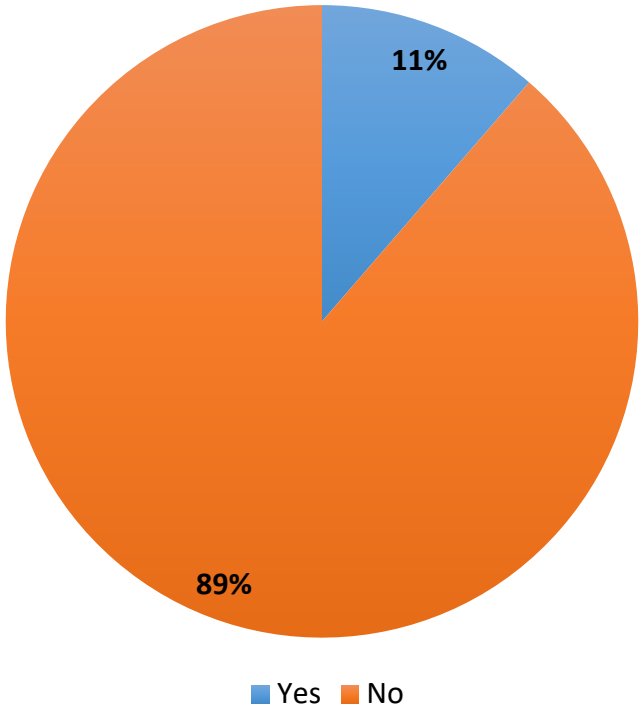
Formal Policies and Procedures Governing Asset Decommissioning



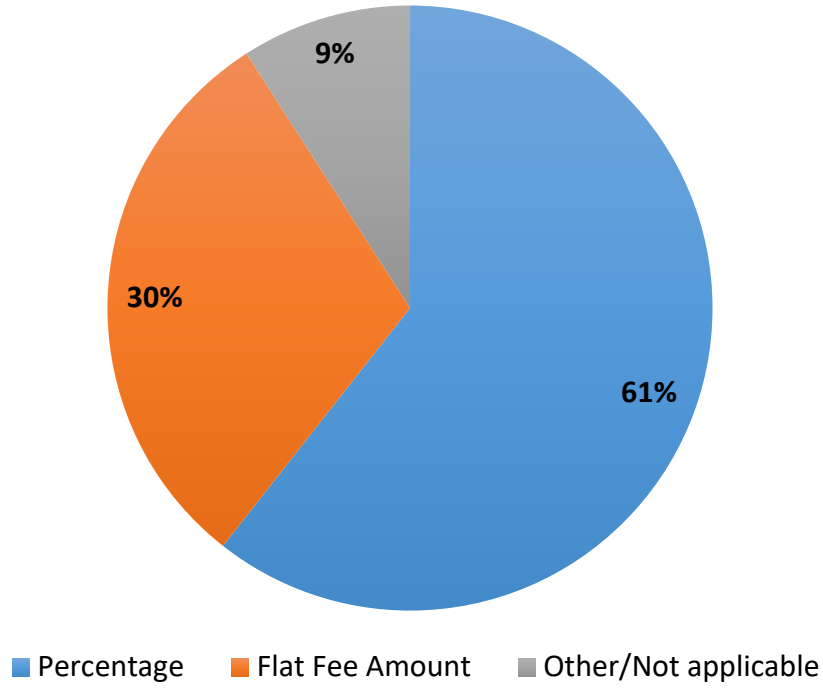
Used Assets are Reconditioned before Sale



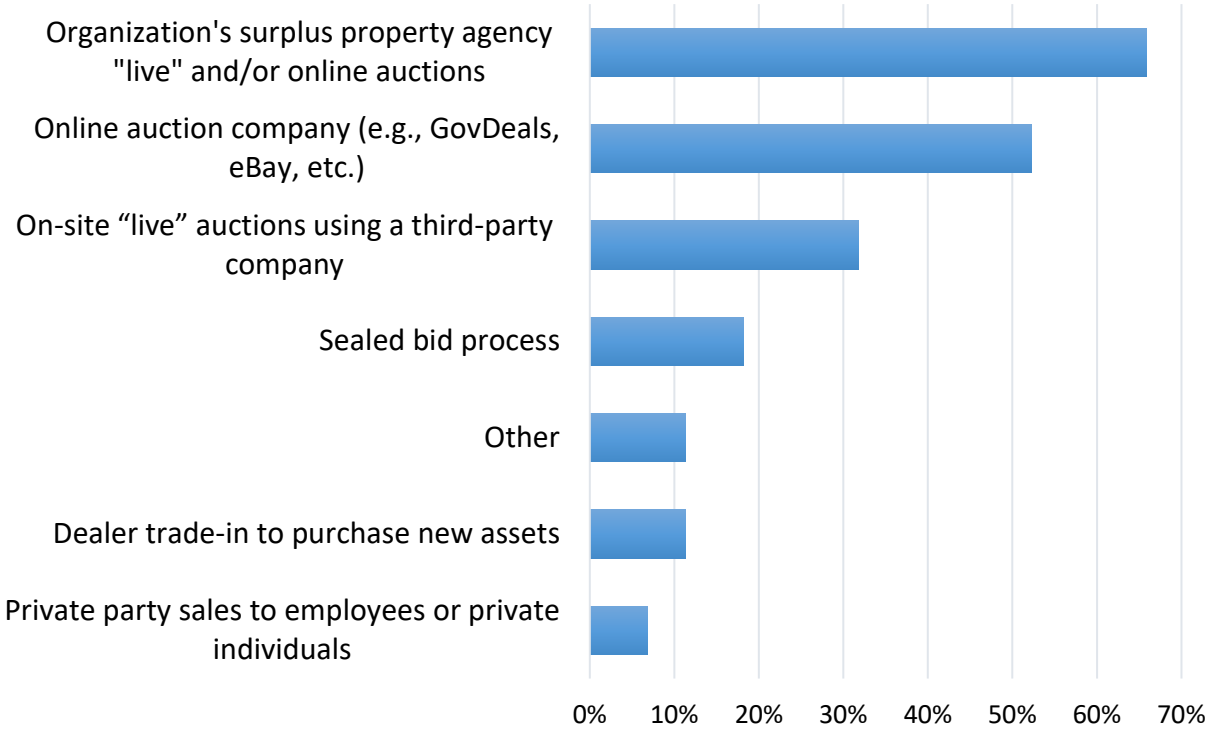
Used Assets are Cannibalized for Parts before Disposal



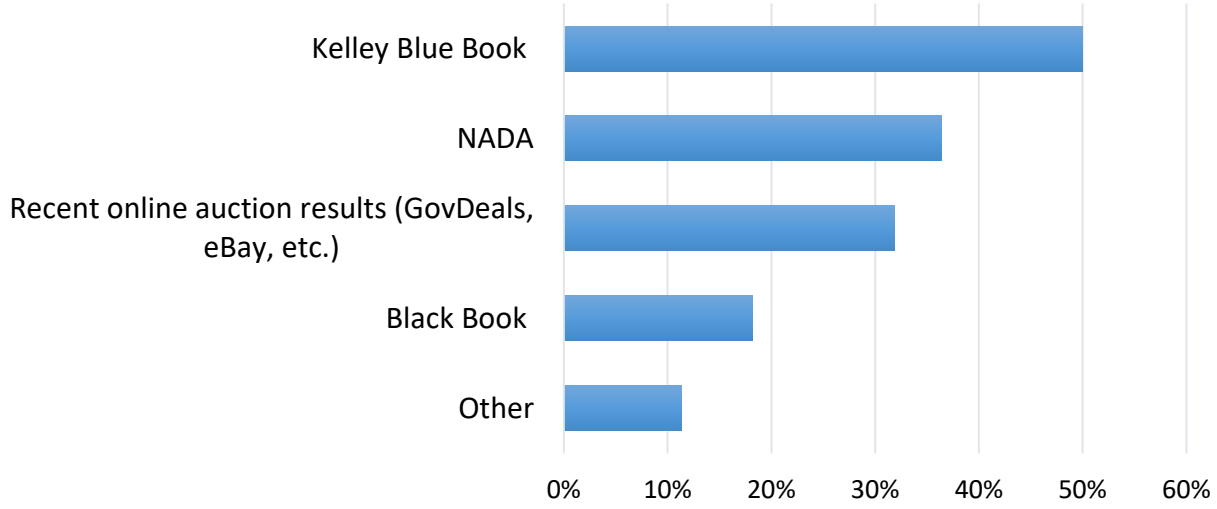
Used Asset Auction Fee Structure



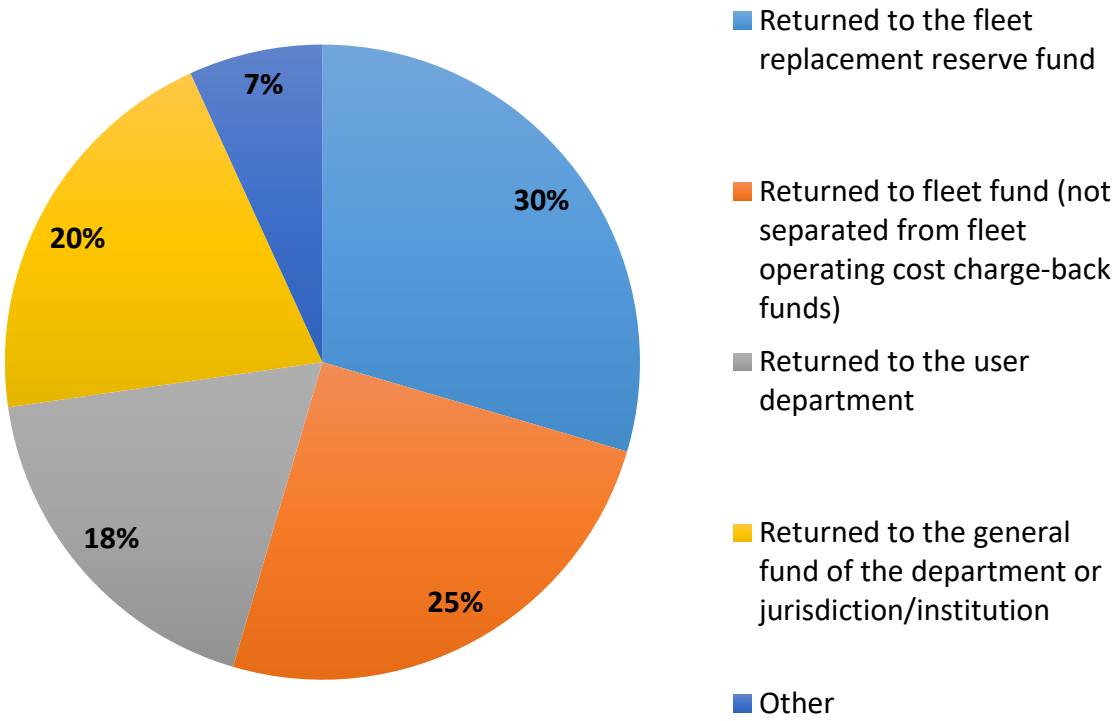
Used Asset Disposal Methods



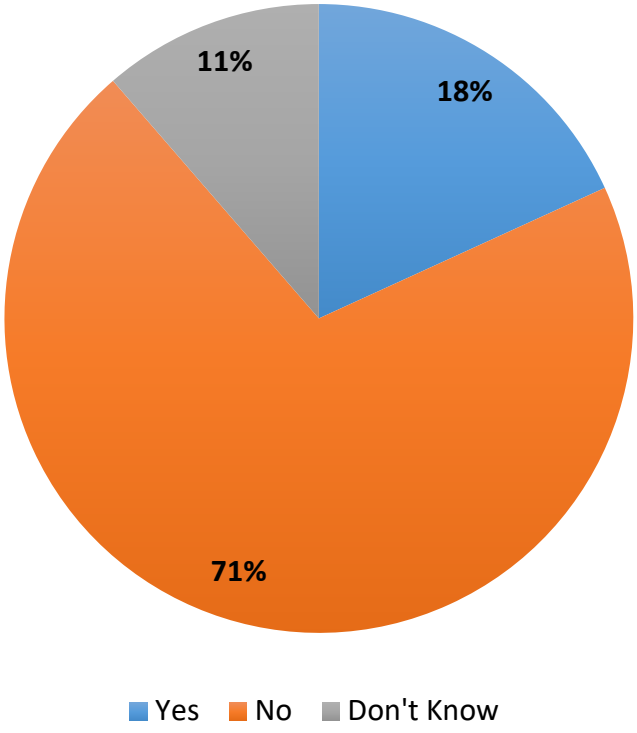
Sources of Asset Residual Value Benchmarks



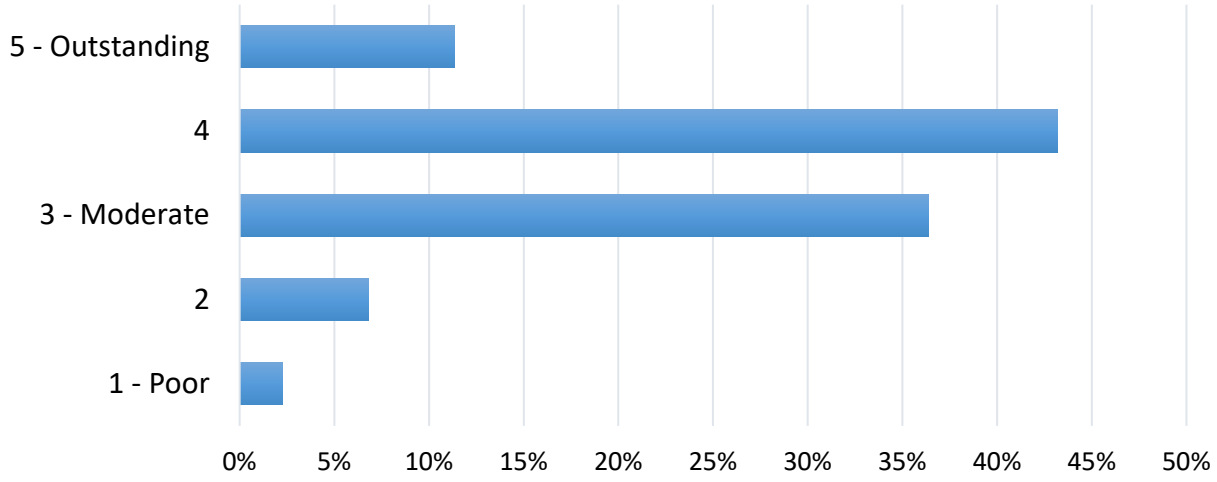
Disposition Used Asset Sale Proceeds



Used Asset Remarketing Metrics Such as Days to Sell Tracked Used



Self-Assessment of Asset Acquisition and Disposal Practices



FLEET SAFETY MANAGEMENT PRACTICES

Fleet safety management is a fundamental function of a high-performing FMO, as it is the responsibility of all fleet-owning organizations to minimize the frequency and severity of vehicle crashes. Furthermore, these practices are a key part of effective cost fleet management, especially in today's highly litigious environment. Fleet safety management policies and procedures should seek to minimize unplanned costs and asset downtime associated with vehicle crashes through the use of operator licensing and training programs; performance measurement processes; incentive programs that reward positive behavior and performance; and post-accident investigations that mitigate the negative impacts of the accident and address culpability; and ensuring that the fleet's operation complies with state and federal laws and regulations.

In many states and state universities, the division of responsibility for driver and, hence, safety management activities between a fleet management organization and a human resources department can be blurred. However, as the resident experts and repositories of information on vehicle and driver performance, advances in automotive technology, the functionality of telematics solutions, and so forth, FMOs should be collaborative and proactive in developing and implementing comprehensive fleet safety management programs, regardless of whether or not they and they alone have the statutory responsibility and authority to do so.

KEY OBSERVATIONS

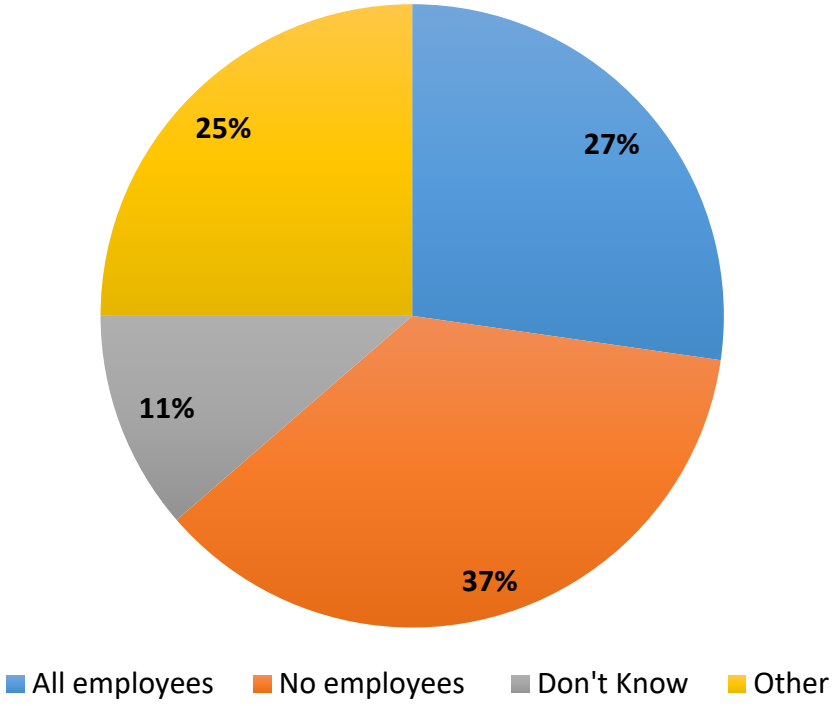
- More than three-quarters of respondents do not measure, or do not know if they measure, the effectiveness of their fleet safety program.

- While the majority of respondents have formal policies and procedures regarding the safe operation of assets, only one-quarter require defensive driving for non-CDL drivers, and less than half utilize generally recognized safe vehicle operation practices beyond ensuring that employees have the appropriate license/certifications. In particular, less than half utilize MVR checks, which means employees could be driving state or university vehicles with suspended licenses or other serious infractions.

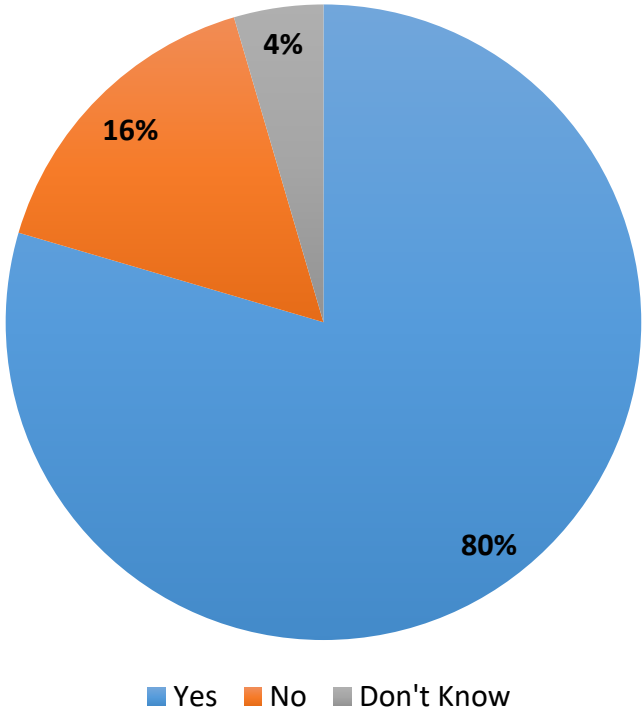
- The overwhelming majority of respondents cannot report on their accident rate, as their organizations do not formally define an "accident" or "crash".

- The majority of the respondents rated themselves as a "3" on the five-point Likert scale, an indication that most of the respondent fleets could invest much more time and focus on activities to improve safety within their respective organizations.

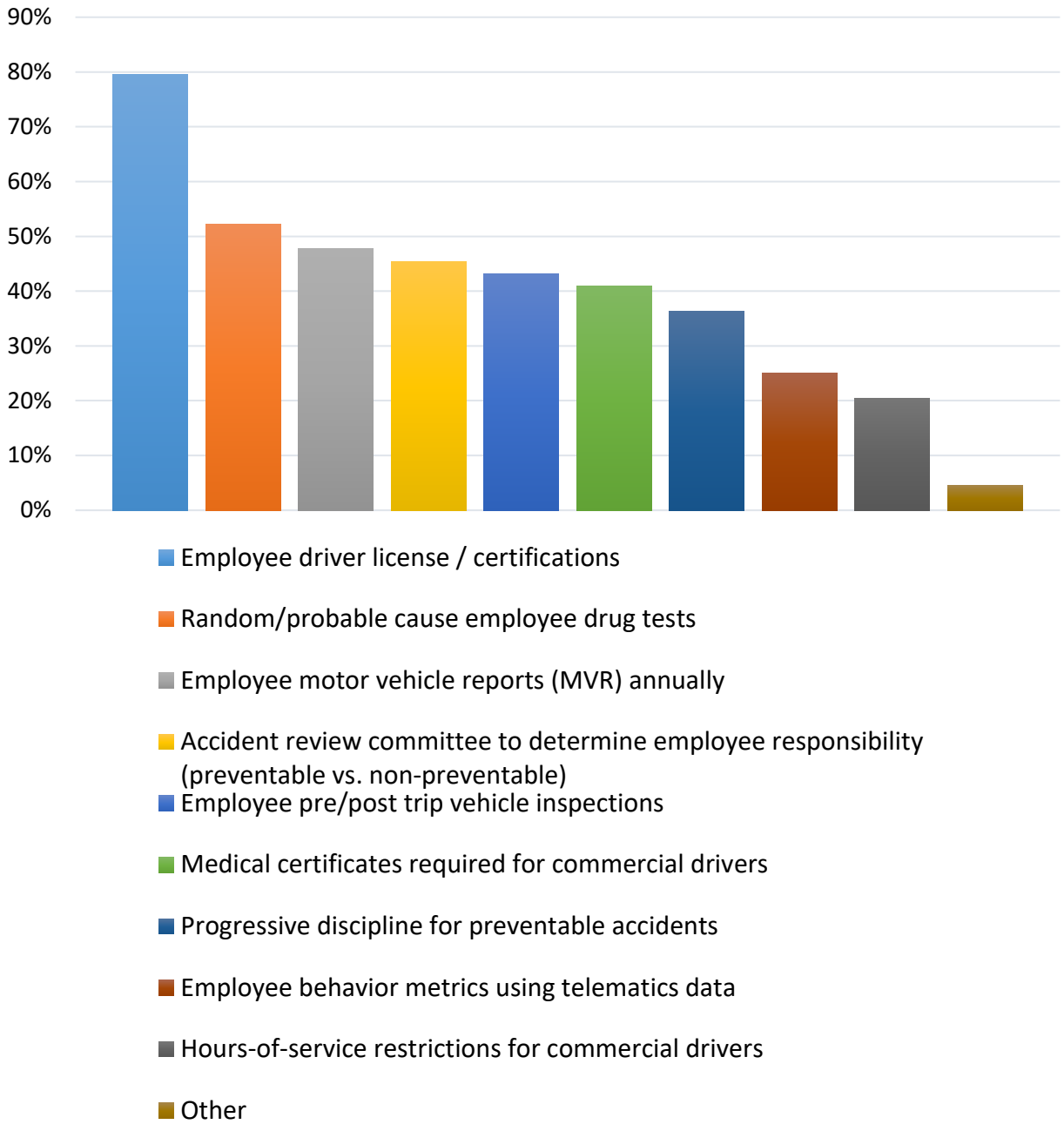
Defensive Driver Training Required for Non-CDL-Assets



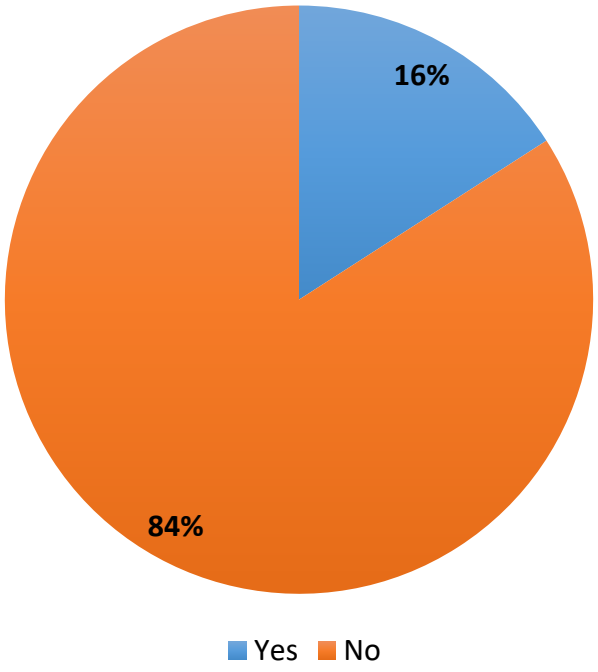
Formal Policies and Procedures for Safe Asset Operation



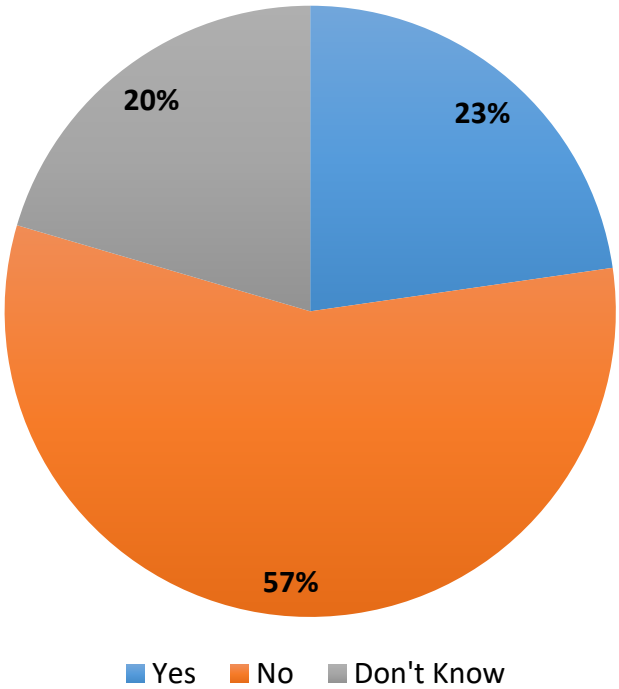
Formal Policies and Procedures for the Following Activities



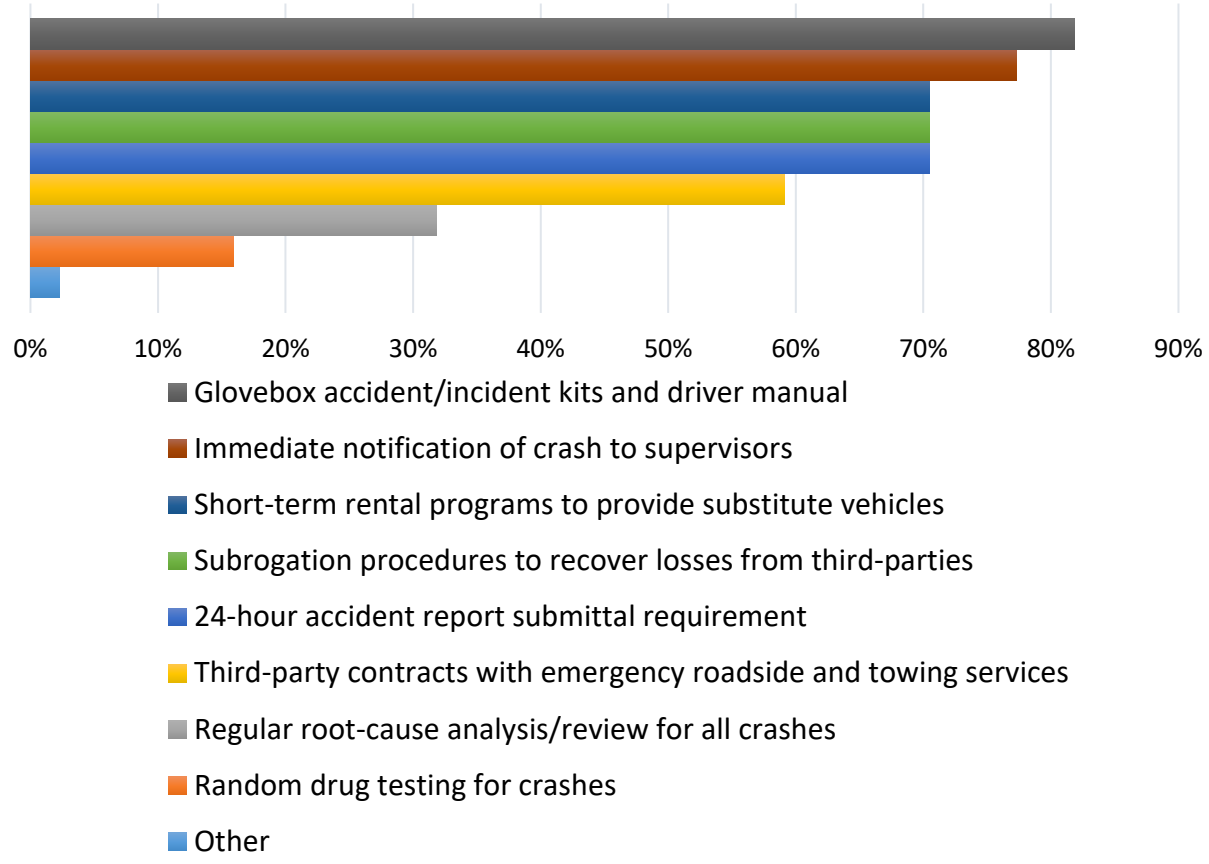
Formal Crash Definition



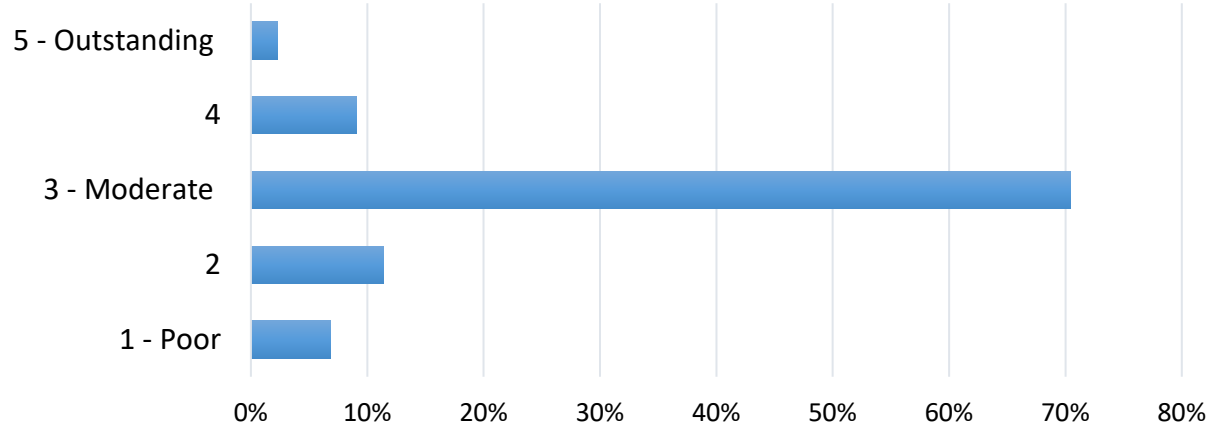
Measurement of Safety Management Effectiveness



Formal Policies and Procedures for Crash Management



Self-Assessment of Fleet Safety Management Effectiveness



FLEET MAINTENANCE AND REPAIR PRACTICES

A fleet management organization's primary mission is to maximize the availability and performance of vehicles and equipment so that user organizations can rely on these assets to fulfill their missions. While fleet assets traditionally were maintained largely if not entirely in house, most FMOs today utilize contractors and commercial repair shops to varying degrees. As automotive technology continues to advance and long-serving maintenance technicians and supervisors retire, it is reasonable to expect that FMOs' reliance on such third-party service providers will continue to grow. This suggests that fleet managers will need to become more skilled at selecting and managing the performance of these service providers in order to ensure that operational needs consistently are met at a reasonable cost. In the meantime, organizations that continue to perform most maintenance and repair (M&R) activities in their own shops can expect to devote the majority of their time and attention to managing the array of inputs to an effective M&R program including personnel, facilities and equipment, parts, and vendors.

KEY OBSERVATIONS

- As expected, virtually all survey respondents report having a formal preventive maintenance (PM) program. However, required service intervals is the only aspect of such a program that is documented by more than half of the respondents. The majority of respondents indicated PM schedule adherence or compliance is measured. As also was expected, there is a clear correlation between enforcement of PM service intervals and average annual M&R cost per asset.

- Just under three-quarters of survey respondents indicated that they have an in-house M&R program, with just over one-tenth indicating they use contractors to operate state or university-owned maintenance facilities. This leaves approximately 15 percent of FMOs utilizing wholly outsourced maintenance programs.

- Except in the area of preventive maintenance, fewer than half of the survey participants have documentation of key elements of an effective M&R program such as technician certification and training programs, quality assurance programs, maintenance and repair time standards, or performance measures and benchmarks.

- More than half of those FMOs with in-house programs have budget line items for the training of both technicians and supervisors and have professional development plans, and yet both mean and median averages show FMOs provide less than 30 hours of training per year.

- While the majority of those with in-house maintenance programs measure technician productivity, they do not have productivity goals, negating most of the value of measuring productivity.

- Technician efficiency and effectiveness are measured by less than half of those FMOs with in-house M&R programs. Nonetheless, we were able to show that those who do measure effectiveness have lower per unit M&R costs, especially for heavy trucks and equipment.

- Three-quarters of in-house fleet maintenance programs also use in-house parts management programs, but only one quarter of those measure the performance of those programs.

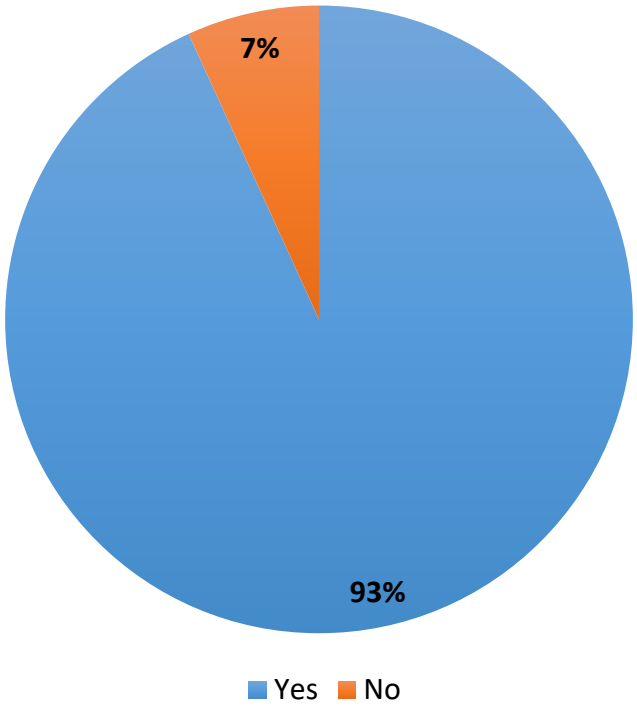
- Despite the majority of FMOs indicating the use of formal customer satisfaction assessments, such as surveys, only a quarter have implemented fleet advisory committees, which are a key component of customer collaboration efforts.

- The majority of respondent FMOs employ both formal supplier contracts and appropriate transaction control for outsourced M&R services (in fact a significant portion of FMOs may be overly controlling, requiring that authorization be given for *all* transactions, which is inherently inefficient when utilizing a vendor for which there is a formal agreement). However, the performance of these vendors is not measured.

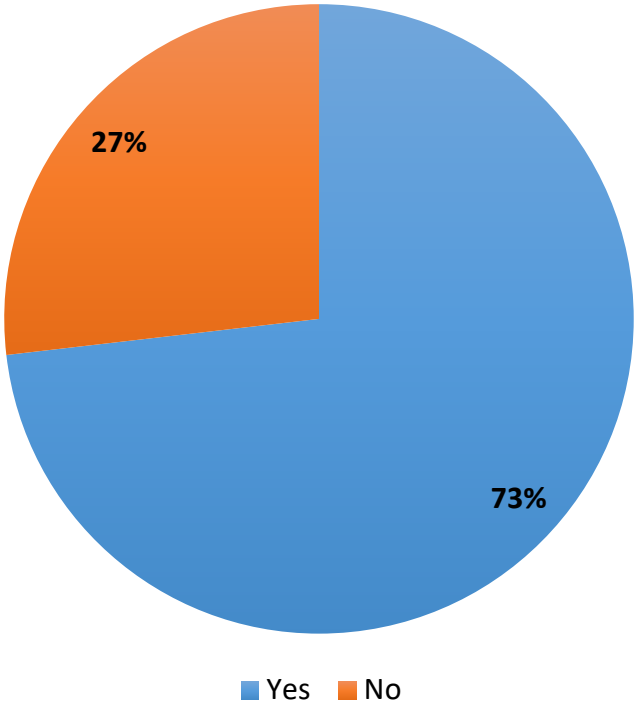
- Less than half of FMOs utilize a call center, and less than half of those provide that service in-house. While it is not surprising to see this service outsourced, it is surprising that this service is not more widely provided. These services are measured and audited by the majority of those who offer this service.

- Of the very small portion of FMOs who utilize a contractor to perform M&R services in state-owned facilities, *none* measure the performance of these vendors, which fundamentally undermines a key purpose for outsourcing such services: the use of performance-based compensation incentives.

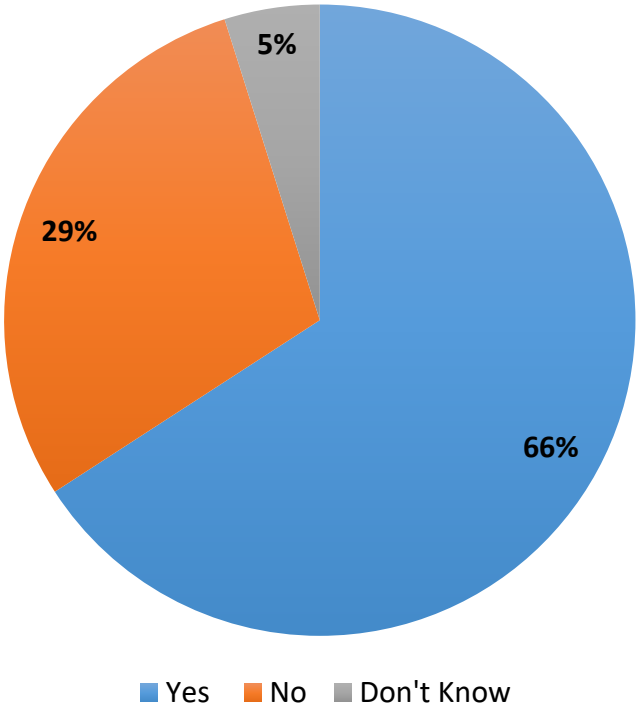
Formal PM Program in Place



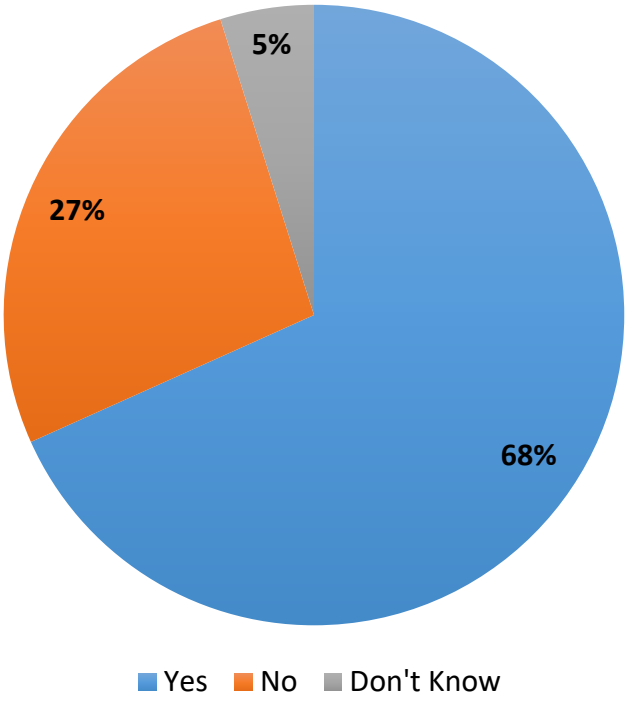
OEM Guidelines-Based PM Program Activities



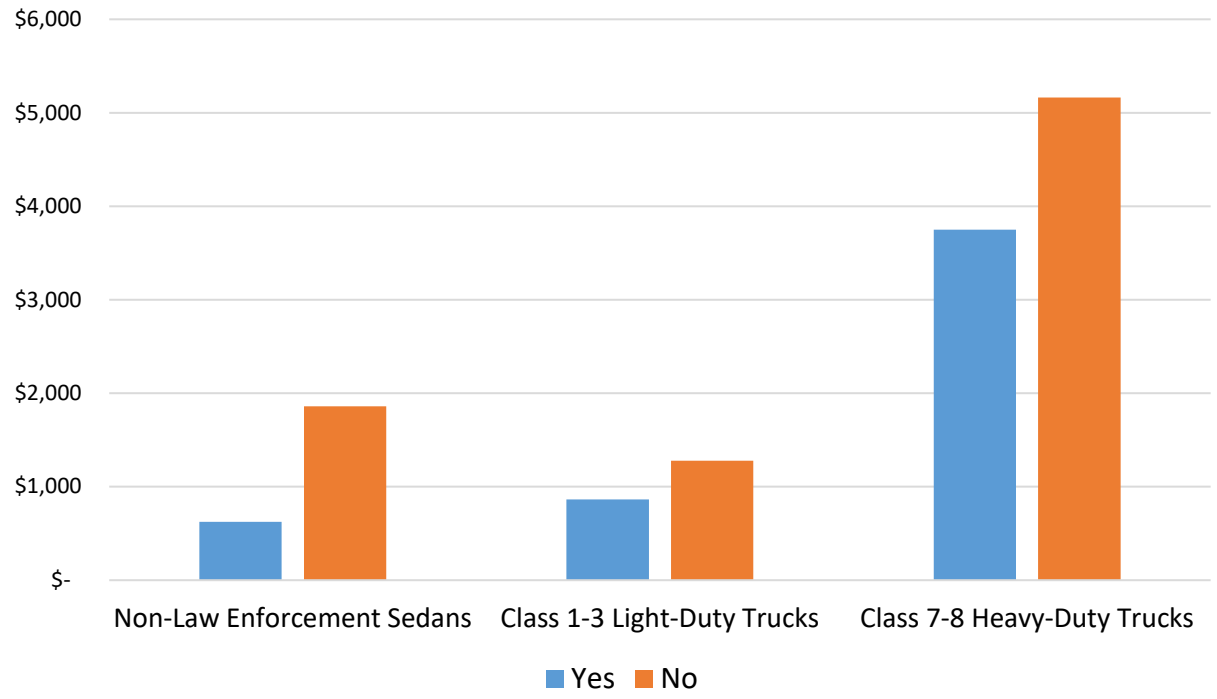
Multi-Echelon PM Program



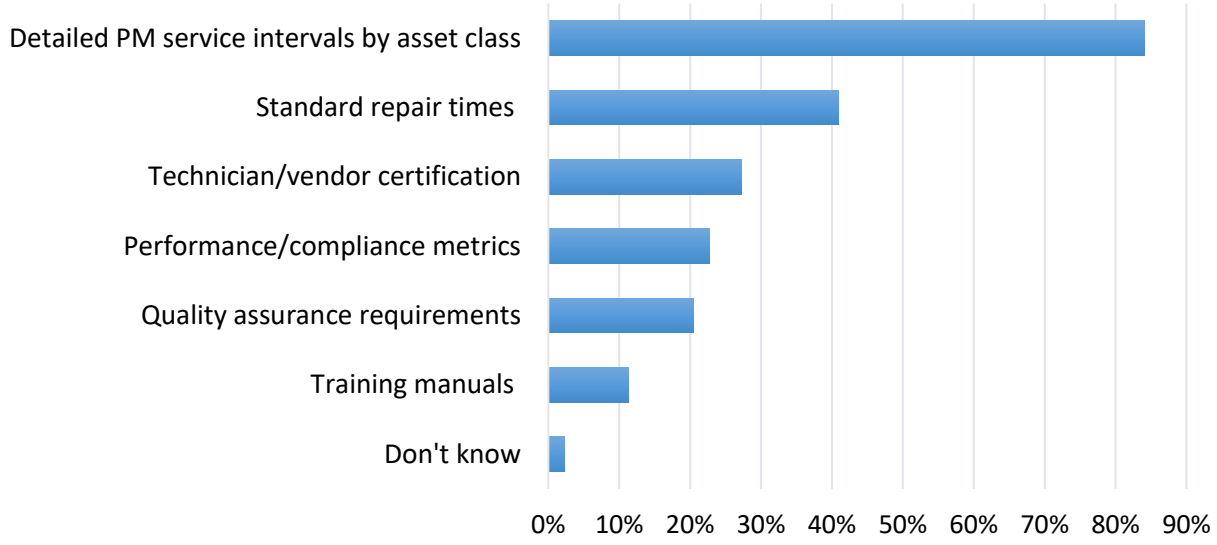
PM Schedule Adherence ("Compliance") Measurement



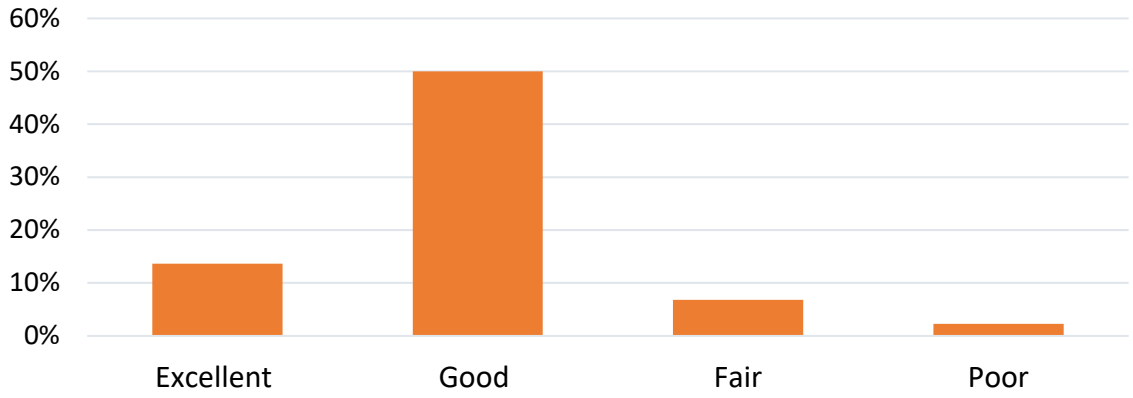
Average Annual M&R Cost per Asset by Asset Class and PM Compliance Measurement



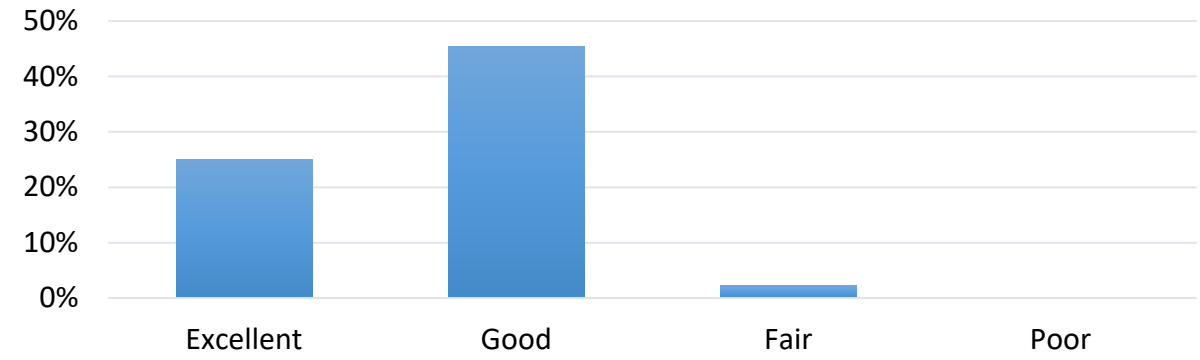
Aspects of Formally Document Fleet Maintenance and Repair Program



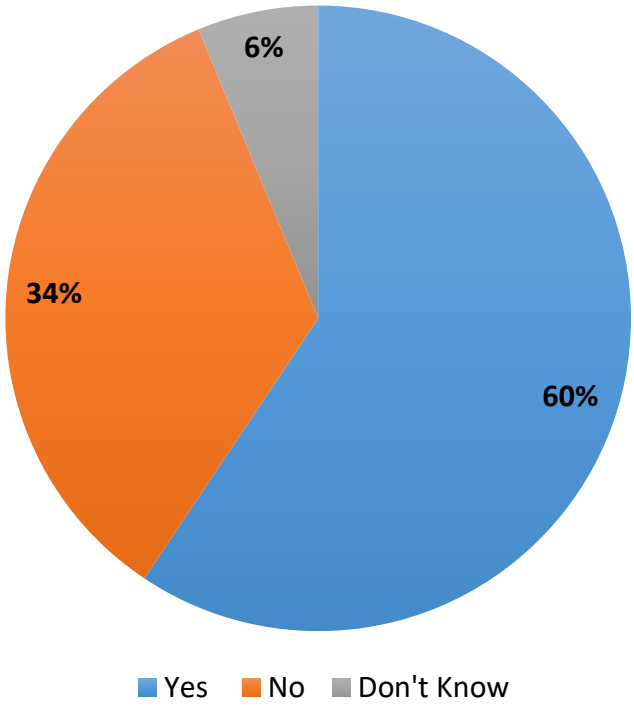
Condition of In-House M&R Facilities



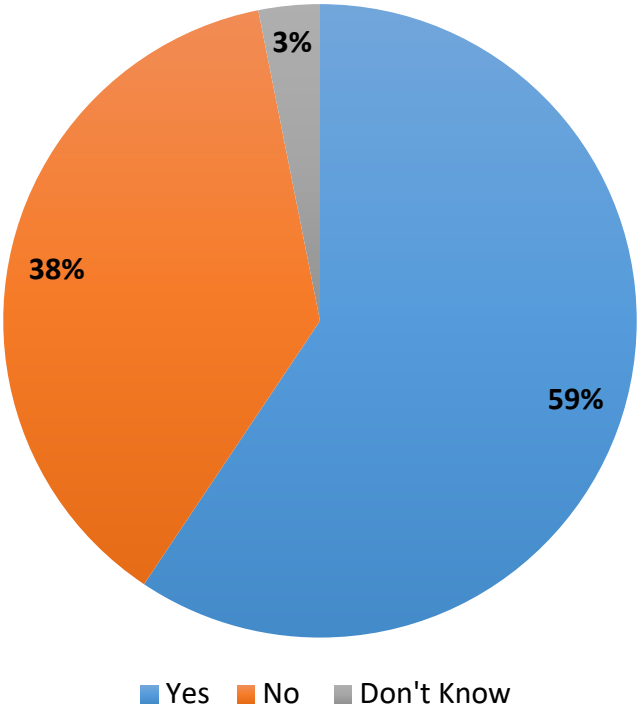
Technical Skills/Competency of Maintenance Workforce



Line-Item Budget for Training Managers/Supervisors



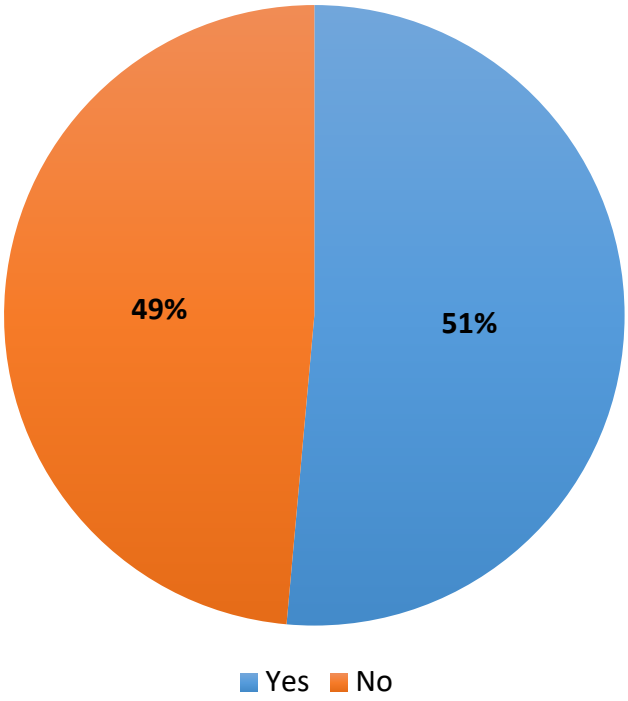
Line-Item Budget for Training Maintenance Technicians



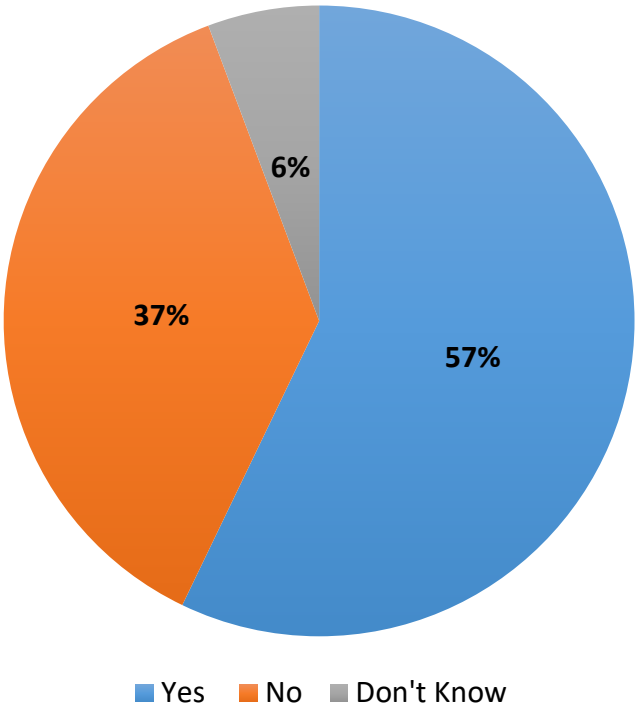
Average Annual Employee Training Hours

Staff	Mean	Median	Min	Max
Supervisors	27	20	2	100
Technician	28	20	8	100

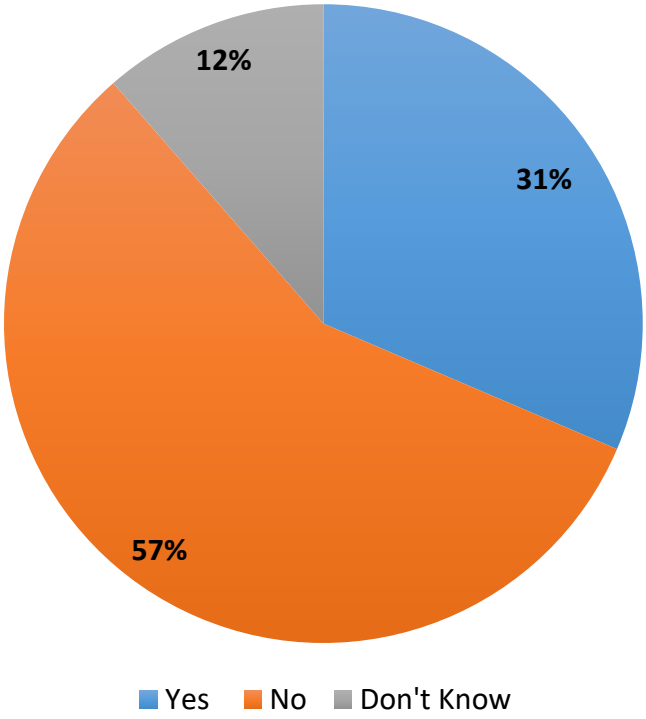
Formal Professional Development Plans for FMO Employees



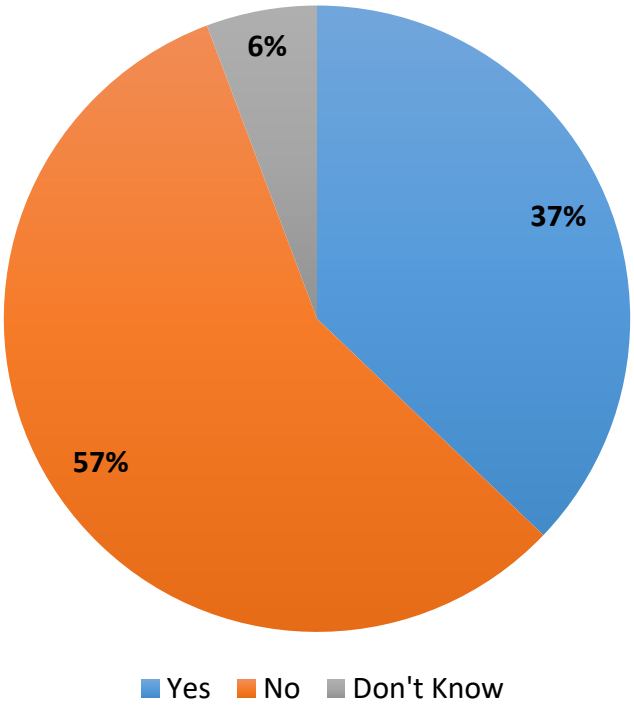
Measure Technician Productivity



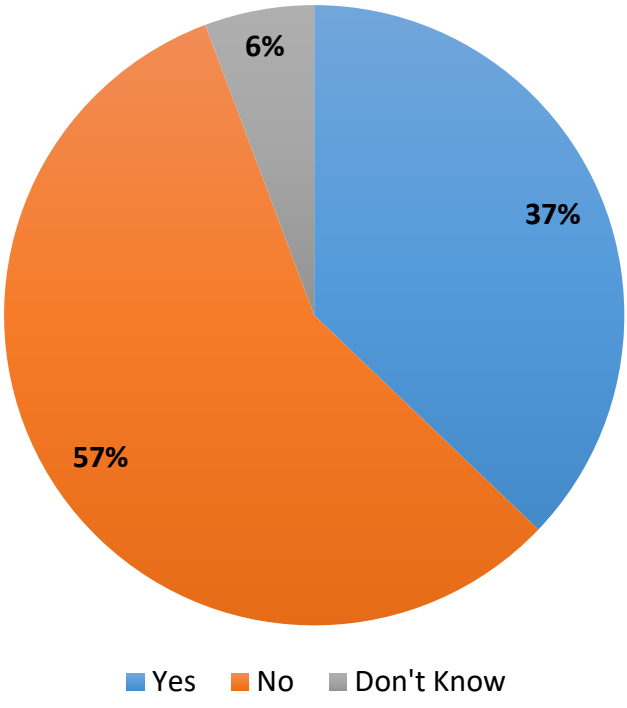
Have Formal Productivity Goals for Technicians



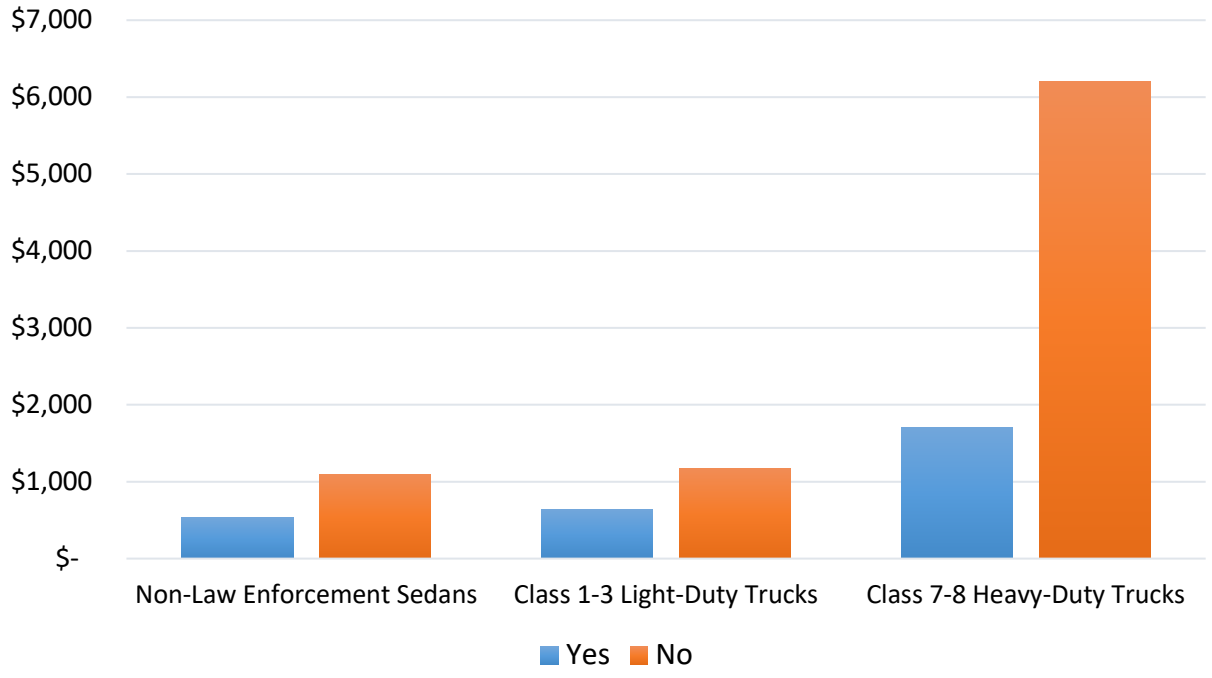
Measure Maintenance Technician Efficiency



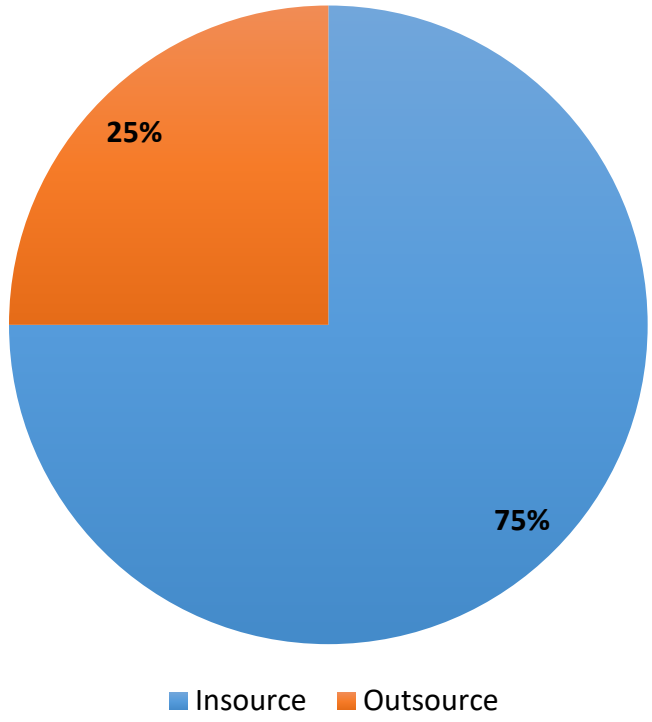
Measure Maintenance Technician Effectiveness



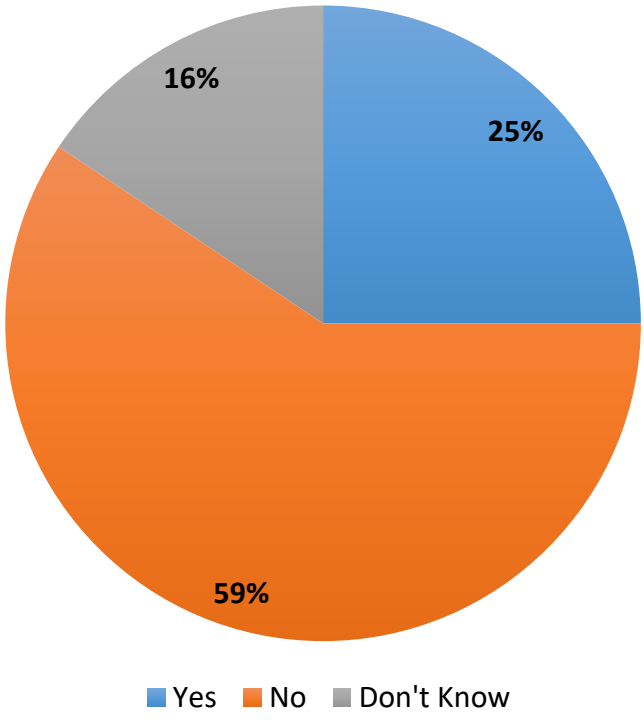
Average Annual M&R Cost per Asset by FMOs
With and w/out Technician Effectiveness Measurement



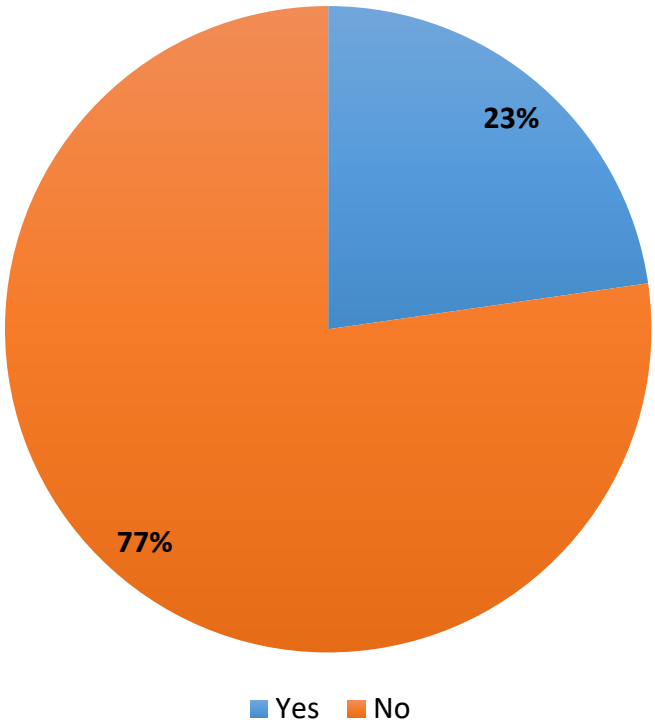
Insource or Outsource Parts Management Activities



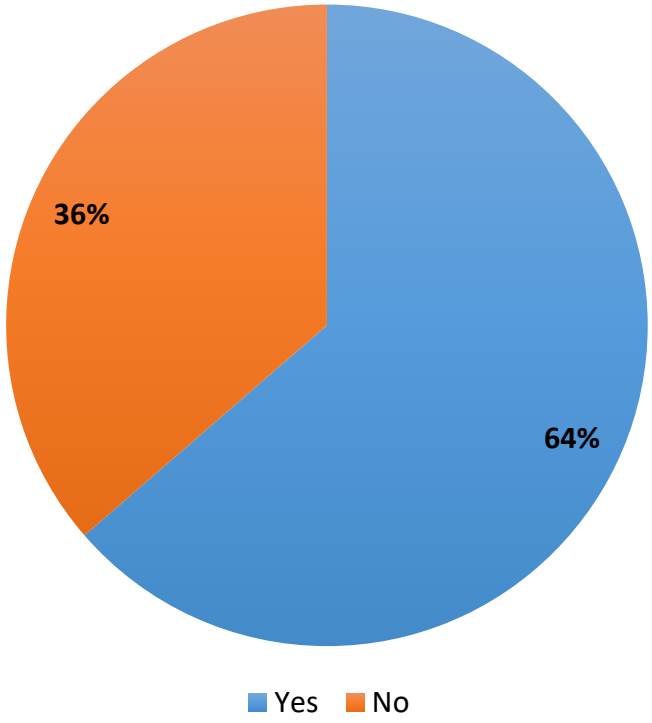
Measure Efficiency and Effectiveness of Parts Management Activities



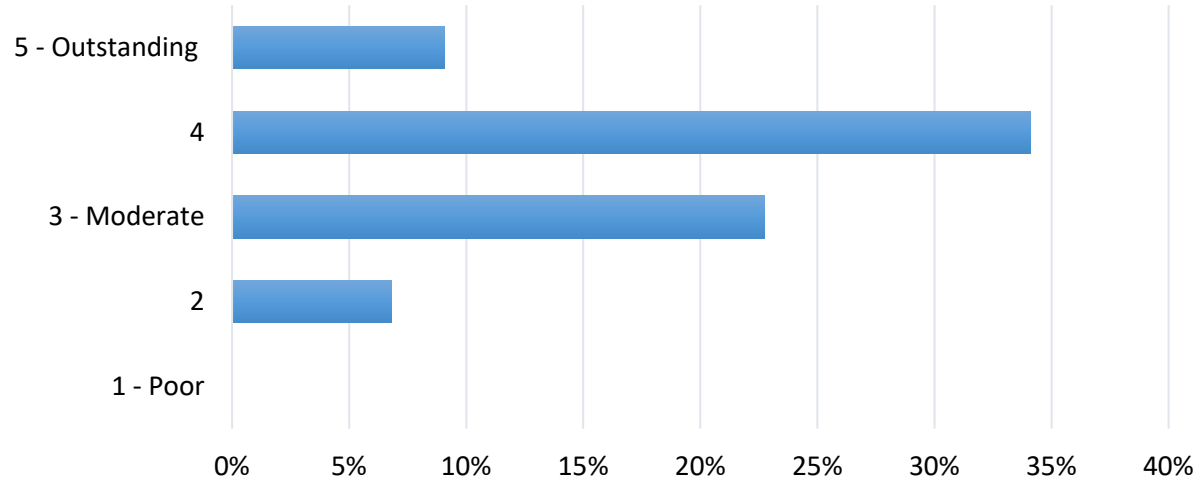
Work with a Fleet Advisory Committee



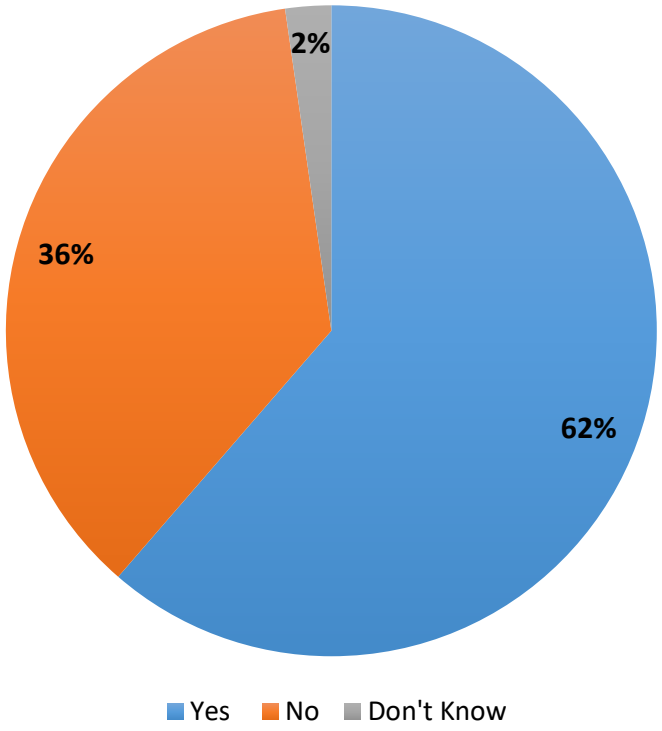
Have Customer Feedback Mechanisms (e.g., Surveys) to Assess Satisfaction



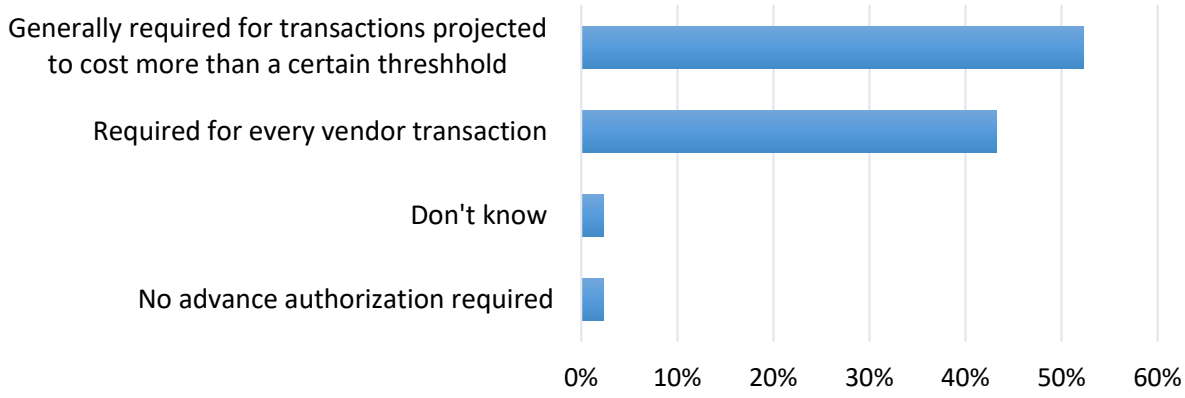
Self-Assessment of Effectiveness of In-house Maintenance and Repair Program



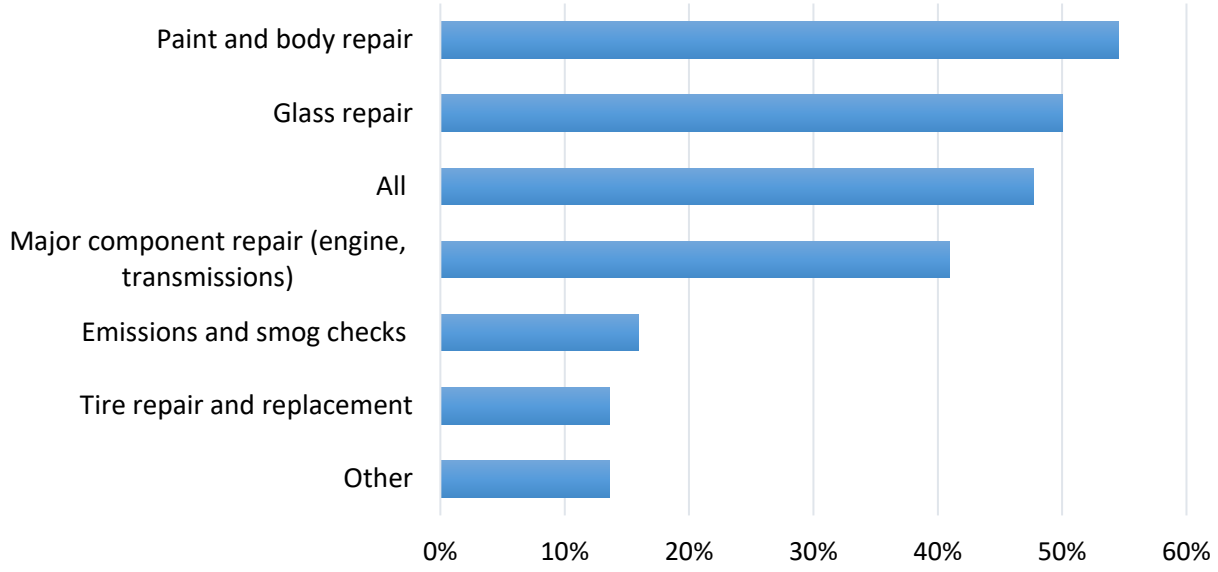
Utilization of Formal Contracts and Service Level Agreements with Vendors/Contractors Providing Fleet M&R Services



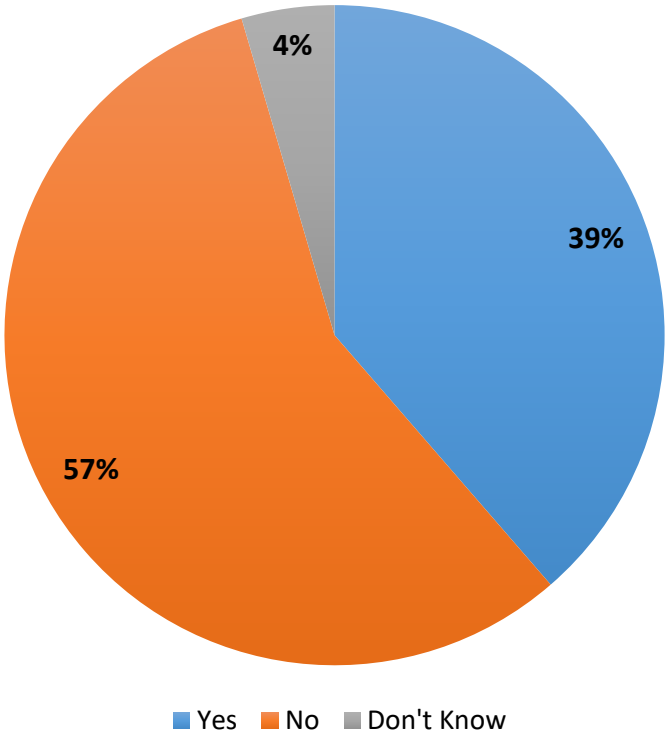
Policies Regarding Vendor Authorization to Perform M&R Services



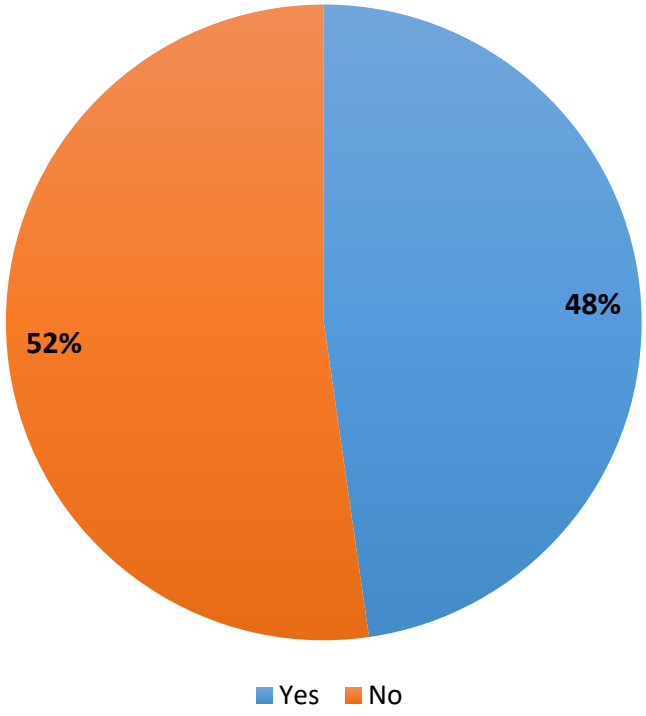
Types of M&R Work Outsourced



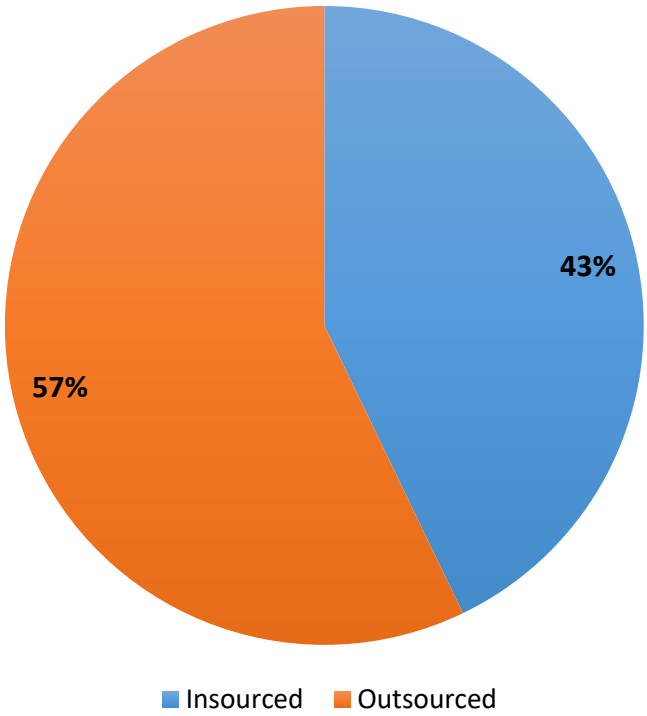
Measurement of Vendor Performance



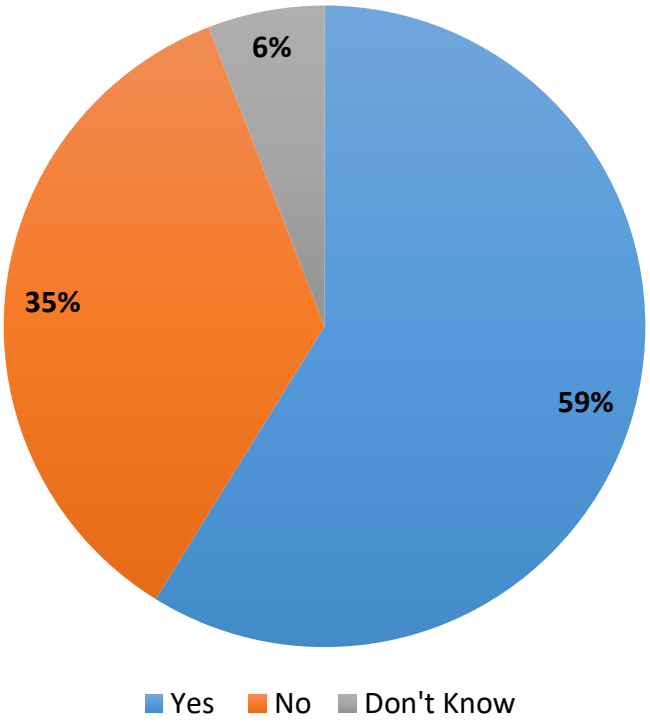
Use of Call Center to Manage Outsourced M&R Services



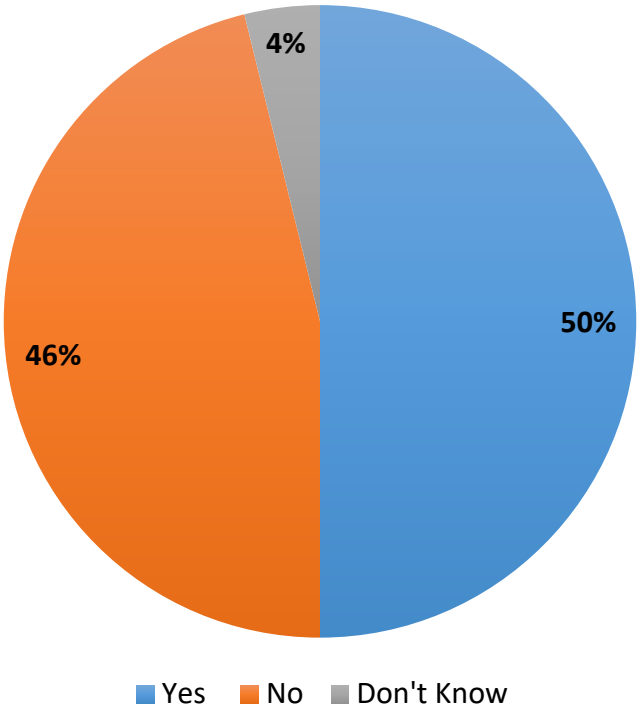
Call Center Insourced or Outsourced



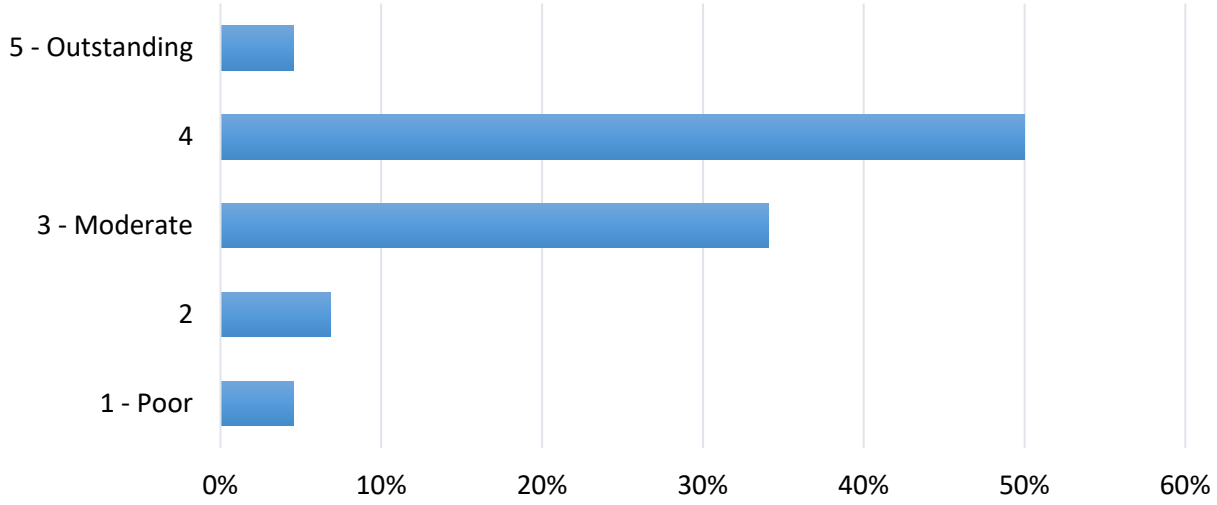
Auditing of Call Center-Authorized Vendor Invoices



Measure Efficiency/Effectiveness of Call Center



Self-Assessment of Effectiveness of Outsourced M&R Practices



FLEET FUELING & SUSTAINABILITY PRACTICES

State government and state university fleet management organizations use both in-house and commercial fueling facilities to meet the fueling needs of the fleets they manage. For the former, policies and procedures should be in place to govern all aspects of the management, operation, inspection and maintenance, and recovery of costs of bulk fuel sites. In the case of commercial fueling, many large jurisdictions have used the services of universal fuel credit card providers for years, and the functionality of the programs offered by the major service providers of this type is robust.

One of the biggest challenges for many FMOs in this area is determining the right mix of insourced and outsourced fueling programs. In-house fueling facilities are essential for fleet operations that cannot rely entirely on commercial gas stations for fuel in the event of a civil or weather emergency; this typically includes law enforcement and public safety agencies, agencies engaged in certain types of public works operations such as snow clearing, and agencies that employ groundskeeping, construction, and other relatively immobile assets that cannot easily operate or be transported on public streets to access commercial stations. For the vast majority of light and medium-duty vehicles, on the other hand, commercial fueling is not only viable but usually more cost effective due to the significant economies of scale involved in operating fueling stations.

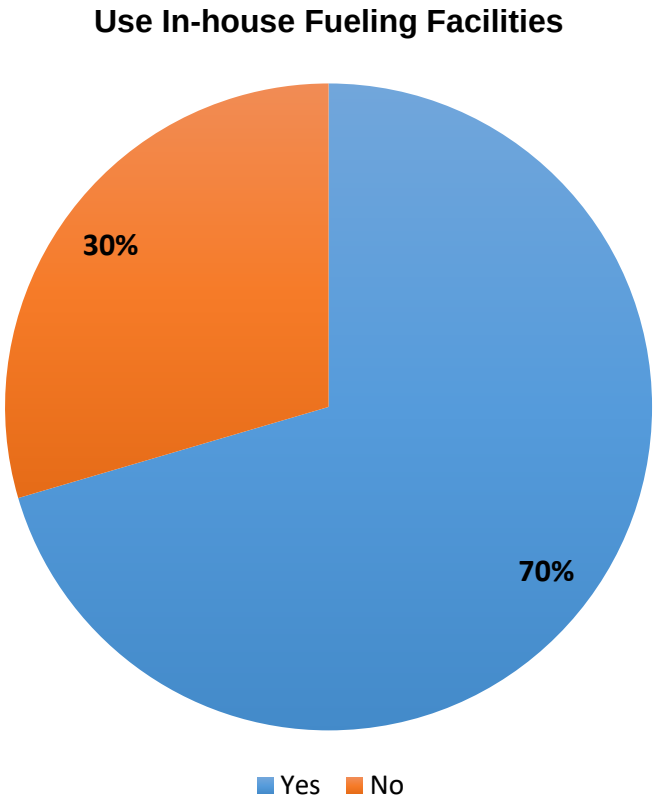
Fleet fueling needs obviously have evolved as states and universities have added alternative fuel vehicles (AFVs) to their fleets to comply with federal EPAct requirements as well their own internal fleet sustainability improvement initiatives (California being the most notable example). Needless to say, the nascent electrification of fleets adds a new dimension to this area of fleet management, in that it will reduce the demand for carbon-based fuels and likely increase states' use on public-private partnerships to build electric vehicle charging stations. The combination of increased use of AFVs and EVs and the aging of underground storage tanks (USTs) that were installed in the 1990s to comply with EPA UST regulations will likely confront many FMOs with the need to reassess their in-house fuel site networks in the coming years

KEY OBSERVATIONS

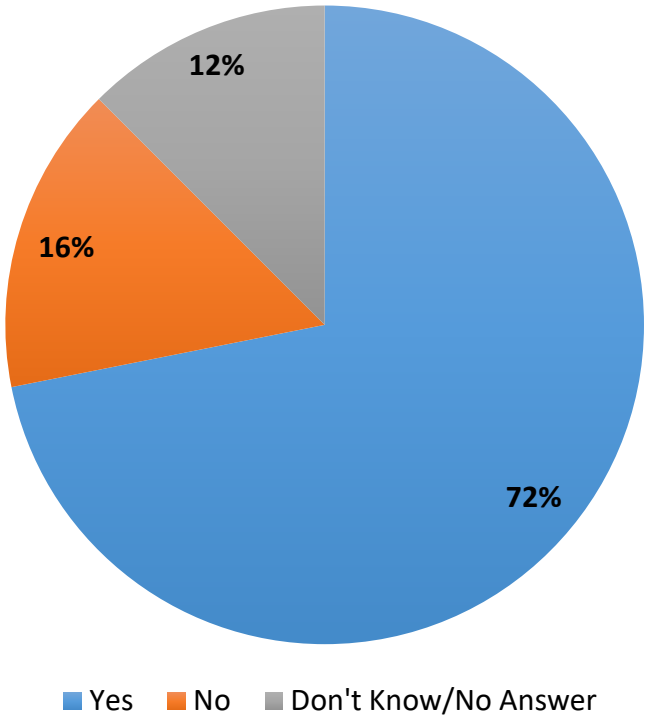
- As expected, a large majority of state government and university FMOs operate in-house fueling facilities, however most do not measure the cost effectiveness of those facilities. More surprisingly, a quarter of those FMOs with in-house fuel facilities do *not* have or do not know if they have policies governing the management and operation of those facilities.

- Similarly, while all respondents use a commercial fuel card program, less than a quarter measure and benchmark its cost-effectiveness. Furthermore, only five of the eleven identified commercial fuel management practices are being utilized by at least 80 percent of FMOs. Yet, FMOs rate themselves highly on fuel management practices with only one indicating a rating below three on the five-point Likert scale.

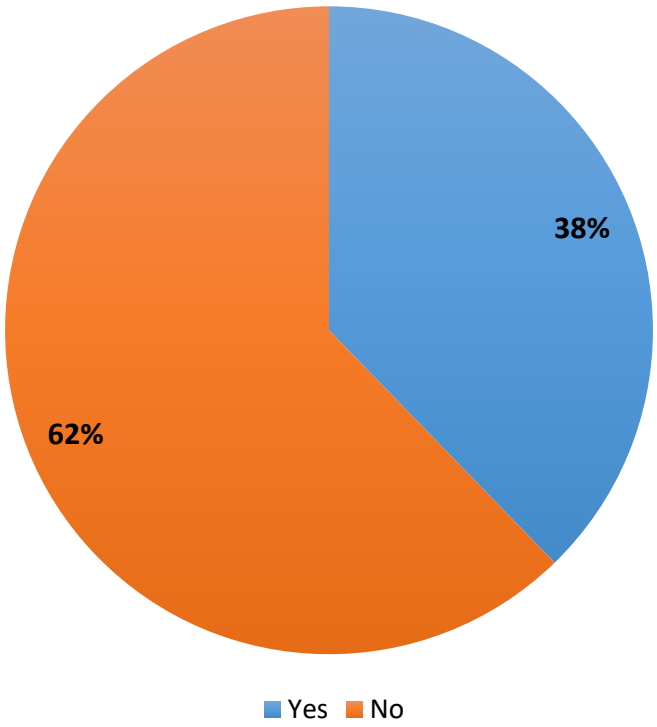
- As expected, most FMOs indicate they have minimum purchase requirements for alternative fuel vehicles, and comply with EPAct requirements. In that regard, it is also not surprising that E85 and hybrid-electric vehicles are far and away the most widely used AFVs, as these require virtually no changes to existing fleet fuel infrastructure.



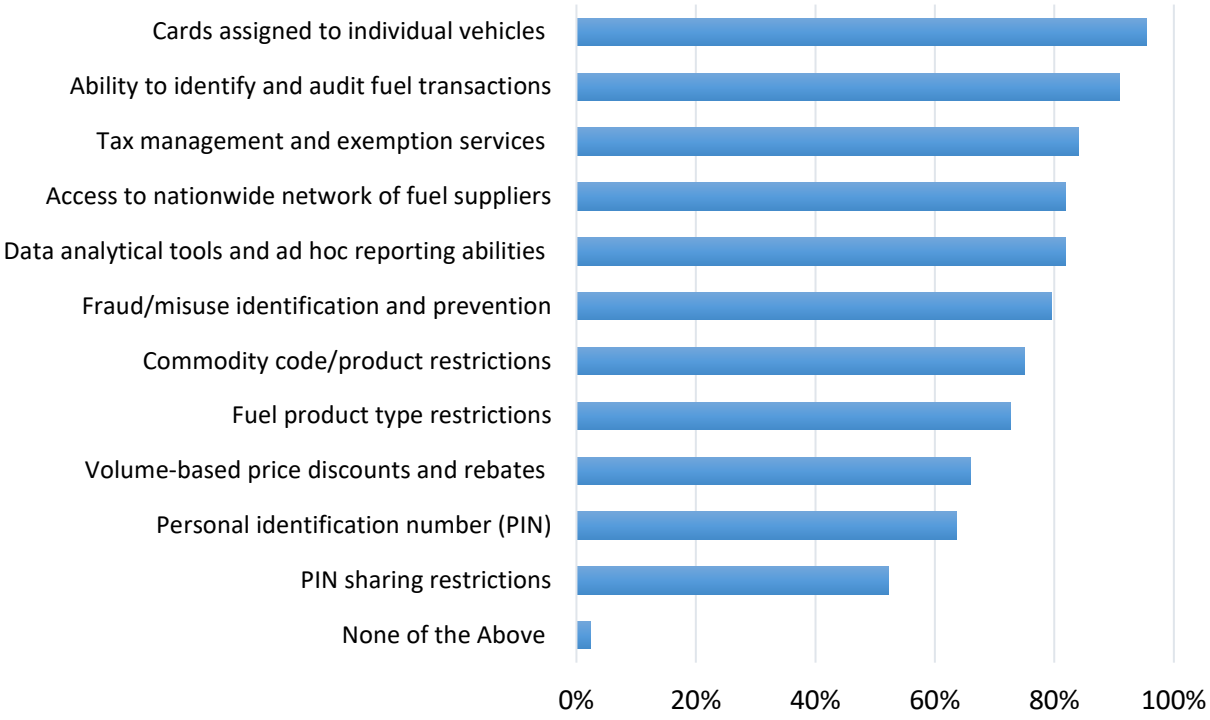
Formal Policies and Procedures Governing In-House Fueling Facilities in Place



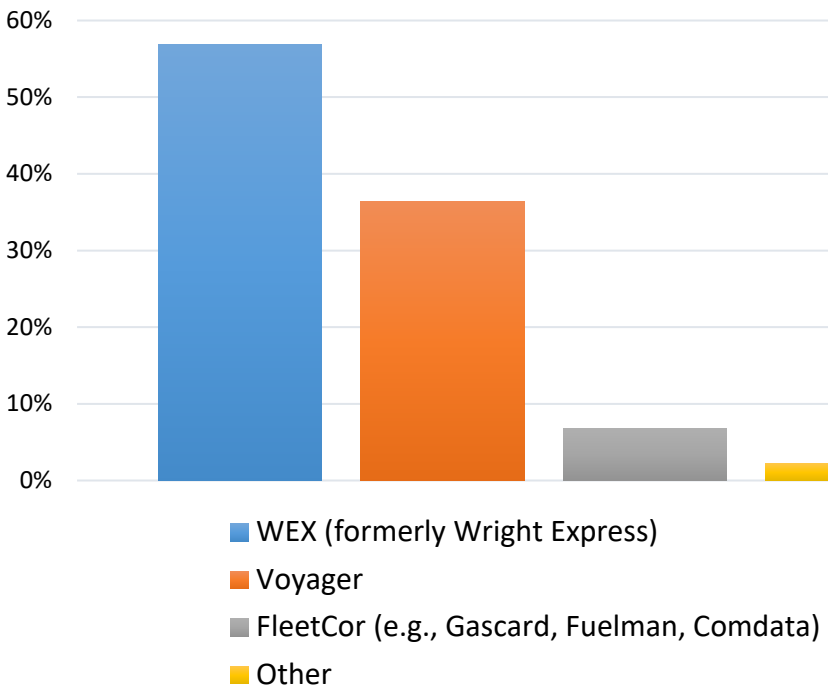
Measurement of Cost-Effectiveness of In-house Fueling Facilities



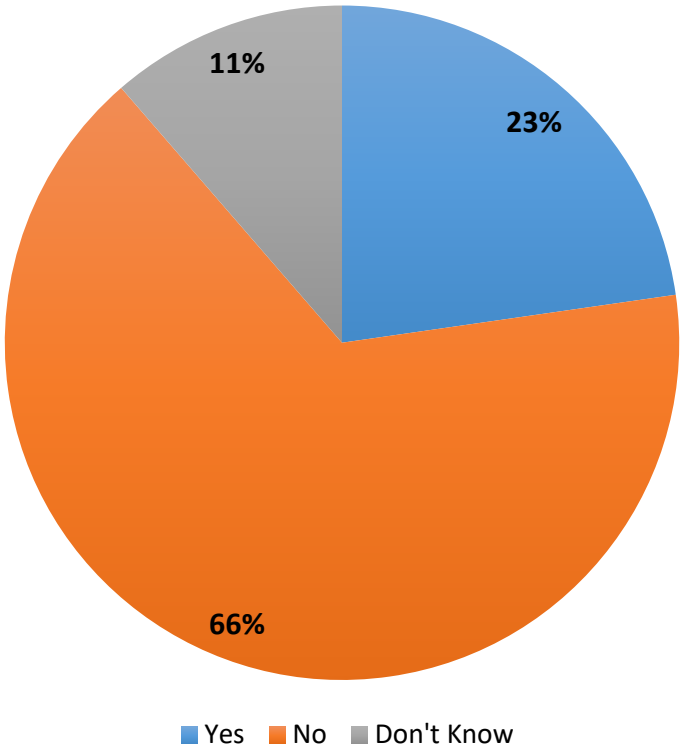
Utilization of Commercial Fuel Credit Card Program Elements



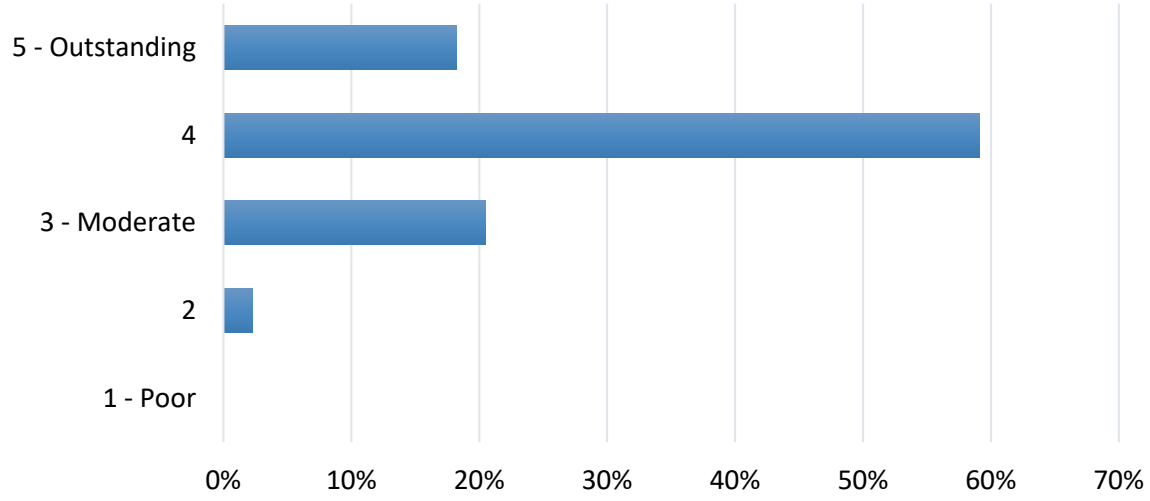
Commercial Fuel Card Suppliers Utilized



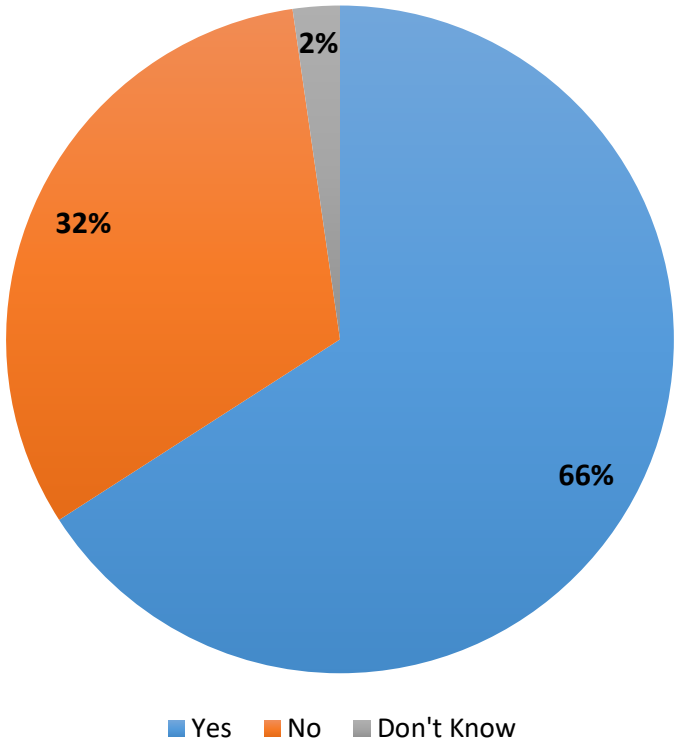
Commercial Fuel Card Program Performance Measurement and Benchmarking



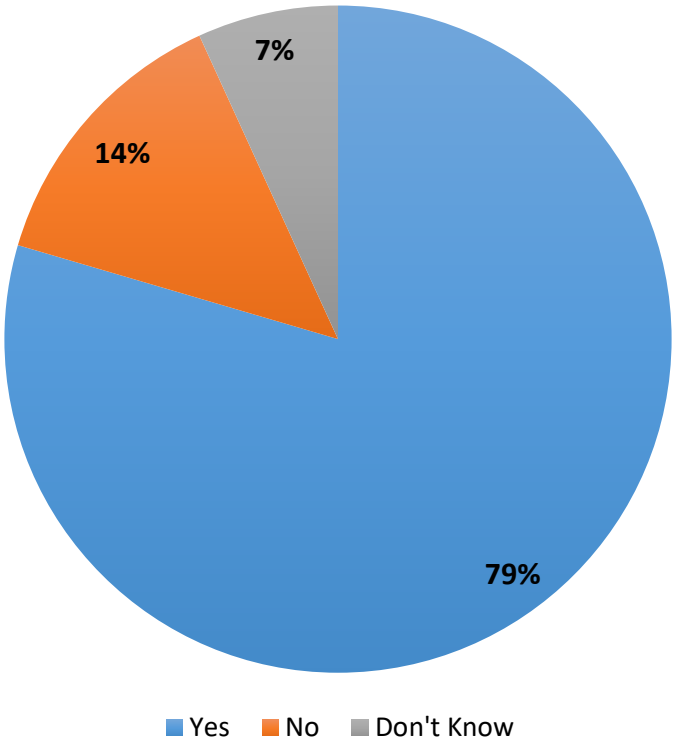
Self-Assessment of Effectiveness of Fleet Fueling Practices



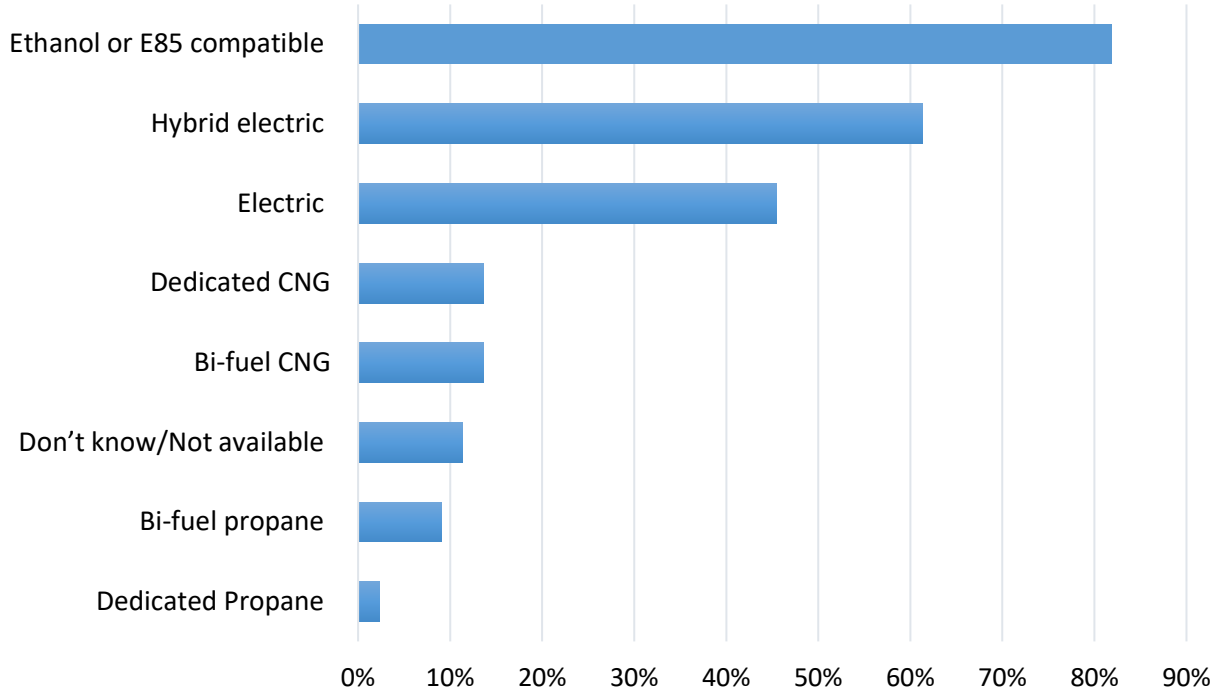
FMO Required to Purchase Minimum Quantity of AFVs



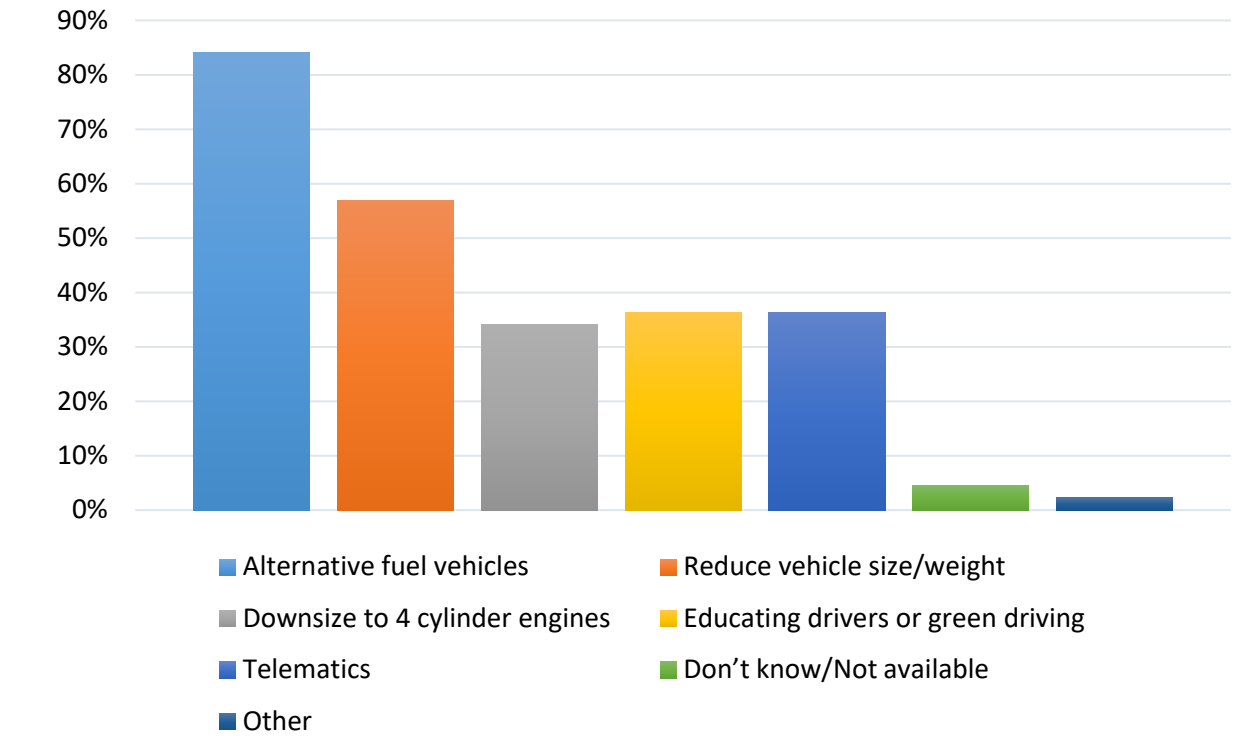
Compliance with the Energy Policy Act Mandates



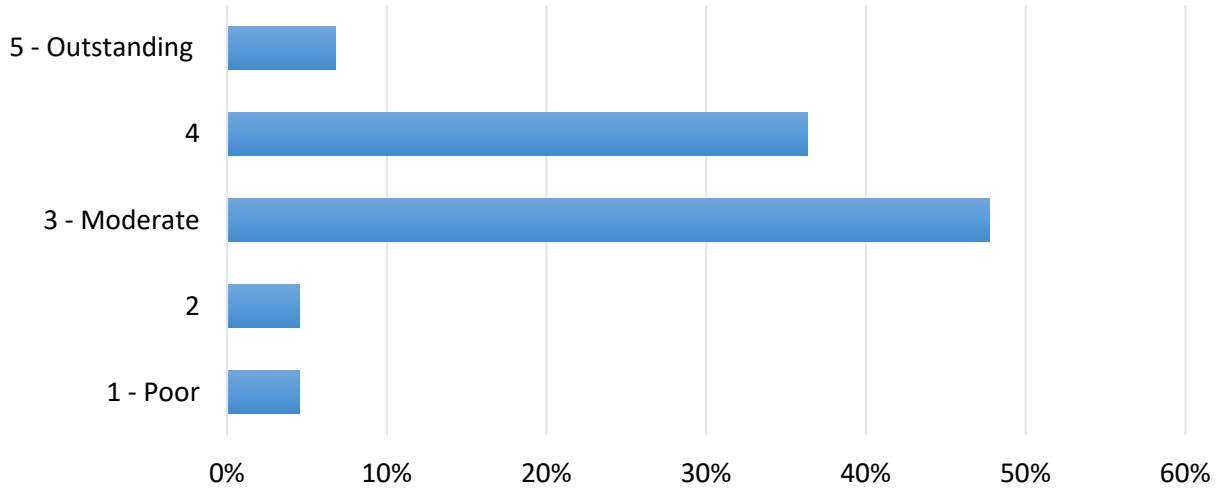
Types of AFVs to be Purchased in Next Buying Cycle



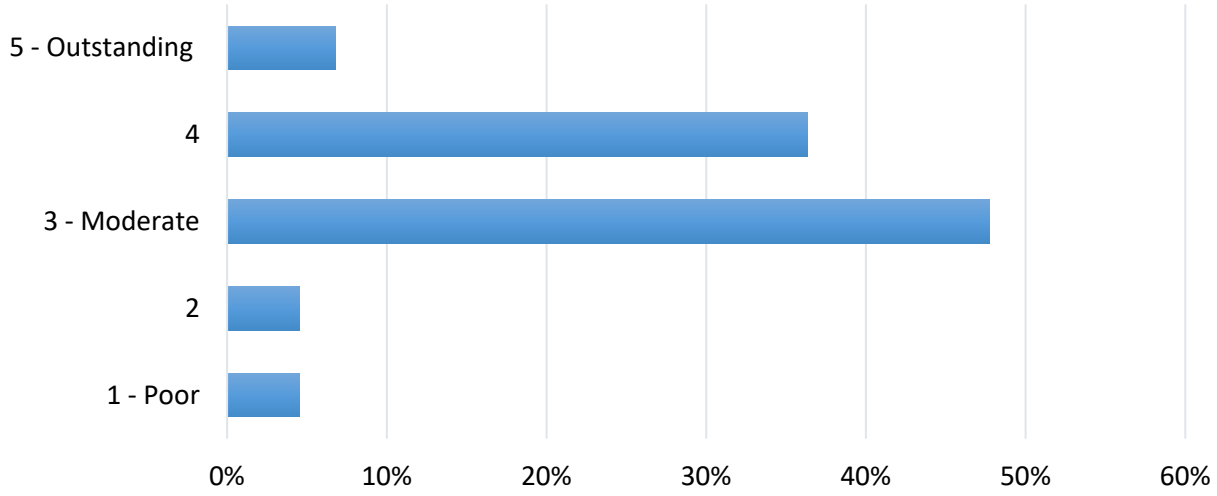
Fleet Fuel Consumption Reduction Strategies Used



Self-Assessment of Effectiveness of AFV Integration Practices



Self-Assessment of Effectiveness of Greenhouse Gas Reduction and Fleet Sustainability Improvement Practices



FLEET REPLACEMENT PRACTICES

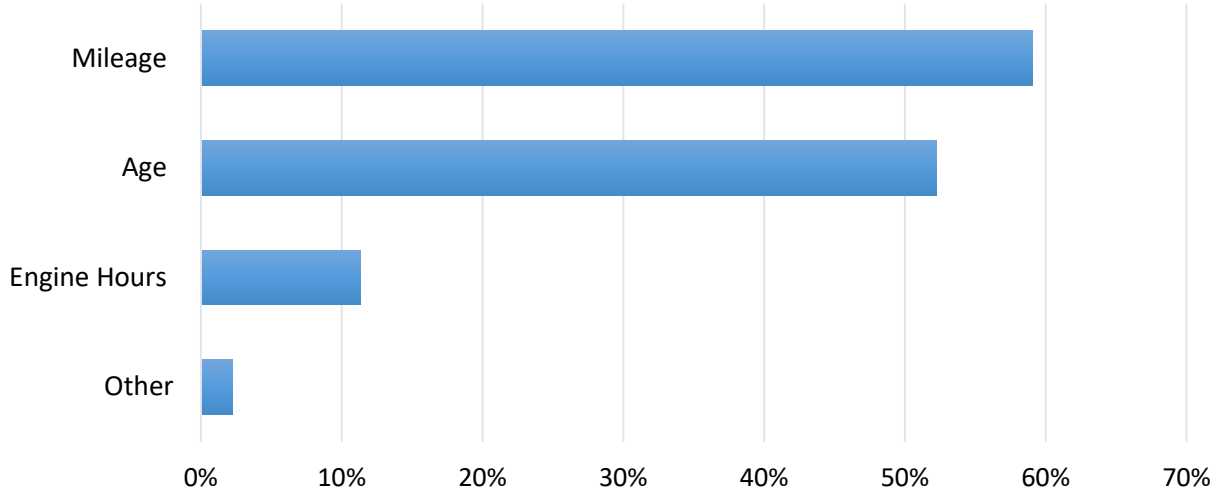
Fleet replacement practices determine the degree to which state governments and state universities replace their vehicles and equipment in a timely manner, meaning at intervals that generally strike the right balance between an asset's lifecycle capital and operating costs and thus minimize its total cost of ownership (TCO). In light of continuing advances in automotive technology and information technology, and the simultaneous loss of technical expertise as Baby Boom-generation mechanics and supervisors retire, the traditional philosophy in many FMOs of "drive 'em 'til the wheels fall off" no longer applies. Fleet replacement practices will only increase in importance as fleet owners recognize that shorter replacement cycles coupled with a focus on preventive maintenance and predictive repairs is a sure path to better fleet performance and lower overall fleet costs.

An effective fleet replacement program has several critical components: replacement cycle guidelines which provide an indication as to when specific types of assets should be replaced in order to minimize their TCO; a multi-year replacement plan that quantifies future replacement costs and year-to-year peaks and valleys therein; a short-term replacement prioritization and capital budgeting process that determines which specific assets should be replaced in the next fiscal year or biennium; and a capital financing method which ensures, to the fullest extent possible, that sufficient funds are available to actually replace assets in accordance with agreed-upon guidelines or criteria and priorities.

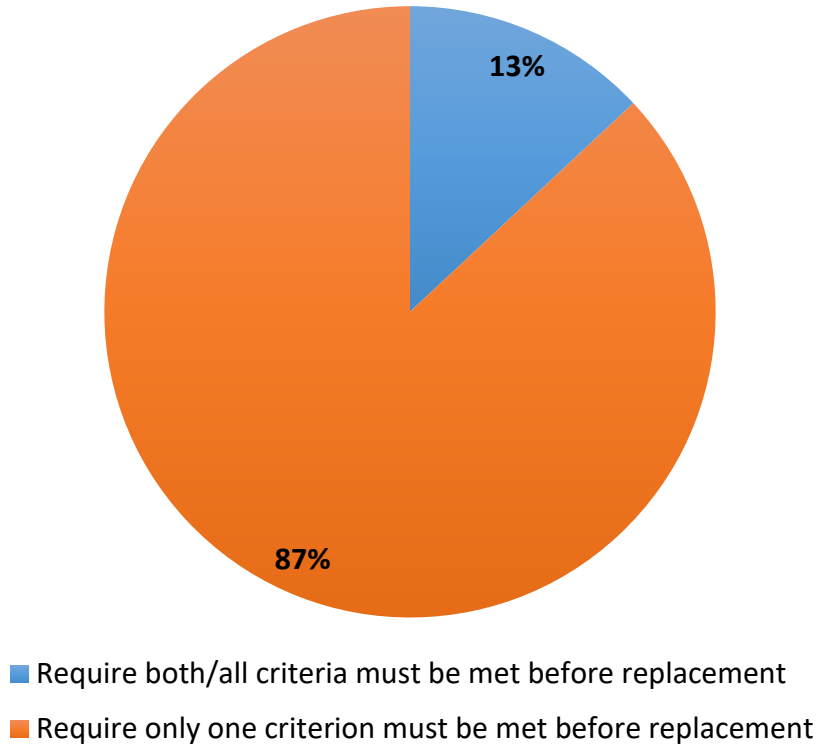
KEY OBSERVATIONS

- One-third of FMOs are not replacing their fleet assets in accordance with established guidelines (which may or may not reflect optimal replacement cycles). In the tenth year of a slowly but steadily improving economy, this is a concern as the next economic downturn is likely to reduce access to replacement funds.
- Heavy reliance on accumulated mileage as a criterion for replacement may be misplaced. This criterion is appropriate for high-mileage vehicles (e.g., state trooper vehicles), but rarely for vehicles that may be heavily used but accumulate few miles (e.g., as a mobile office by a state social services case worker, or as a mobile tool box/workshop by a physical plant department electrician at a state university).
- Average asset ages suggest that many assets are not being replaced in accordance with their stated replacement cycles. The disparity between the two is especially noticeable for heavy trucks. With big-ticket items like these, there often is a strong temptation to postpone replacements as long as possible when they are financed through outright cash purchase. This is the single most widely used financing method among the survey respondents.
- A surprisingly large proportion (almost 40 percent) of respondents reported that they do not have a formal process in place for prioritizing assets for replacement each year so as to make the best and most equitable use of available funds.

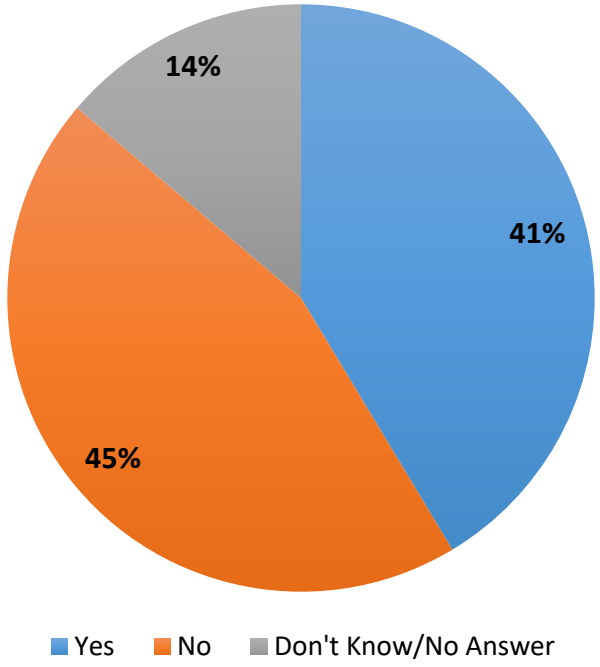
Criteria Used to Guide Replacement Decisions



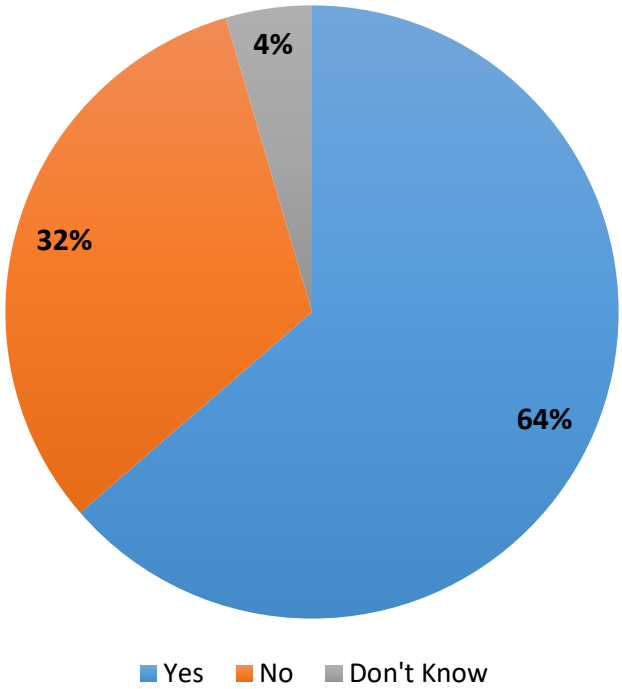
Replacement Criteria Requirements



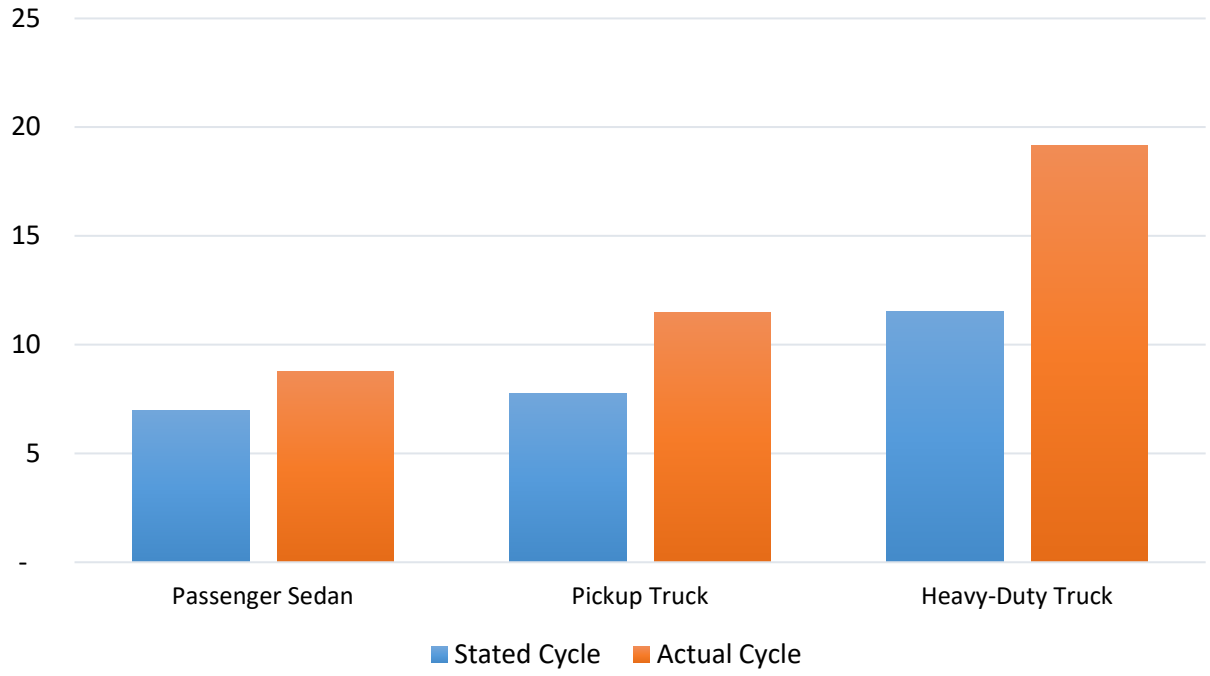
Empirical Analysis of Lifecycle Costs Used to Determine Replacement Cycle Guidelines



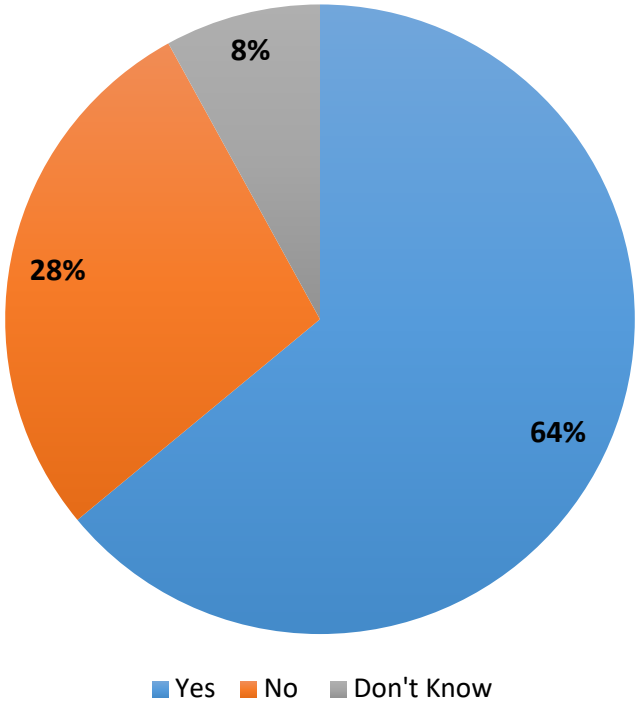
Assets Replaced in Accordance with Established Replacement Cycle Guidelines



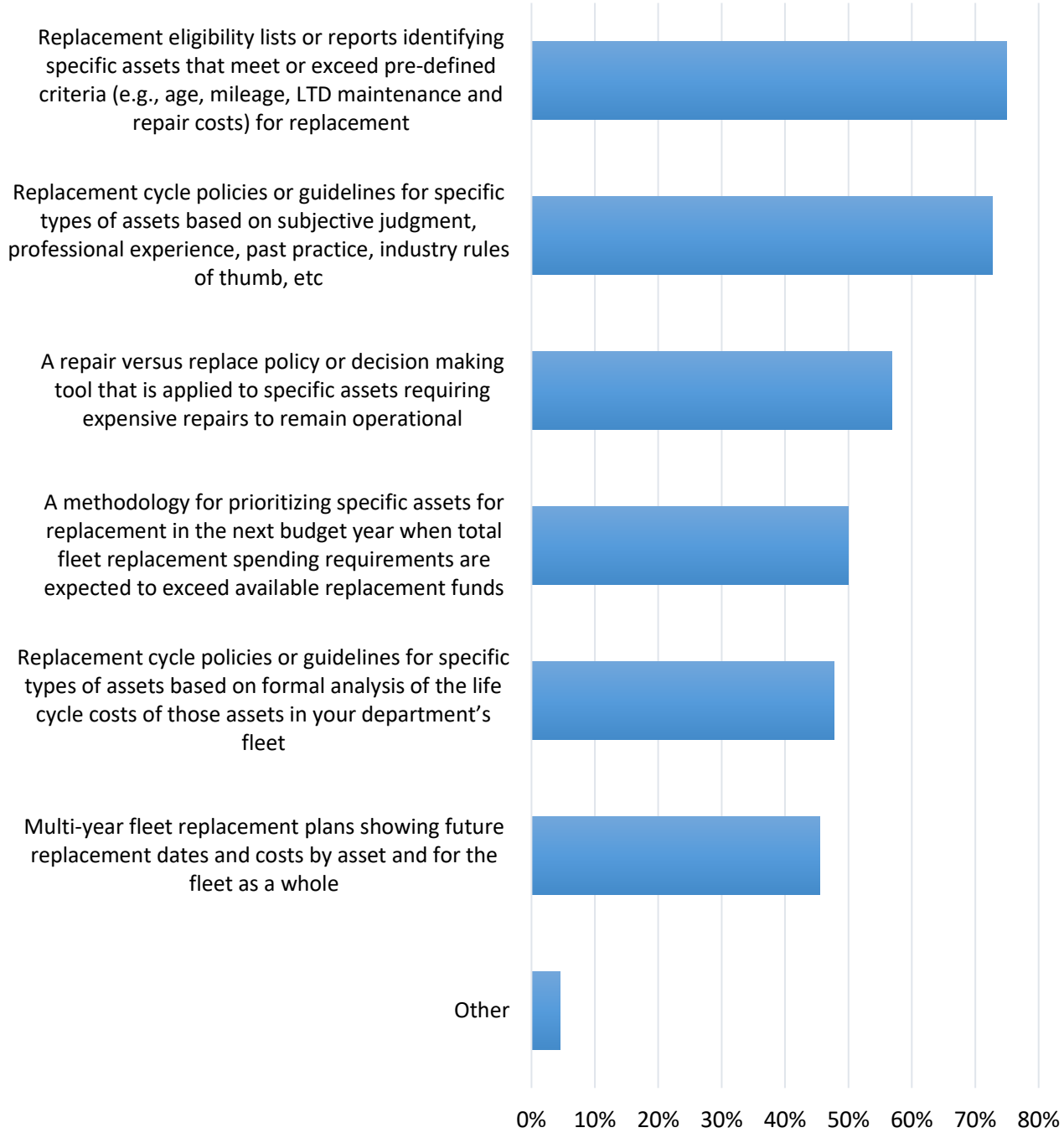
Stated versus Actual Replacement Cycles (in years) by Asset Type



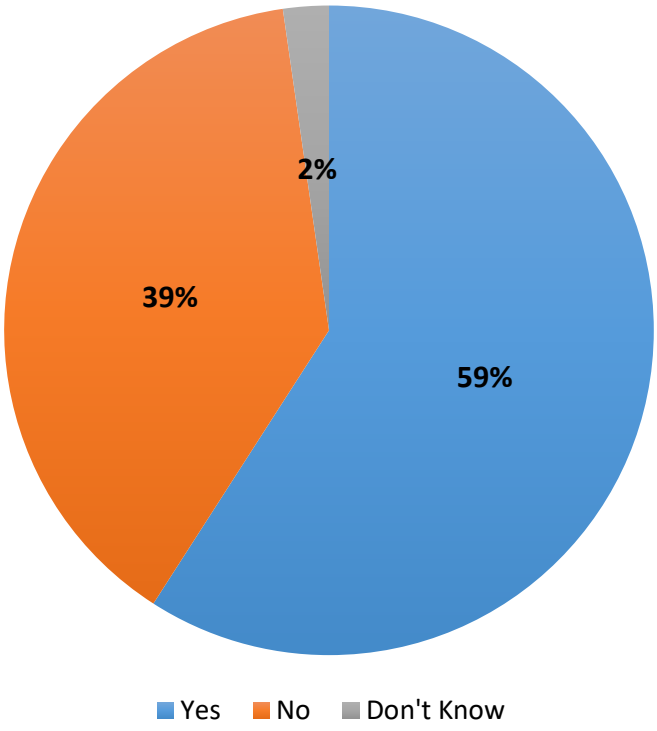
Multi-Year Fleet Replacement Plan Prepared and Updated Annually



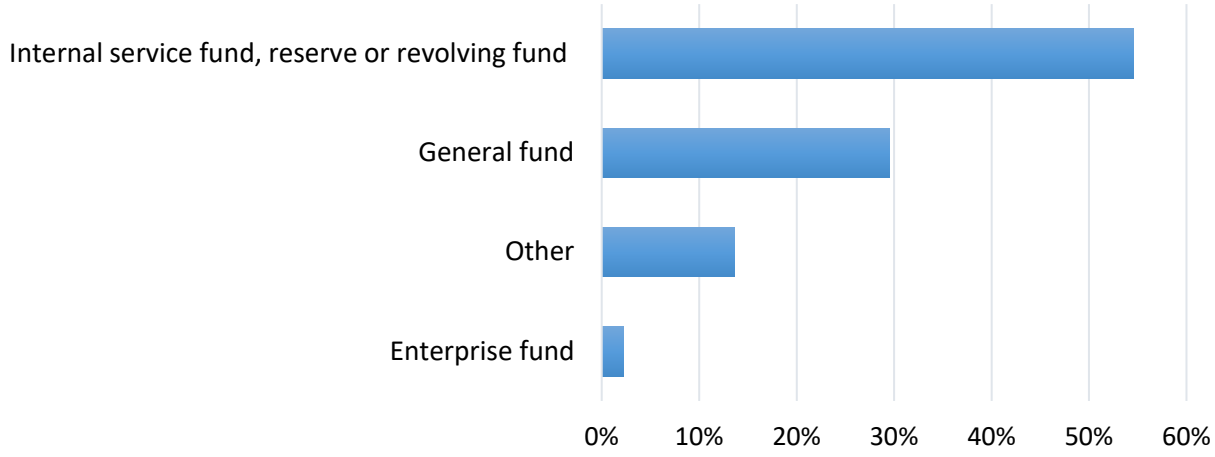
Most Important Tool for Making Fleet Replacement Decisions



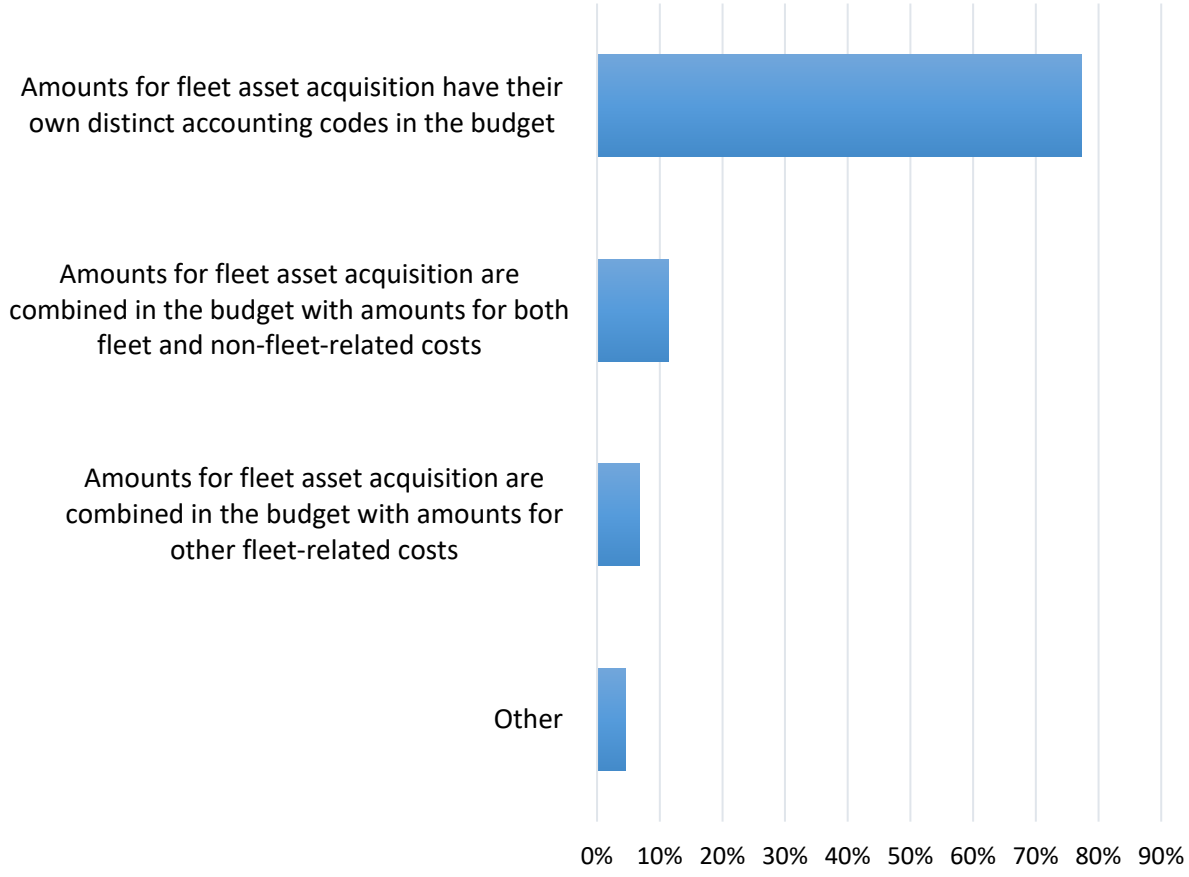
Formal Process Used to Prioritize Specific Assets for Replacement



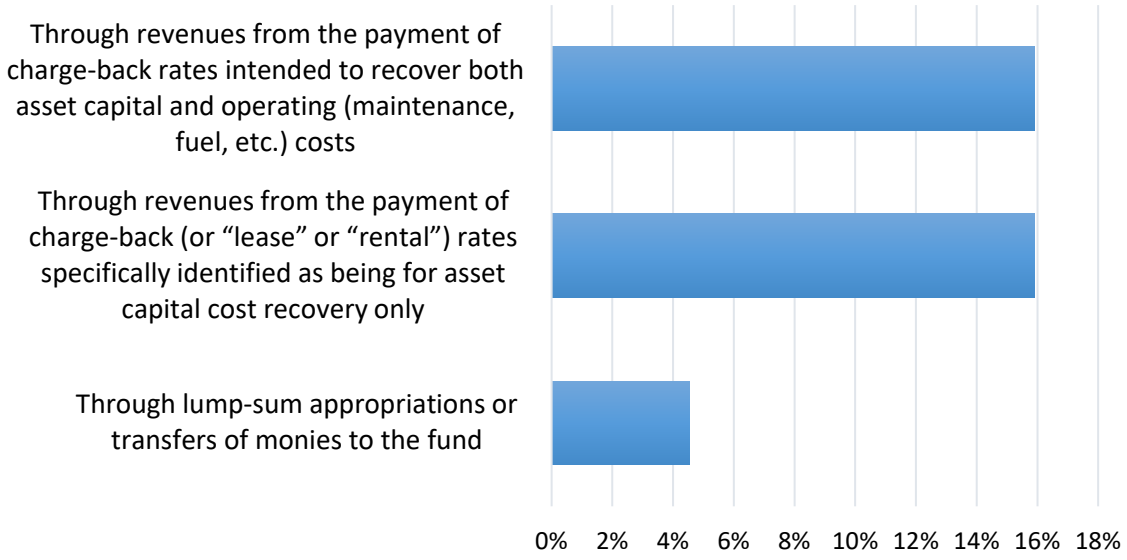
Source of Fleet Replacement Funds



Line-Item Budgeting and Accounting for Fleet Replacement Costs and Funds

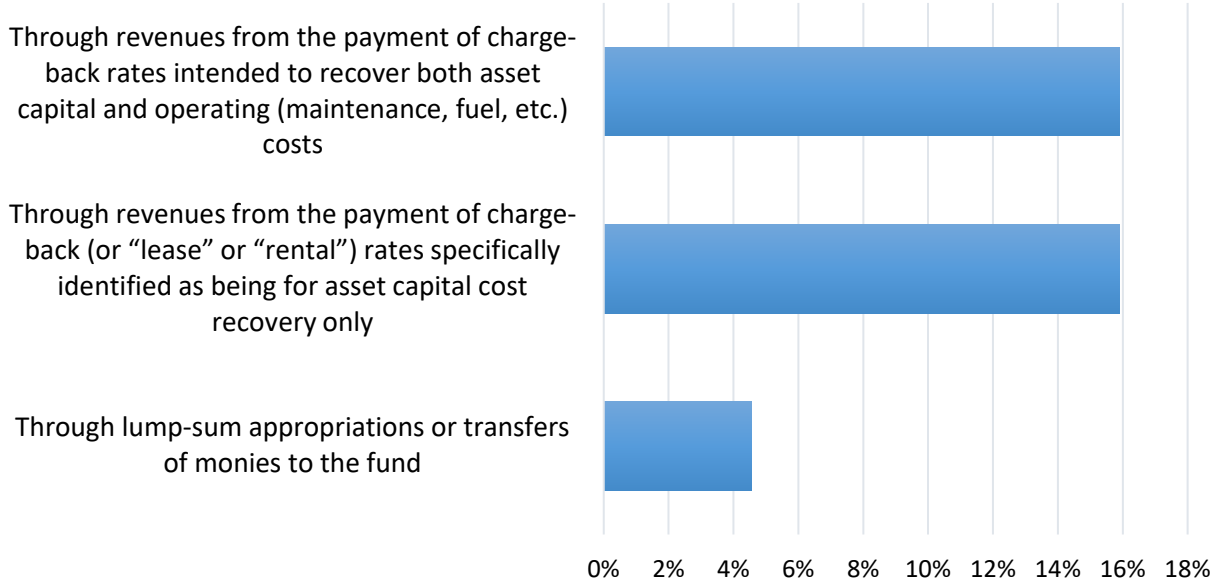


Primary Method Used to Finance Fleet Replacement Costs

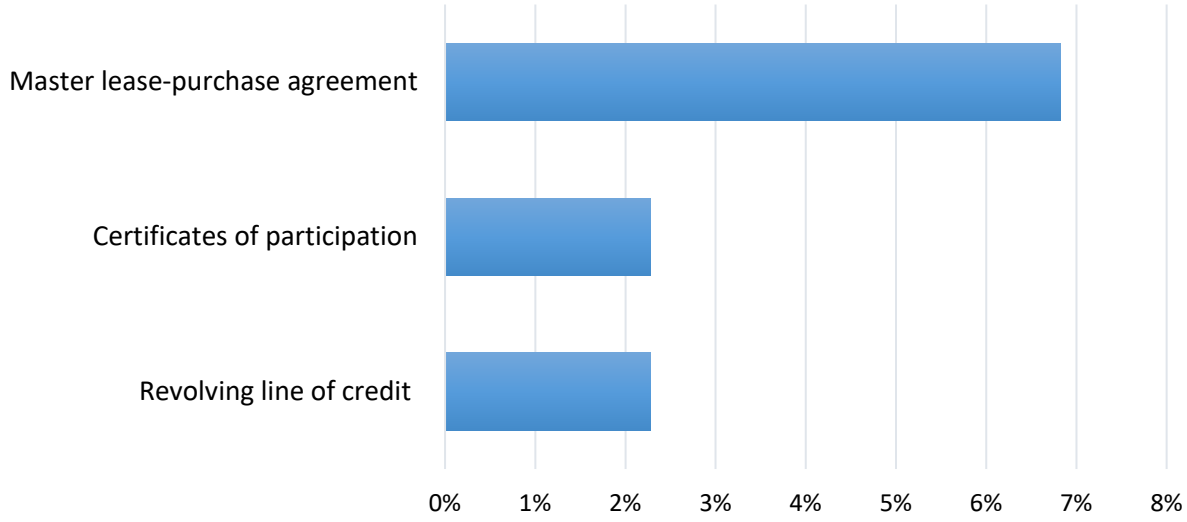


Source of Funds Used by Replacement Reserve or Revolving Funds to Finance Fleet Replacement Costs

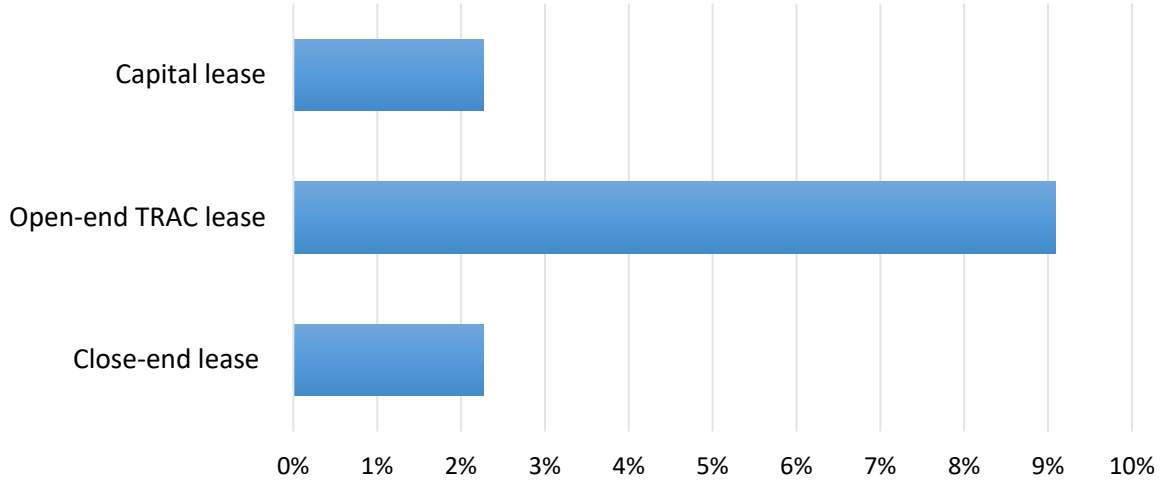
APPEARS TO DUPLICATE PREVIOUS FIGURE



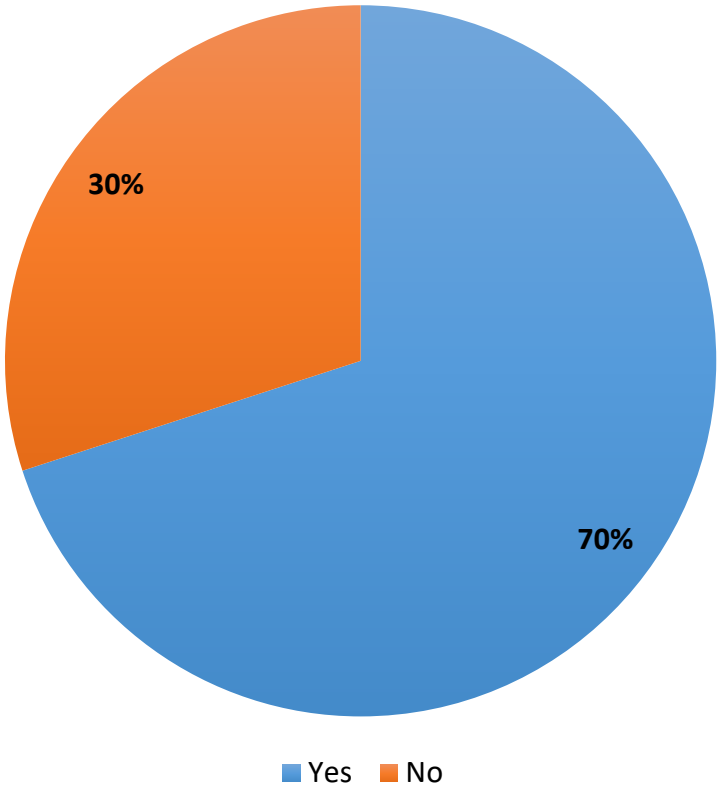
Types of Debt Facilities Used to Finance Fleet Replacement Costs



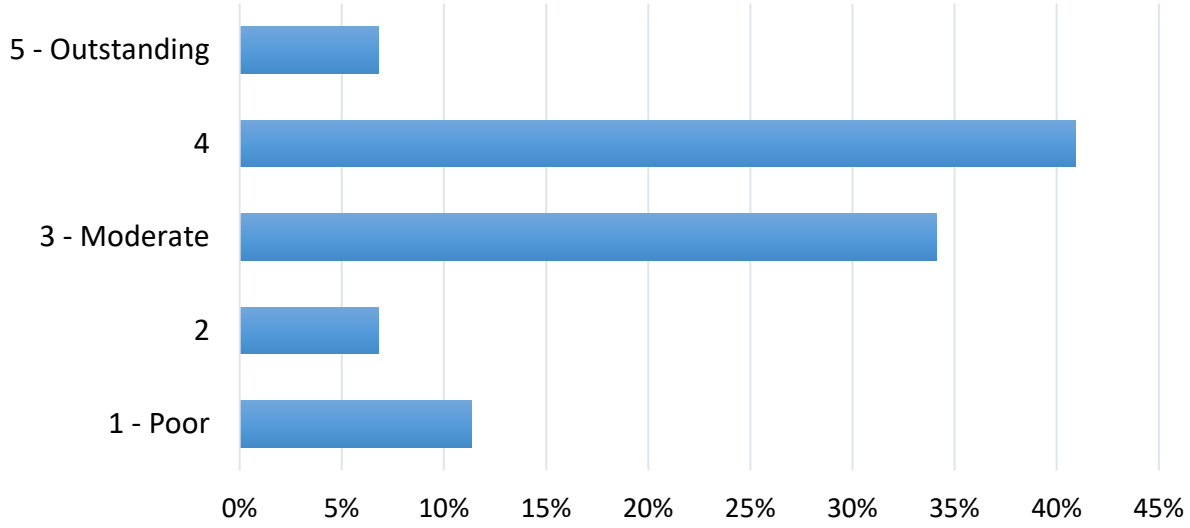
Types of Leases Used to Finance Fleet Replacement Costs



Period of Time Financed/Leased Matches Expected Useful Life of Assets



Self-Assessment of Effectiveness of Fleet Replacement Practices



FLEET MANAGEMENT INFORMATION TECHNOLOGY

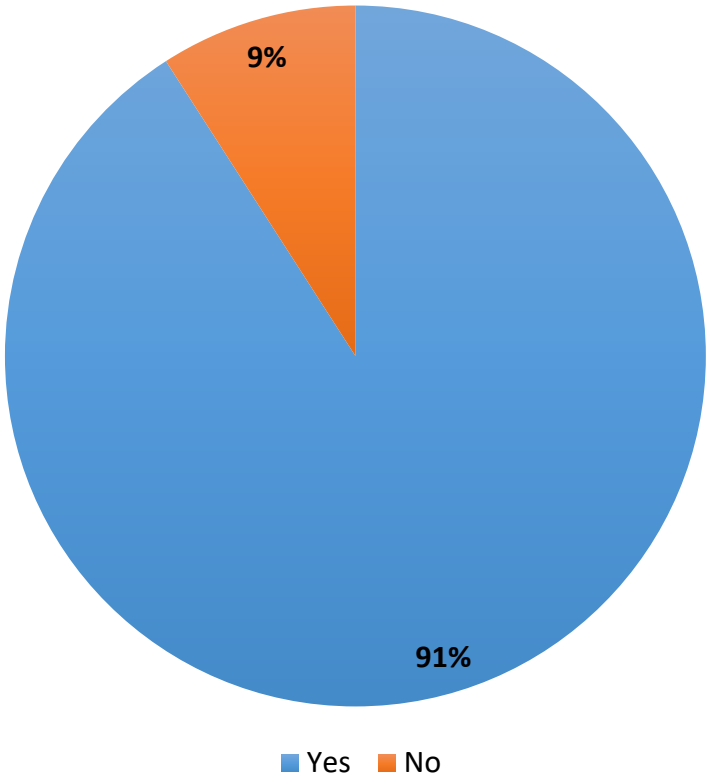
Fleet management information systems (FMIS) are the primary means for performance measurement across all functions of fleet management. Analyses of the data collected within an FMIS must be the driving force behind decisions that lead to better cost control, process improvements, reduced total cost of ownership, and improved fleet safety. Commercial off-the-shelf FMIS software provides ready access to key performance indicators (KPI) related to every function of fleet management, from maintenance and repair measurements such technician productivity to asset disposal measurements such as average days-to-sell.

Similarly, telematics systems have been in use for some time as asset trackers, however a properly deployed system facilitates improved accuracy and more expedient timing of data capture, greater access to a wider variety of available data sets, and the automation of many processes that were once significantly more time consuming and often avoided. In conjunction, these two information technologies should be leveraged to drive the performance of a broad spectrum of fleet management activities.

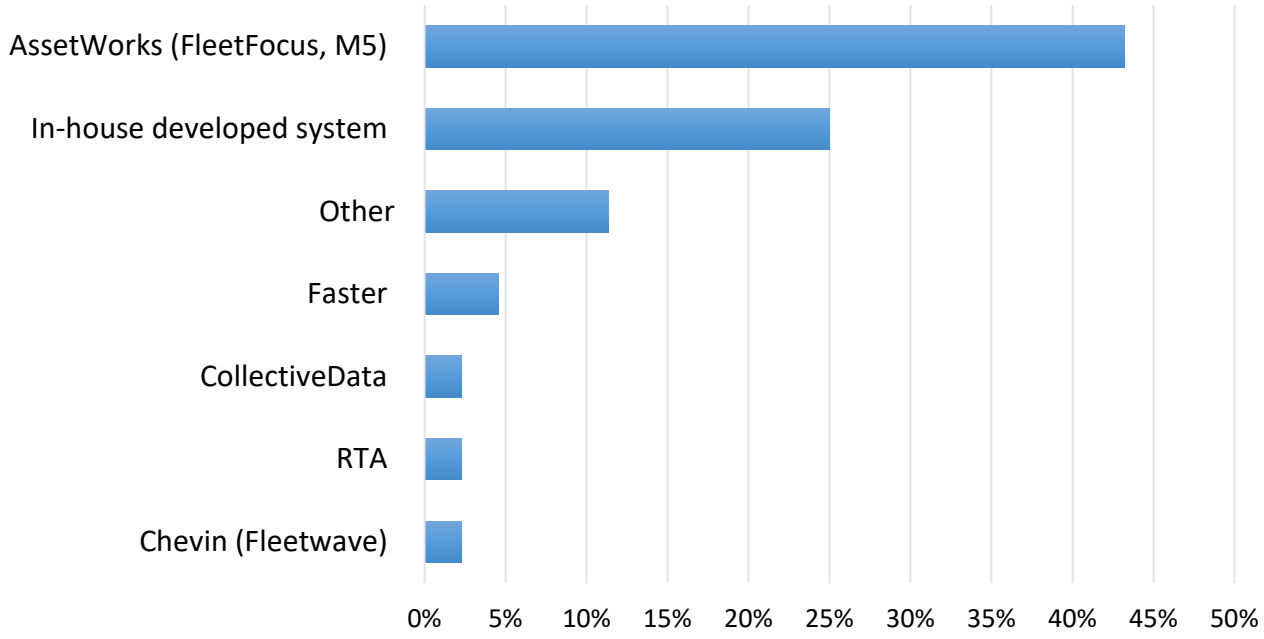
KEY OBSERVATIONS

- As expected, the overwhelming majority of state government and university FMOs are utilizing FMIS, with most utilizing agency-owned servers versus cloud-based systems. While this is certainly navigable, in most cases, a lack of strong disaster recovery practices in FMOs leads to the increased risk of data and digital record loss.
- More than half of the survey participants rate the functionality of their FMIS system as not better than moderately sound (a rating of 3 or less on a 5-point scale), suggesting that there is substantial room for improvement in the design, implementation, and/or training practices of FMOs associated with FMIS applications; an even larger portion of the survey participants rate their vendors' support of the software as not better than moderately sound.
- It is therefore not surprising to see a consistent theme of poor or lack of measurement practices throughout the responses noted in sections for the other fleet management functions, despite the majority of respondent FMOs rating their FMIS practices as moderate or above.
- Considering recent advances in technology, the growing pressure on FMOs to justify their actions and decisions via empirical means, and the added value telematics systems can add to FMO operations, it is somewhat surprising to see that less than half of respondents have adopted its use.
- Amongst those organizations who have adopted telematics, utilization management is the most common driver behind that decision. That said, there is not consistency in this regard amongst FMOs, and accordingly, the full breath of application for telematics has not yet been realized.

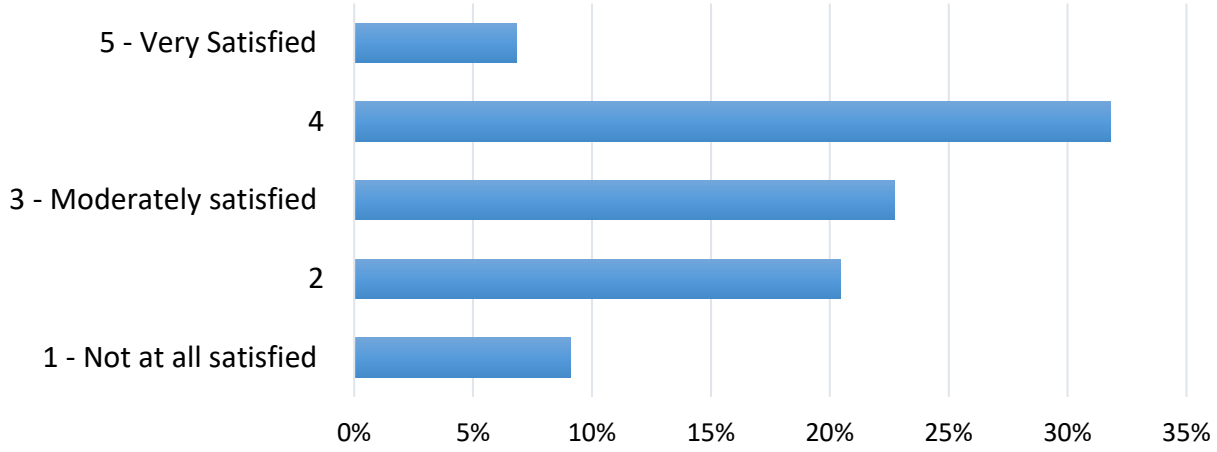
Fleet Management Information System (FMIS) Used



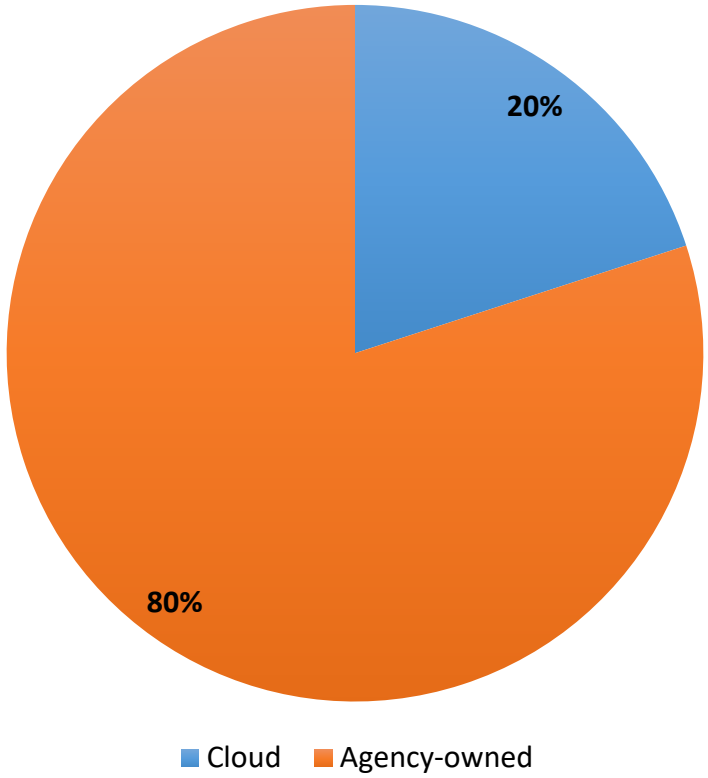
Type of Fleet Management Software Used



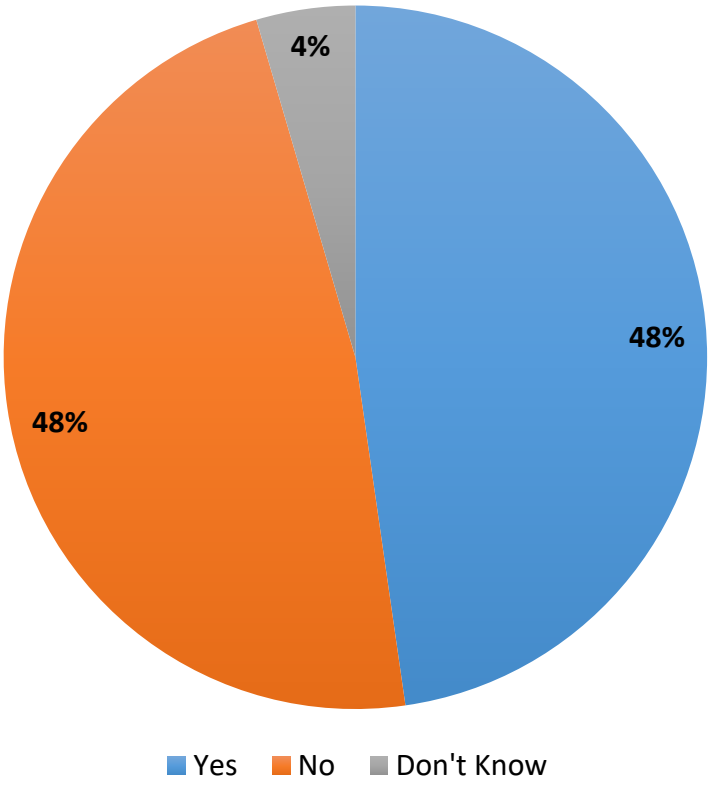
Level of Satisfaction with the FMIS Functionality



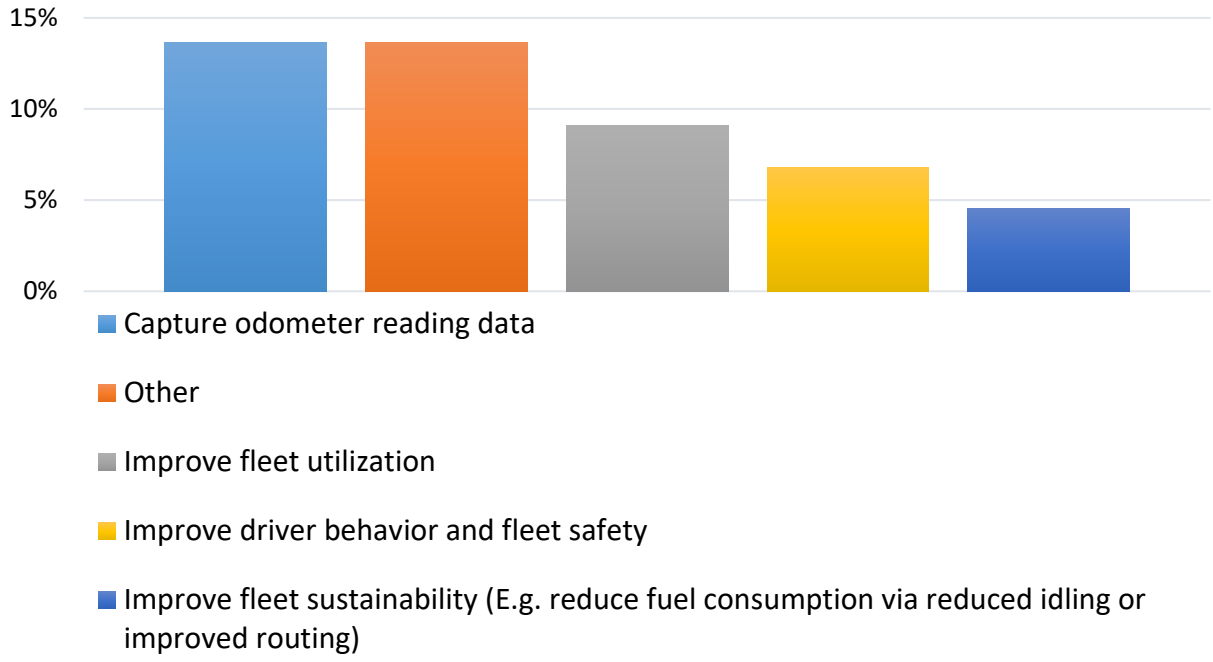
System Runs on Cloud or In-House Servers



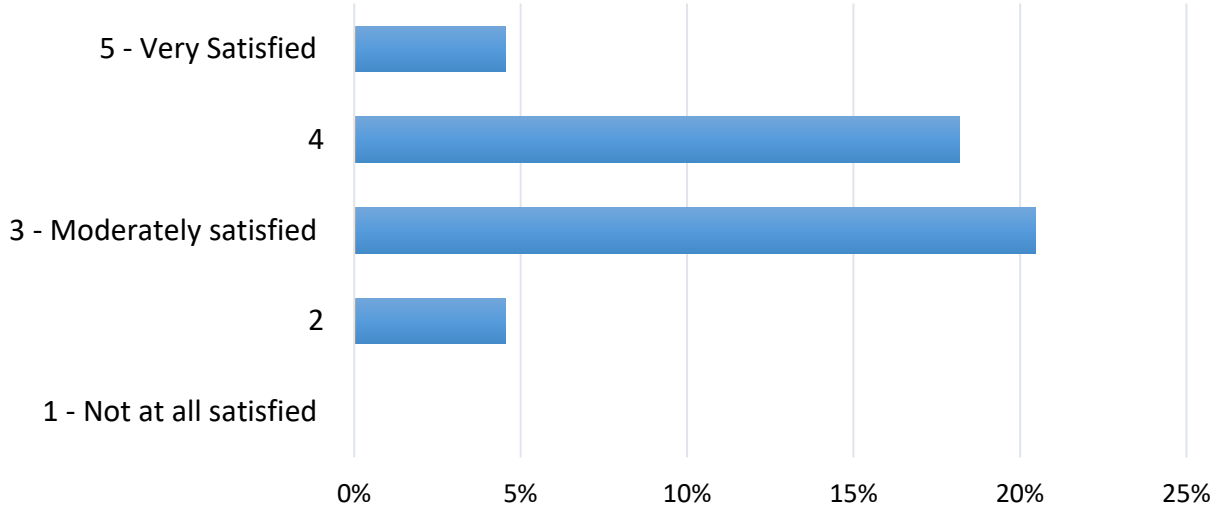
Telematics Solution Installed on Any Assets in Fleet



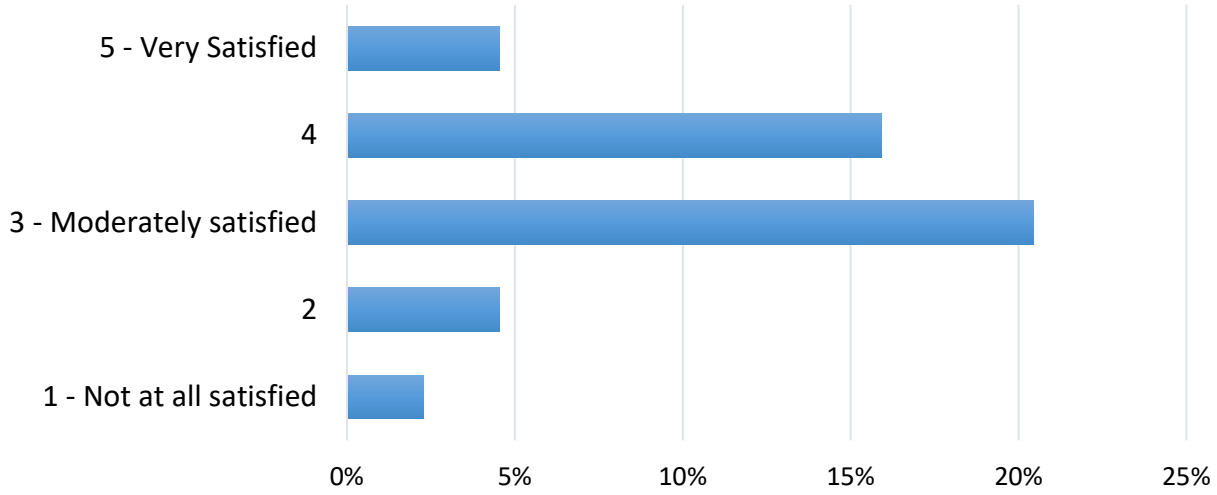
Primary Reason for Acquiring a Telematics System



Level of Satisfaction with the Telematics Solution Functionality



Satisfaction with Telematics Vendor's Support of Product



FLEET COST CHARGE-BACK PRACTICES

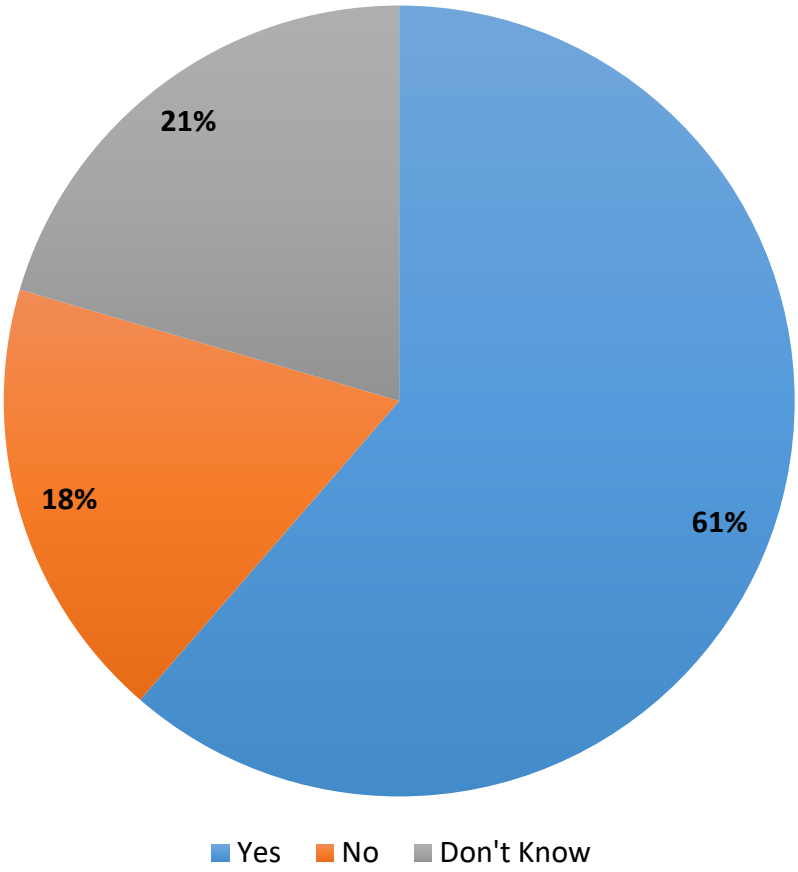
A well-designed cost charge-back system is one of the most powerful tools available to an FMO to manage fleet performance and costs. The reason for this is that FMOs exist to provide vehicle management services and most private individuals – whether they be elected or senior management officials, fleet management organization employees, or fleet user organization employees – own one or more vehicles. Consequently, they have experience buying and financing the purchase of vehicles; maintaining, repairing, and fueling vehicles; and replacing and disposing of vehicles, and, as result; a pretty good understanding of the costs of vehicle ownership and operation. This experience enables fleet-related stakeholders in state government and state universities to make pretty good fleet-related decisions when they are presented with information about the costs of those decisions, and explains why charge-back systems that provide cost visibility improve both the consumption (by fleet users) and provision (by FMOs) of fleet resources and services. While state governments – notably state departments of transportation – use cost charge-back systems for other purposes (e.g., federal cost claiming), it is the potential of such systems to drive continuous improvement in fleet asset allocation, utilization, operation, and management practices that make them a key component of an effective fleet management program.

KEY OBSERVATIONS

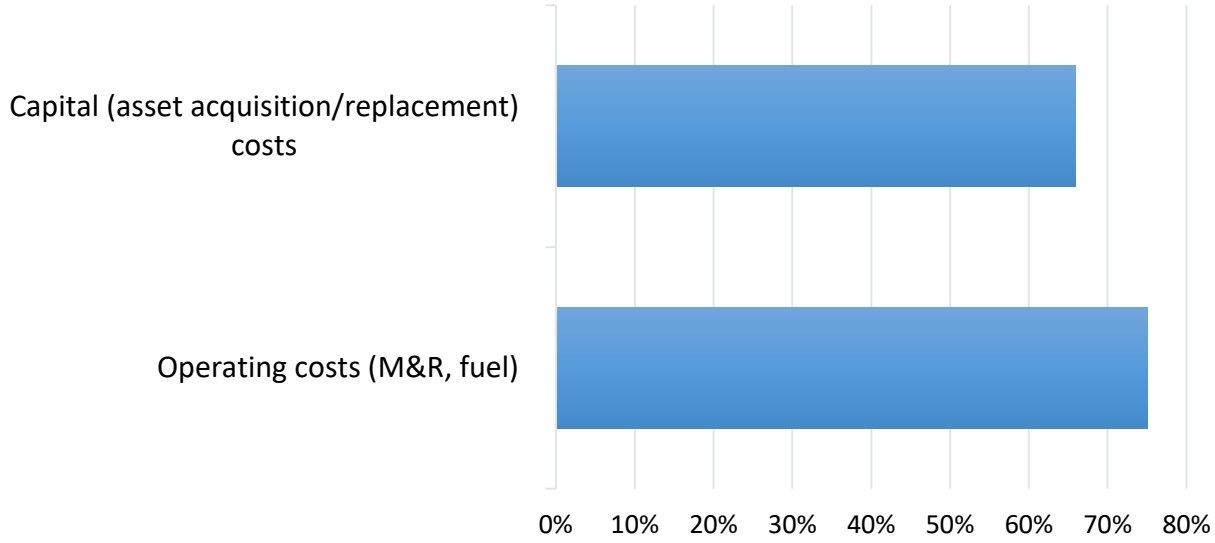
- A bit more than half of the FMOs participating in the survey are classified as internal service fund (ISF) entities, meaning that they distribute some or all of the costs of the fleets they manage to the fleet user organizations they serve. In most, but not all, cases, the means of distributing these costs is a cost charge-back system. FMOs that serve a single state agency or university department are not normally classified as an ISF.

- The single most common type of charge-back rates used to distribute asset operating costs is a fixed monthly rate which also includes capital or replacement costs. While such rates make it easy for fleet users to budget for and pay FMO charges, they have several drawbacks. They don't enable fleet users to weigh trade-offs between capital and operating costs (for instance, the benefits of spending more on fleet replacement in order to spend less on fleet maintenance, repairs, and fuel). They don't enable fleet users to assess the reasonableness of an FMO's service delivery costs and to hold it accountable for those costs. They don't treat fleet users equitably since the rates typically are based on the average costs of all the assets – young and old, heavily and lightly used, properly and improperly operated – in a given charge-back rate class.

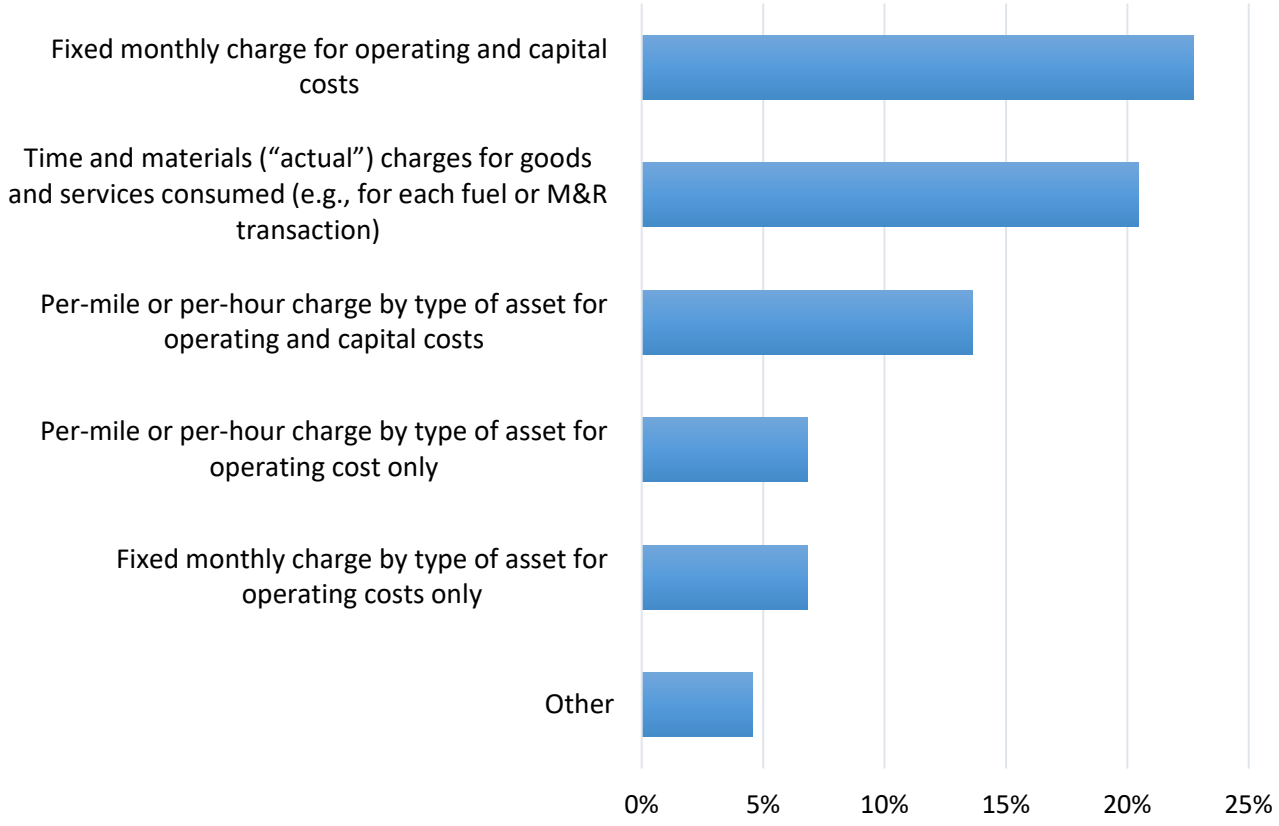
FMO Classified as Internal Service Fund (ISF)



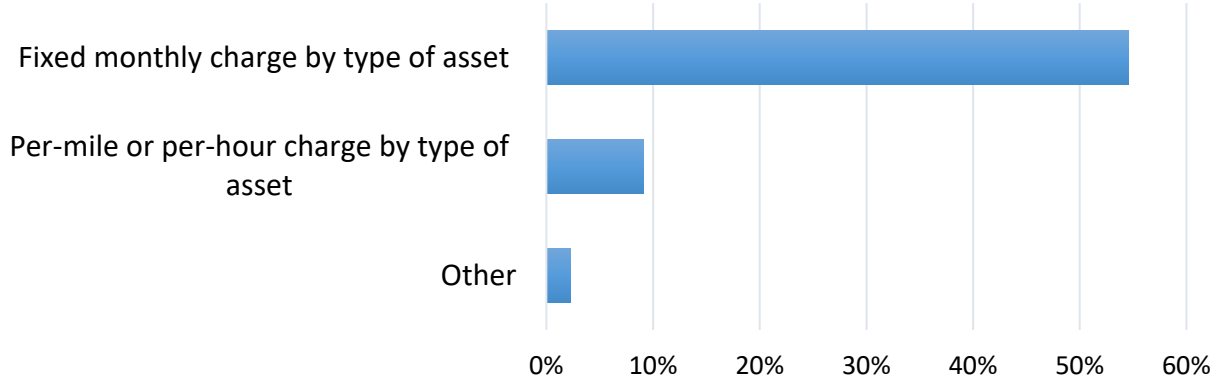
Types of Costs FMO Charges Fleet Customers



Cost Charge-back Rate Structure for Operating Costs



Charge-back Rate Structure for Capital/Replacement Costs



FLEET INDUSTRY TRENDS, CHALLENGES AND OPPORTUNITIES

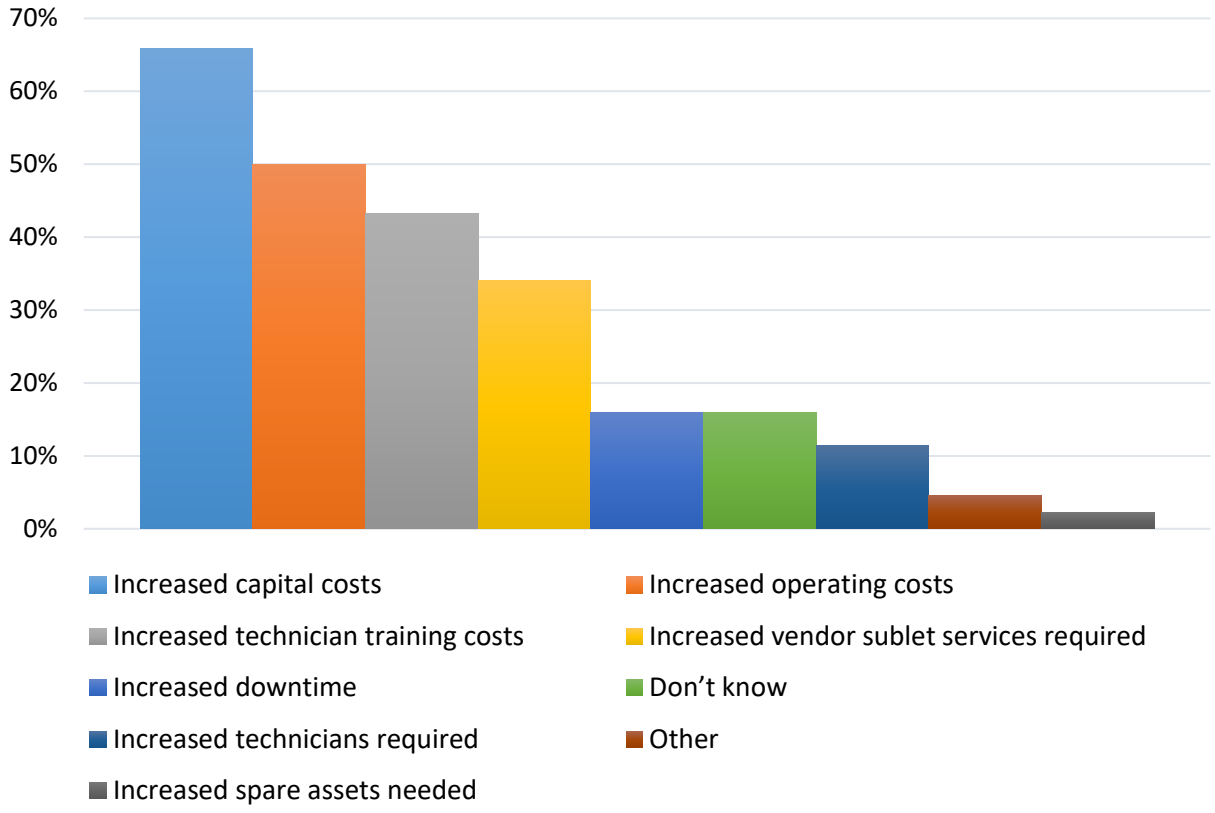
Inevitably, changes in workforce, technological advancement, socio-political influences, and the economic climate effect industries in a multitude of ways. Through our questions below, we aimed to learn more about four key trends in the fleet industry today are impacting state government and university FMOs.

KEY OBSERVATIONS

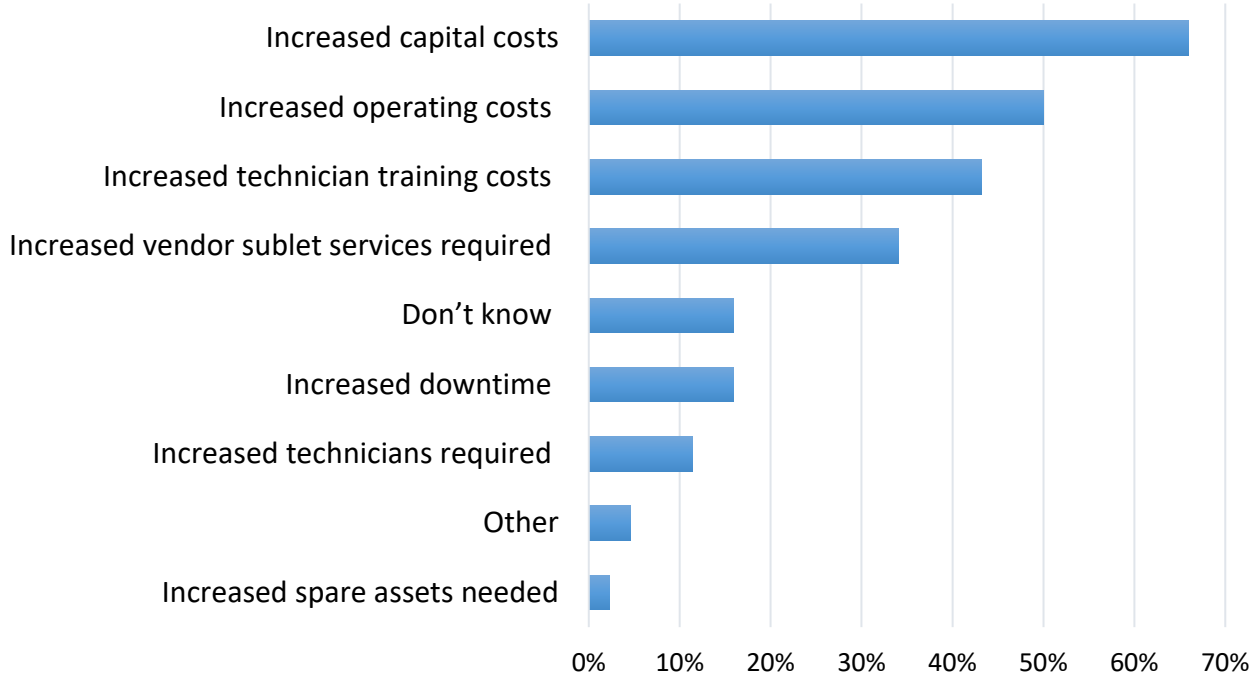
- Technological advancements and alternative fuel vehicles have had similar impacts on state government and university FMOs. As alternative fuel vehicles consolidate in type and design, most probably becoming increasingly electric, the impact on operating costs should be significantly lower, and in fact, will most likely lead to a decrease in operating costs.

- The positive economy has impacted state and university fleets in all of the expected ways, however it is unfortunate that FMOs have not been able to seize the opportunity to invest in employee engagement at the same pace as other positive impacts, especially considering the challenges organizations have noted in finding qualified technicians due to the exit of baby boomers from the work force.

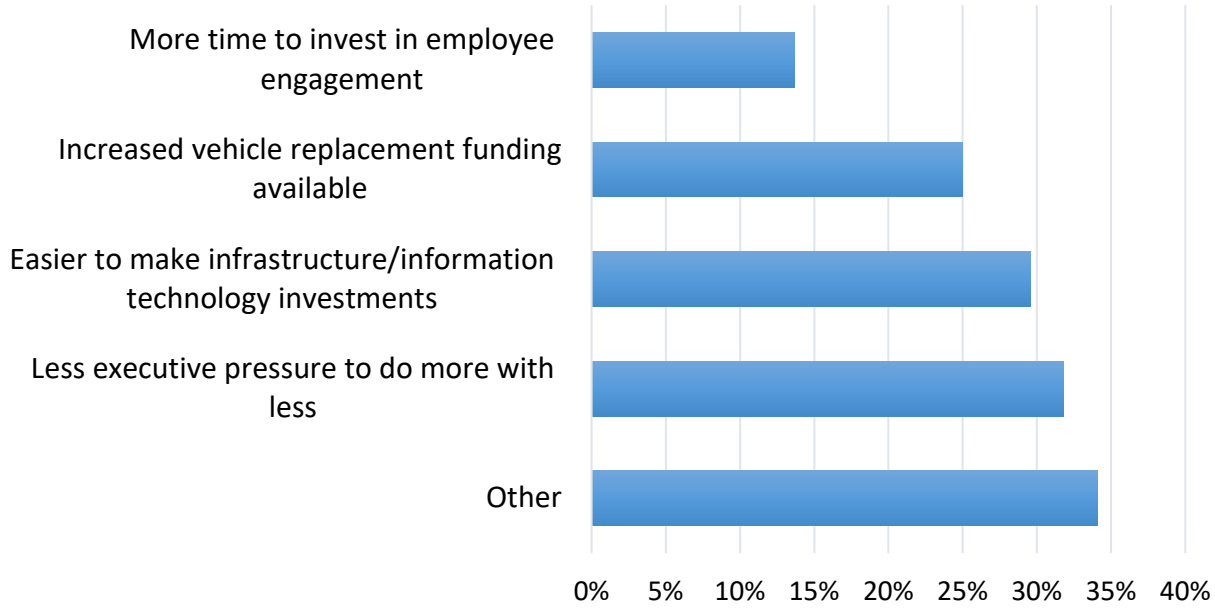
Rapid Advances Automotive Technology Impacting Costs



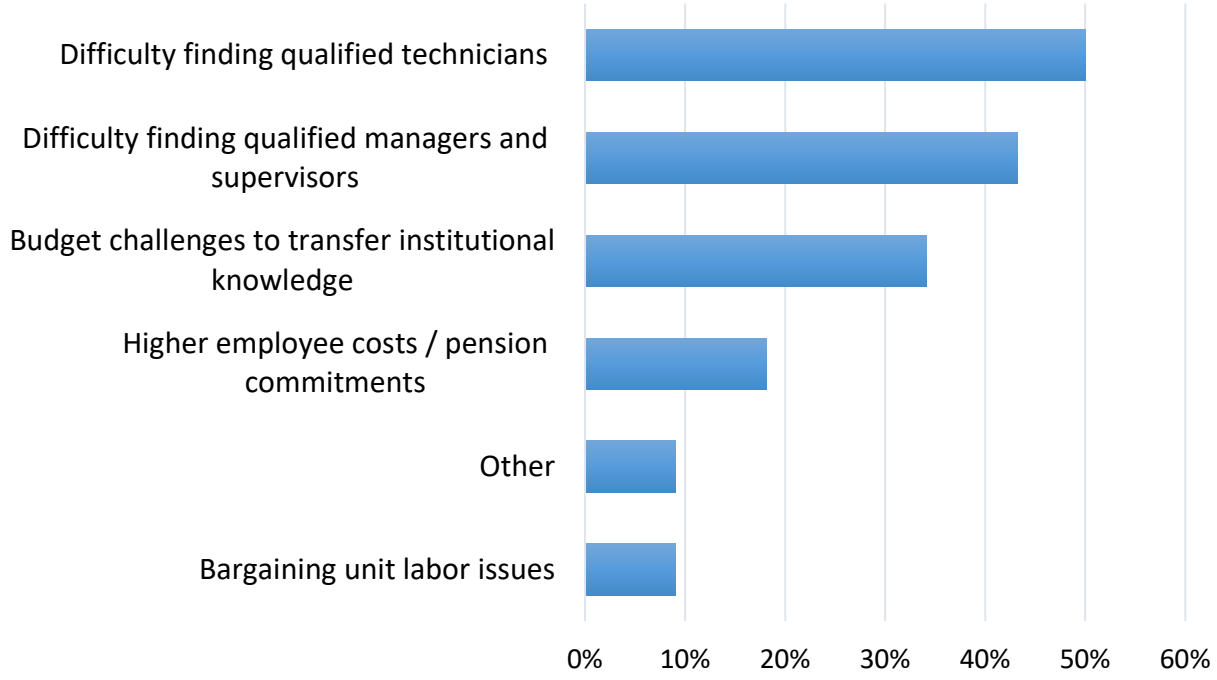
Alternative Fuel Vehicles Impacting Fleet



Effect of Economic Improvement



Impact of Baby-Boomers Retiring



KEY CONCLUSIONS

FLEET MANAGEMENT BUSINESS PRACTICES ARE NOT SUFFICIENTLY INSTITUTIONALIZED

As a whole, the FMOs who participated in the survey do not have adequate documentation of their business practices across all fleet management functions in the form of formal fleet management policies and procedures. Developing and implementing a comprehensive set of policies and procedures is a tedious process, which is precisely why so many FMOs lack one. However, it is one of the foundational pieces of an effective fleet management program whose importance will only grow as Baby Boom-generation fleet management professionals retire and the organizations for which they work lose decades of technical expertise and practical experience in managing and/or interacting with senior management and elected officials, employees, suppliers, and customers. A sound policy and procedure manual helps to "institutionalize" this knowledge, thus preparing an FMO to continue functioning competently in spite of the "brain drain" that occurs when veteran employees retire. The process of developing policies and procedures, moreover, affords an FMO the opportunity to systematically assess the soundness of its current business practices and identify improvements needed to both ensure basic competency and to position it to cope with the myriad changes in the worlds of transportation, employee mobility, and fleet asset management that currently are bearing down on states and state universities.

DATA CALL INTO QUESTION THE HIGH DEGREE OF SATISFACTION WITH FLEET REPLACEMENT PRACTICES

Ten years removed from the Great Recession, it is heartening, but not unexpected, to see that FMOs generally feel that they are doing a pretty good job in the area of fleet replacement. After all, a rising tide lifts all boats. Effective fleet replacement practices can compensate for deficiencies in other areas of fleet management, such as maintenance and repair, in which anything other than slow, incremental improvement is often difficult to achieve due to the weight of long-standing work practices, restrictive work rules, organizational inertia, and "politics." However, survey response data suggest that the next economic downturn may result in setbacks to many respondents' fleet replacement plans and budgets. The fact is that sizable percentages of survey respondents do not have critical elements of an effective replacement program in place, and average vehicle ages indicate that, improving economic conditions notwithstanding, vehicles – especially large trucks and heavy equipment – are not being replaced in accordance with target replacement cycles.

COST TRANSPARENCY AND ACCOUNTABILITY CAN BE IMPROVED

While the majority of survey respondents are ISF organizations that charge their customers for fleet assets and asset management costs, the most commonly used charge-back rate structures employ rates that combine asset capital and operating costs. Given the many industry changes impacting fleet owners today, FMOs, their customers,

and senior decision makers all need to have a clear understanding of fleet costs, especially as they pertain to trade-offs between fleet capital and operating costs; trade-offs between in-house and outsourced fleet asset management service levels and costs; and the costs of alternative methods of meeting employee mobility needs. A well-designed cost charge-back system makes all of these costs *visible*; many charge-back systems used by state government and state university FMOs do not do so.

TECHNOLOGY "ENABLEMENT" OF FLEET MANAGEMENT PRACTICES MUST ACCELERATE

A fleet management information system must be more than a digital record keeping system. A properly configured and deployed FMIS is perhaps *the* key tool in the fleet industry for making decisions that lead to better cost control, process improvements, reduced fleet total cost of ownership, and improved fleet performance (reliability, safety, sustainability, etc.). FMOs that fail to leverage information technology to the fullest extent possible are not just behind the times in a rapidly evolving world of data immersion and data-driven management, but especially vulnerable to the loss of practical experience of long-time employees that has enabled many of them to get by without true data-based work practices. It is revealing that almost two-decades after the rise of Windows-based fleet management information systems, healthy majorities of survey respondents who operate their own shops admitted that they measure neither the efficiency nor the effectiveness of the maintenance and repair shops or work forces. Investing in information technology such as a work order management or vehicle telematics system only makes sense to the extent that these tools actually improve fleet-related operations management, performance measurement and improvement, demand forecasting, planning, and resource allocation. Much room for improvement appears to exist in the technology enablement of fleet management practices in these and other areas.