FEDERAL FLEET DATA & PERFORMANCE METRICS

FAST Vehicle Level Data, Data Cleansing and Quality Control, and Performance Metrics

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COVER STORY

Federal Fleet Data & Performance Metrics
FAST Vehicle Level Data, Data Cleansing and Quality Control, and Performance Metrics

BY W. KENT CARNEAL, CFFM, NORTHERN VIRGINIA CHAPTER

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WWW.NPMA.ORG
Dear fellow NPMA members,

In keeping with my New Year theme to challenge yourself for the betterment of your career and for those interested in giving back to the profession, try writing articles for this magazine, developing presentations for seminars, teaching educational courses, or serving in one of the many volunteer roles available at the chapter, regional and national level. You will find that you get back much more than you put into it. To quote my friend Jim Dieter: “I can’t imagine my career without the NPMA.”

I recently spoke to a group of students studying Law, Contracts and Property at California State Polytechnic University, Pomona (Cal Poly Pomona) about the benefits of NPMA and an exciting career in Property and Asset Management. I told them if there was one thing to take away from my presentation, it was that I urged them to join an association like NPMA and take full advantage of the opportunity to volunteer, learn, and develop a strong professional network. And so, I urge each of you to do the same. 2019 is going to be an exciting year for NPMA, and I’m glad we’re all moving forward- together.
CENTRAL REGION EDITOR  SCOTT PETERSEN, CPPM

PROPERTY MANAGERS AS HEALERS

Not too long ago, I was sitting in a small sparsely decorated room that had a single frameless piece of art with a peacefully sleeping baby photographed by an aspiring Anne Geddes fan. It was no doubt placed in an effort to be a calming counterbalance with the other permanent items in the room. The hygienic cabinets with assorted cotton swabs, gloves and gauze, the paper-covered examination table, and the biohazard bin rounded out the entirety of the décor.

I was a patient, being patient, waiting for a medical practitioner to come and practice. I wanted to discuss a health concern that had been persisting with time, and the scale in the doctor’s office had confirmed that my wife had only married 87% of me. When I asked the physician’s assistant what course of treatment should be taken, he used our profession’s tried and true answer for all things: “it depends.”

Just like those in the medical profession, we too are practitioners. Thankfully our exposure to pathogens is much more limited.

In medicine, a disease is an abnormal condition that negatively affects the structure or function of part or all of an organism. The same could be said about a deficiency, in that, it too is an abnormal condition that negatively affects the structure or function of an outcome or a property management system. Once a property deficiency, misappropriation, or challenge is brought to our attention, it’s our mission as property stewards to attend to it.

First, we diagnose the state of our property deficiency by identifying the nature and cause of the singularity through the use of logic, analytics and experience to determine cause and effect.

Next, we produce a prognosis providing an educated prediction to determine if the signs and symptoms are indicative of a systemic failure or a localized mistake.

Finally comes the repair of the undesired effect: the treatment or corrective action. This may require many follow-up “visits” to ensure the recommended course of action provided both the desired relief and that any side-effects were acceptable.

As with all practice-based occupations, prevention is key to keeping any system running at maximum efficiency. We regularly “check-up” our systems, healthy or otherwise with internal audits and self-assessments. We also keep up to date with regulation “boosters” and review new contracts for “immunization” clauses.

We expect our medical professionals to keep current with industry leading practices and procedures. As property professionals, we can do the same by continuing our studies of current and relevant resources like The Property Professional.

From your National Editor: This issue is primarily focused on Fleet Management.

We start with our Cover Story “Federal Fleet Data & Performance Metrics: FAST Vehicle Level Data, Data Cleansing and Quality Control, and Performance Metrics” by W. Kent Carneal, CFFM, followed by “Adding Value: What Property Professionals Can Learn From Their Fleet Counterparts” by Mike Showers, CPPM and William Gookin, CFFM; a report on a survey of our CFs conducted by our Central Region Editor, Scott W. Petersen, CPPM, “Q&A: Consulting Fellow Cerebral Data Stores;” and finally “Get Ready; Vehicle Technology is Changing Fast!” by: Fabian Cardona, CFFS, DC.
Lauren C. Williams reported in FCW that the Defense Advanced Research Projects Agency will soon begin testing new devices that can house and share information on multiple security levels.

The devices are part of the Secure Handhelds on Assured Resilient networks at the tactical Edge (SHARE) program, which aims to solve three issues with information-sharing specific to the Defense Department: housing multiple security levels on a single device, improving tactical network technology to support those levels at scale and deploying software to auto-configure the network and speed up provisioning devices.

The full article can be found at https://fcw.com/articles/2019/02/07/darpa-secure-mobile-williams.aspx

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NPMA Colleagues-

In the last edition of The Property Professional, I wrote about using the SIG forums as a way to post questions and receive guidance from your colleagues. Although, I do not use Facebook anymore, I have been told that the platform has also become a sounding board for NPMA Property Professionals to receive guidance. I would encourage you to not only use Facebook to post your questions, but to also turn to the SIG community. The SIG space is neutral ground to submit and receive guidance to all your property related questions.

Over the past several months, SIG activity has slowed and there are only a few members who are active on a regular basis. It seems that we have lost momentum on our SIG forums and blogs, and I want to work the SIG community to build up that activity. Please let me know what would draw you back to the SIG, what you think would help build up the community activities and any other comments/suggestions you may offer on how to improve our SIGs. I can be contacted via email at scottray@stanford.edu. Any and all messages will be read and noted. I look forward to working with you!

Join NPMA SIGs to be part of a professional community that advances knowledge, as well as leadership, and provides the tools, resources, and opportunities to enhance and support your professional performance. www.npma.org/SIGs

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FEDERAL FLEET DATA & PERFORMANCE METRICS

FAST VEHICLE LEVEL DATA, DATA CLEANSING AND QUALITY CONTROL, AND PERFORMANCE METRICS

BY W. KENT CARNEAL, CFFM, NORTHERN VIRGINIA CHAPTER
February 29, 2016 was the day I attended the Motor Vehicle Executive Council (MVEC) meeting that introduced a new and challenging requirement for Federal fleets: Vehicle-Level Data (VLD) reporting. Why was this so significant?

Instituting VLD reporting changed the game. Previously, agencies reported Federal fleet data through the Federal Automotive Statistical Tool (FAST) in aggregated groupings of vehicles. In contrast, and as the phrase suggests, VLD requires that data be reported vehicle by vehicle. The shift to VLD simplified the submission process while raising the bar in other ways. The change introduced that day had elevated the importance, expanded the scope, and provided an immovable deadline for a recently assigned task at the agency where I worked under contract. Within days of the MVEC meeting though, I found myself on a team dedicated to two tasks: 1) redesigning the agency’s asset and fleet information systems to accommodate multiple, VLD-required changes; and 2) performing the data cleansing needed for a successful VLD submission. What follows are some of the real-world lessons learned during that exercise and the ensuing work required for continued success in Federal fleet data reporting.

VLD BUSINESS RULES AND DATA ELEMENTS

While submitting an asset list is more straightforward than submitting groups of vehicles in aggregate, the business rules instituted with VLD reporting required agencies to capture and use some new data elements. Many of these “new” data elements were hardly new at all (e.g., Model Year, Make, and Model) while others were, indeed, entirely new attributes (e.g., Vehicle Assignment Type and Fuel Type/Configuration among others).

The new data elements made it necessary to create new fields in their respective information systems then backfill them with data for every vehicle. Other not-so-new data elements would require cleanup efforts to satisfy their associated VLD business rules. For example, a vehicle’s Make must be submitted as specified by a defined list in the Federal Automotive Statistical Tool (FAST) (i.e., CHEVROLET can no longer be abbreviated to “Chevy”). Other rules enforced relationships between various and multiple data elements, necessitating a clear and in-depth knowledge of applicable Federal regulations. In summary, VLD’s extensive business rules created a new paradigm in Federal fleet management and, more importantly, a requirement to conform to it.

If you are accountable for vehicle data entry, FAST reporting, or are responsible for the folks who perform these tasks, you are on the front lines of a war against bad data. VLD’s rules are designed to control and enforce acceptability of fleet data and to promote its reasonability. Understanding the VLD business rules, like understanding Federal fleet regulations, is a new and additional key to successful Federal fleet management because the information you report in FAST is the basis for the Federal Fleet Report, an annual and publicly available report published by the General Services Administration (GSA).

Fortunately, the FAST administrators have provided the resources needed to help you understand and adapt to VLD reporting. They consist of a Data Element Reference (DER), which defines the VLD data elements; a Business Rules Reference (BRR), which enumerates and defines each rule; a Cost Reporting Decision Tree, which is essential for classifying fleet costs correctly; and VLD frequently asked questions. For your convenience, all of these items are available for download from the FAST Help website at https://fastweb.inl.gov/help/index.cfm/resources/vehicle-level-data.

At this point, you may be wondering: “Why are the rules so important?” In short, because of blocking rules. VLD business rules fall into one of three categories; schema rules, blocking rules, and flagging rules. The implications of breaking schema
and blocking rules are similar. Blocking rules (both schema and blocking) do what the name suggests; they block the data submission, not just the data related to the vehicle that caused a problem but the complete file. Let’s do a little simple math to illustrate the impact. As of this writing, 130 blocking rules apply to the 38 data elements required for each vehicle. Therefore, for every 1,000 vehicles submitted, you face 130,000 opportunities for the entire submission to fail. Not all rules apply to every vehicle, but the point is evident: FAST-compliant data is a must in every information system used to manage your organization’s Federal fleet data.

SOURCES FOR VALID DATA

With plenty of data cleanup to do, most people will be looking for sources of valid information to support that effort. Some valuable and helpful sources include:

1. The vehicle. New or used, vehicles have multiple stickers that contain relevant VLD-type information. Inspecting acquired vehicles thoroughly is imperative: first, to verify you’ve received what you ordered; second, to inspect for damage; and third, to collect vital information.

2. Originating documents. A Certificate of Origin or vehicle title, the Federal Safety Certification label (the sticker in the driver’s door jamb that has the VIN [vehicle identification number], GVWR [gross vehicle weight rating], and tire pressures on it), and the often-overlooked Manufacturer’s Window Sticker are all great sources of information. If you’re cleaning up data post-acquisition, you may not have the window sticker. However, in some cases, these can be found at http://windowstickerlookup.com. Window stickers alone contain many VLD-required vehicle attributes and more, including standard and optional equipment, the destination market (applicable to Energy Information Security Act, section 141 compliance), warranty and safety ratings, fuel economy, greenhouse gas scores, and CO2 (carbon dioxide) grams/mile.

3. The FAST DER and BRR. FAST business rules define specific lists that must be used for some data elements. In these cases, submitted values must match exactly those provided and use the specified case and syntax. Default values can be used for several data elements. The defaults allow the FAST system to derive the correct value from other data elements or to substitute a value where none exists.

4. The National Highway Transportation Safety Administration’s (NHTSA) VIN decoder. NHTSA has a publicly available, free, online VIN decoder for generating standardized, manufacturer-supplied information for most domestic and commonly imported vehicles. Decoding can be executed on a single VIN or in batches; see https://vpic.nhtsa.dot.gov/decoder and https://vpic.nhtsa.dot.gov/api respectively.

5. GSA Federal Vehicle Standards. When all else fails, you can go to https://vehiclestd.fas.gsa.gov/CommentCollector/Home and look up, by Model Year and Vehicle Type or Standard Item Number (SIN), the GSA’s minimum vehicle standards for vehicles as far back as 2009.

DATA CLEAN-UP STRATEGIES

Based on agency experience, we can recommend several practical strategies that will help you be more efficient during your cleanup effort.

1. Use the VLD Excel upload template as a starting point. Assemble your data in the VLD upload template, upload it into the FAST Sandbox, and obtain an error report. The error report will list every blocking error that exists in your dataset; for planning and communication purposes, it’s helpful for determining the level of effort required during the cleanup effort. If you don’t have access to FAST, your agency’s FAST administrator can help.

2. Sort your data by VIN. Sorting by VIN will group like vehicles together, enabling you to take advantage of the auto-repeat functionality in Excel; e.g., when changing multiple instances of ‘Chevy’ to ‘CHEVROLET.’ Occasionally, after sorting your data by VIN, you may find a vehicle that is out of place; e.g., a Ford Fusion in the middle of a list of Chevrolets. In this case, the VIN and the vehicle attributes (Year, Make, Model, etc.) don’t corroborate each other. Study the procurement and originating documents carefully before making changes.

3. Work from top to bottom and left to right. The DER lists data elements in a specific order. Some attributes listed later in the DER are dependent upon the values resident in earlier items. Working from top to bottom in one column at a time, and in successive columns from left to right, will prevent rework. (More on this in number six)

4. Plan ahead. The focus of your effort is to correct the data at its source, wherever it originates in your agency’s web of information systems and wherever it is subject to updates. Plan to track which data elements you need to change. Keep the ‘from’ and ‘to’ values in separate columns in the
workbook, then use conditional formatting to highlight the differences. If for no other reason than keeping track of where you are when making corrections, you’ll be glad you did. If you identified hundreds, thousands, or even tens of thousands of errors in step 1 above (expect it on the first run), enlist the help of an IT professional and work out your process for pushing corrections back into the source data systems, including determining what additional columns will be in your workbook and the headers for those columns.

5. **Use VIN decode and GSA data as a lookup.** VIN decoding is the quickest way to obtain large amounts of clean data for this project. Paste the data into a separate tab, then use a combination of the INDEX and MATCH functions in Excel to look up decode data by VIN to populate your ‘change to’ columns. GSA Drive-thru data (accessible if the agency has GSA-leased vehicles) can also be used as a look-up (by matching several attributes) if you have similar vehicles that are both leased and owned.

6. **Make corrections in source data systems as you go.** Ideally, after identifying corrections in one column, push them back into the source systems before moving on. Because of the data dependencies discussed earlier, what was once an error in a later data element (farther to the right) may now be acceptable, or vice versa. Making the corrections, recompiling the VLD data, and resubmitting it to the FAST Sandbox will enable you to get a current and more accurate error file.

7. **Submit your data to the FAST Sandbox repeatedly.** Not only will errors change as you go, but you will want to track and report your progress to management and leadership. Monitoring progress with ‘remaining error count’ and ‘errors corrected per day’ metrics will help demarcate a finish line (or get much-needed help if the forecast is grim).

8. **Pull your flagging errors sooner rather than later.** Unearthing a large number of flagging errors will help to keep your leadership and support team focused on the agency’s fleet data issues. When most of the blocking errors have been cleared, submit a data file to the Sandbox that excludes vehicles that have known blocking errors. Because FAST will not show flagging errors until all the blocks are removed, this is the only way to get a flagging error report. Create new flagging-error metrics to track progress and keep others engaged. Note that Federal agencies are asked to give reasons for their flagging errors so they should not be ignored. Note also that, when you have a clean submission ready, you are only half way to the real goal: information systems and system users who create clean fleet data.

**ERROR PREVENTION STRATEGIES**

Two predominant and common issues explain the bad data that exist in your agency’s information systems: 1) a lack of constraints and validation in those systems, and 2) a lack of training and guidance for personnel responsible for data entry. Database constraints and validation routines are similar to the blocking rules discussed earlier. Constraints prevent **unacceptable** data entry, while data validation prevents users from entering **unreasonable** data. For example, a constraint would prevent you from entering a date in a GVWR field that requires a numeric value, and a validation routine would enforce a reasonable range for the number entered into that field. Therefore, to promote data quality, have the constraints and validation rules in your databases and applications set to enforce as many of the FAST business rules as possible (another good reason to have strong IT support throughout this project).

Training, on the other hand, ensures that fleet data entry personnel understand, for example, that a GVWR is a number that represents the manufacturer’s not-to-exceed weight for a particular vehicle and its passengers and cargo. Meanwhile, guidance documents on the topic would reiterate that fact and help users understand, among other things and in terms of FAST reporting, that a vehicle with a GVWR under 8,501 Lbs. must have a light-duty vehicle type assigned to it.

**DATA QUALITY CONTROL STRATEGIES**

Other opportunities exist for fleets to promote a successful FAST submission, including:

1. **Where applicable, policy should align with and support FAST reporting.** For example, in policy and practice, fleets should classify and report vehicle upfitting costs (monies paid to modify a vehicle to suit mission requirements) as acquisition cost per the FAST Cost Reporting Decision Tree.

2. **Agencies should work periodically throughout the year toward a successful FAST submission.** To that end, the FAST reporting process should incorporate compiling and submitting trial VLD data to the FAST Sandbox quarterly and performing any requisite data cleanup, as well as user training or IT system updates to reduce user or system-allowed/created errors.

3. **Agencies should track and work proactively to correct instances of missing and erroneous data.** Many Federal agencies struggle with poor transactional data for fuel, a significant cause of VLD blocks and flags. Periodically submitting trial datasets to the Sandbox keeps an agency informed regarding its data quality and the simple metrics that can be derived can help motivate change. And, if the errors are attended to throughout the year, the workload during FAST reporting will undoubtedly be less stressful.

4. **Agencies should make use of the Sandbox Data Quality and Consistency Report (DQCR).** Aside from reporting errors, the FAST Sandbox makes a Data Quality and Consistency Report (DQCR) available to users. The DQCR tracks 13 data quality metrics and makes five data consistency tables accessible to the user. The DQCR is a no-cost way of monitoring reporting trends in FAST, including the current submission and four previous years. If you started with large numbers of errors, you could expect the DQCR to highlight any significant changes in the trends. Big changes
can and do occur, but they should also make sense in light of the cleanup effort. The DQCR's various metrics present an excellent opportunity to see where you stand and where you’re headed on multiple fronts.

PART 2: PERFORMANCE METRICS

Metrics result from processes for developing objective data and information. They are not merely numbers; rather, they are outputs from collecting and manipulating data. Usable metrics depend on business processes that produce accurate and comprehensive data inputs.

Each metric is quantifiable and repeatable and can be used to develop one or more benchmarks, which are standards an organization uses to measure progress (or lack thereof) against past performance. Well-designed metrics are clearly and thoroughly defined, timely, and are effective indicators of how well goals and objectives are being met. They help you ask the right questions about performance, can eliminate speculation, and can enable apples-to-apples comparisons with peer organizations (an essential reason for carefully defining your metrics). And most importantly, metrics can motivate positive change in an organization when used to inform the right people, whether leadership, staff, or customers.

In Part 1, I recommended monitoring your data-cleanup progress by tracking the number of blocking and flagging errors you encounter as you submit trial datasets to the FAST Sandbox. The blocking-errors metric is simple, clearly understood, easy to calculate, and helps motivate and communicate progress toward the goal of producing a successful VLD submission. It is a quantitative measure of progress.

A flagging-error count is similar but not the same. It is a simple numeric count, but different in that it represents the reasonableness or quality of your fleet data. It’s a qualitative performance metric that informs progress toward submitting an accurate and complete, vehicle-level depiction of your fleet operation.

To get started in developing your metrics, begin at the end. The Federal Fleet Report, a result of FAST submissions that GSA publishes annually, is an opportunity to see your final exam before you take it. The public report is available at https://d2d.gsa.gov/report/federal-fleet-open-data-visualization and contains numerous metrics that compare and contrast Federal fleet performance in various ways, including several side-by-side comparisons of the executive agencies. Few better ways exist to improve the public perception of your Federal fleet’s performance than to 1) understand those metrics, 2) create goals and objectives for improvement, and 3) design and implement in-house metrics that help you track progress toward achieving those goals. The FAST Data Quality and Consistency Report is another excellent source of prepackaged performance metrics that can help you see various areas of performance over time.

METRIC DESIGN OPTIONS

Metric design can sometimes be problematic for both fleet managers and fleet analysts. Why? Because the jobs require two entirely different skill sets. Fleet managers typically don’t have the awareness and skills needed to use the myriad tools available to analysts, who in turn, have a limited understanding of fleet management that can limit or diminish their effectiveness.

To help bridge the gap, I’ve provided a simple table (Table 1) that is designed to illustrate some options for a common fleet metric, cost per mile (CPM). The table includes several VLD fields in the left-hand column that can be used to group, sort, or limit record selection. The calculation (in this case, a cost or combination of costs divided by miles traveled) is shown in the middle column, and the right-hand column contains the VLD cost fields that are available for inclusion. While certainly not exhaustive, laying out your options in this manner may help you envision metrics that meet identified needs or serve as a pattern for collaborating or communicating with an analyst on metric design.

<table>
<thead>
<tr>
<th>Grouping and Record Selection Options</th>
<th>Calculation</th>
<th>Cost Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle Type</td>
<td></td>
<td>Acquisition</td>
</tr>
<tr>
<td>Location</td>
<td></td>
<td>Lease</td>
</tr>
<tr>
<td>LE and ER Designation*</td>
<td>Cost Type(s)</td>
<td>Maintenance</td>
</tr>
<tr>
<td>Agency Sort Field</td>
<td></td>
<td>Fuel</td>
</tr>
<tr>
<td>Armored Designation</td>
<td>Miles Travelled</td>
<td>Accident</td>
</tr>
<tr>
<td>Ownership Type</td>
<td></td>
<td>Indirect</td>
</tr>
<tr>
<td>Fuel Type/Configuration</td>
<td></td>
<td>Disposal</td>
</tr>
<tr>
<td>Assignement Type</td>
<td></td>
<td>Disposal Proceeds</td>
</tr>
</tbody>
</table>

* LE = Law Enforcement and ER = Emergency Response
When designing a metric, it is always best to start with a question. For example, which is lower, the total cost of operating gasoline or diesel-powered light-duty pickup trucks? To get a preliminary indication, divide the sum of all cost factors in the right-hand column (except Accident Costs) by the sum of vehicle miles traveled, group the assets by Fuel Type/Configuration, and use the Vehicle Type field to limit record selection to light-duty pickup trucks. The results will help you see if there’s a significant difference in the total cost-per-mile of diesel and gasoline-powered pickups. If the results are similar, then the situation would call for a full-blown lifecycle cost analysis.

Consider also that costs can vary widely in the example above depending on operating requirements. For instance, a need for maximum towing capacity or ballistic armoring may dictate the use of a diesel engine (making the question moot); nor would it be proper to compare law enforcement or emergency response assets to standard-use assets. An effort should be made to group assets such that side-by-side comparisons are also apples-to-apples comparisons (i.e., by vehicle type and in light of operating requirements).

**AREAS OF PERFORMANCE MEASUREMENT**

Several key areas of performance measurement are common to most fleets; examples of what might be measured and why, include:

1. **Fleet inventory.** Because fleets are costly to own and operate, fleet managers can typically tell you, at a moment’s notice and within a small margin of error, how many vehicles are in their program. While this is admirable, knowing this fact does little to control fleet size unless that very same fleet manager also knows how many vehicles and what types of vehicles have been acquired and disposed of during the current fiscal year. In particular, tracking and following up on planned disposals is critical to managing fleet size.

2. **Fleet costs.** One ongoing objective of every fleet manager should be finding (and implementing) ways to reduce costs without negatively impacting the mission and other management goals. To that end, monitoring the fleet cost categories that are reported through FAST is essential; specifically, acquisition, leasing, maintenance, fuel, accident, disposal costs and proceeds, and indirect costs.

3. **Fleet utilization.** Fleet programs that measure vehicle utilization in distance (miles/kilometers), hours, and trips get a better picture of fleet utilization than those that measure by distance alone. Consider, for example, how a plumber’s truck is used. It travels to a job site and sits while supporting the work of the plumber. Evaluating this type of usage by hours is more effective than the distance traveled. Similarly, measuring utilization of a short-distance shuttle bus by counting trips or ridership is more meaningful than counting miles, especially when passenger safety is a primary concern (e.g., an airport shuttle).

4. **Regulatory compliance.** Federal fleets that operate domestically are required to acquire alternative fuel vehicles (AFVs), use alternative fuels, reduce petroleum consumption, and lower greenhouse gas (GHG) emissions.
among other things. Developing and monitoring metrics aligned with the regulatory goals established in these areas is critical to achieving and maintaining compliance. Meanwhile, many other environmental and safety-related regulations may apply, particularly if your fleet has a maintenance facility or fueling infrastructure, and each begs for some form of performance measurement.

5. **Vehicle maintenance functions.** Fleets that operate vehicle maintenance facilities must remain competitive with commercial providers and peer organizations. Therefore, monitoring the cost of their service delivery carefully, and by extension, the efficiency with which their staff delivers those services, is imperative. Fleet availability, technician productivity, scheduled vs. unscheduled labor hours, stockroom inventory turns, and parts-demand fill-rate are just a few of the critical metrics that must be developed and monitored to manage a vehicle maintenance program successfully.

6. **Fleet operations.** Aside from utilization, other metrics should also be used to track and control fleet usage. Fleets programs that don't track the number of vehicles authorized for home-to-work travel are begging for the wrong kind of attention from an inspector general or politician. Similarly, fleet programs strive to keep motor pool vehicle and driver utilization and bus ridership rates high. Another simple and effective metric is a vehicle count by Assignment Type, a VLD-required field. The associated goal would be to increase utilization by keeping the number of pooled and shared vehicles high in comparison to those assigned to offices or individuals.

7. **Fleet safety and risk management.** While safety and risk management are operational in nature, their importance and the frequency with which fleet programs ignore them necessitates special attention. When it comes to the safety of drivers, passengers, and pedestrians, the importance of proper vehicle maintenance and driver training and accountability cannot be understated. This is particularly true in overseas locations where differences in laws, road conditions, cultural norms, and climate and topography can combine to create significant risks that must be attended to in policy and driver training and accountability programs.

In all cases, a fleet policy document must be clear and comprehensive, and staff must be held accountable for meeting the requirements stated in it. Safety and risk-related requirements should include but not be limited to:

- initial experience levels;
- licensing;
- training and remedial training standards;
- certification and recertification standards;
- performance and accountability standards;
- record keeping;
- route planning and management, and
- drug testing where appropriate.

The typical metrics that apply to the topic are:

- collisions per million miles;
- the percentage of chargeable or preventable crashes;
- collision repair costs;
- injuries or fatalities;
- annual training hours expended or training hours per driver, and
- the number or percentage of driving records and routes reviewed.

**CONCLUSION**

The implementation of VLD reporting in FAST, with all its rules, has already caused Federal fleet data to improve significantly. Undoubtedly, as agencies continue to adjust to VLD, fleet managers across the Federal sector will begin to put more trust in their data. As they do, they will find the implementation of VLD reporting a benefit because it will have further enabled them to measure and manage for success.

**ABOUT THE AUTHOR**

W. Kent Carneal, CFFM, is a senior consultant at Mercury Associates. He has 36 years’ management experience with fleet assets, budgets and funds, contracts, and business process development. He is experienced in fleet cost charge-back systems, vehicle replacement planning, school bus regulations, regulatory compliance for fuel sites, and the deployment and use fleet management information systems with emphasis on data analysis and custom reporting. Prior to joining Mercury, Mr. Carneal was a fleet manager at Loudoun County Public Schools, which operated over 850 school buses and 400 administrative and support vehicles. He oversaw the Loudoun County Government / Loudoun County Public Schools consolidated vehicle maintenance facility, which supported over 2,500 assets. During his tenure with Loudoun County, Mr. Carneal served as FMIS administrator, fleet maintenance supervisor, and shop foreman, including transit bus maintenance oversight. Mr. Carneal is a former ASE-Master and L1 Certified Technician and Virginia Class A UST Fuel Site Operator.
Can we add value to our organizations by moving beyond accountability and disposition? Can we use our expertise in other areas that guide and support management decision-making regarding agency held property? Fleet managers are already headed down that path. It might help to step back and look at where we, Federal property managers, are and where our fleet compatriots are leading the way.

**Is “accounting for” the same as “managing”? Can we do more?**

Government property has, for many years, been governed by Public Buildings, Property and Works, 40 United States Code (U.S.C.), commonly referred to as “The Property Act.” In effect, the Act gives the General Services Administration (GSA) authority to provide regulatory guidance related to some aspects of civilian management of Government property. It also establishes some property management requirements for Federal agency activities, specifically those related to accountability and disposition.

Historically, GSA’s property management regulatory guidance, appearing in the Federal Property Management Regulation, was fairly comprehensive. The guidance covered a range of possible property actions, including, but not limited to: planning for acquisition, cataloging, storage, maintenance, utilization standards, repair vice replacement, and finally, disposition. Much of this guidance related to equipment common to that era, and, as a result, might appear dated today. However, it documented some reasonably effective tools for data collection and management decision-making.

The principle Federal agency property management guidance now resides in the Federal Management Regulation (FMR). As currently written, the FMR sections devoted to personal property predominantly concern disposition of personal property by various means.

Unfortunately, in response to calls for regulatory reduction, some agencies also reduced their internal guidance. In some instances, this resulted in a void of guidance for segments of the property management life cycle within those agencies.

However, the Property Act places primary responsibility for the accountability and initial disposition actions for personal property on the Federal agencies themselves. As partly stated in 40 U.S.C. § 524: “Each executive agency shall (1) maintain adequate inventory controls and accountability systems for property under its control; (2) continuously survey property under its control to identify excess property; (3) promptly report such property to the Administrator of General Services; (4) perform the care and handling of excess property; (5) transfer or dispose of such property as promptly as possible in accordance with authority delegated and regulations prescribed by the Administrator.” Additional requirements related to utilization, reporting, and disposition of excess real property follow in the section.

Additionally, 40 U.S.C. § 121 requires the Administrator of General Services to work with the Comptroller General and other executive agencies to develop accounting systems for Federal property. The term “system” includes information technology components as well as the non-automated processes and procedures used to account for Federal property.

These laws, combined with the requirements of the Chief Financial Officer (CFO) Act of 1990, have resulted in greater emphasis on accountability and inventory control as opposed to the full life cycle management of property. The attention of Federal civilian agencies is often directed at accountability, physical inventory, and loss-reporting for equipment. Due to limited resources for property management, other recognized management outcomes too often move to the back burner.

Organizational constraints and budgetary control invariably have resulted in placement of the authority to achieve other important outcomes (such as maintenance, acquisition planning, utilization, and storage) within the associated Government program, Information Technology (IT) office, or in an activity separate from, and not accountable to, the property management office. In these cases, the pot on the back burner may be completely removed from the stove.

Most metrics for Government personal property seem to be tied to the success of the recordkeeping system and processes. They are often limited to reporting general loss findings and the results of physical inventories (in terms of found, not found, and required record adjustments, such as changes to location or user) and overages. While each is important, they fail to paint a complete picture of the success of a property management system. Further, loss reports can be the fodder of sensational findings because lost property is something everyone readily understands. This is without regard for whether the property held adequate value, either monetarily or in terms of its societal impact or usefulness to the Government.

In fact, the legally required reports are limited to disposition actions, in the Non-Federal Recipients report and the Exchange Sale report. This raises the following logical questions: Where will attention go, if this is what is recorded and reported? How will we know if our overall management of property is effective? The inevitable result will be that many of the following types of questions will go unanswered:
• Are our maintenance programs effective in terms of equipment availability and cost?
• Are we making the best use of our storage space/resources by limiting the retention of unused items?
• Are we fully utilizing our property; or is much of it sitting idle, either in storage without planned future use, or awaiting possible reuse through the disposition process?
• Are we maintaining property/equipment appropriately?
• Are we ordering what we need or are we ordering what we want?

Responsible agencies should develop internal guidance for other outcomes associated with the management of personal property or segments of a full life cycle property system. FMR Bulletin B-18 encourages supplementing the FMR and developing agency guidance using appropriate Voluntary Consensus Standards.

WHAT IS FLEET DOING?

In response to U.S.C., Energy Policy Act (EPAct), Code of Federal Regulation (CFR), FMR Bulletins and, in particular, Executive Orders, the fleet community is moving to incorporate additional property management outcomes and innovations in their work. We in the property profession should consider their activities and what is appropriate for the profession as a whole.

News Flash!!! Motor Vehicles Are Personal Property. Fleet managers typically work for organizational property managers, and in some cases, department-level property managers are surprised to learn that fleet is part of their organization. In the latter case, the property managers often do not fully understand or appreciate the level of complexity or the statutory and regulatory requirements that govern the acquisition, operation, management, and disposal of motor vehicles.

The Federal government currently operates the largest civilian fleet in the world with more than 640,000 vehicles as reported in the most recent Federal Fleet Report (2015) with an estimated annual cost of over $4 billion dollars. With a new vehicle level data (VLD) reporting requirement as part of the annual FAST report, this dollar number is expected to increase. Government owned and leased motor vehicles are accountable personal property. The reporting metrics differ significantly, which means the fleet manager not only has to ensure vehicles are accounted for in the property system but that they are also available to meet mission requirements. The fleet manager must also track multiple metrics to ensure efficient and effective management of the fleet as well as meeting organizational requirements, regulatory mandates, and Federal and state laws.

One of many Federal laws the fleet manager must be aware of is the Energy Policy Act. Under that law, the agency must monitor and acquire alternative fuel or low greenhouse emitting vehicles, unless none of the requisite vehicle types are available that meet mission requirements.

Other fleet-related requirements originate within the Executive branch. For example, Exec. Order 13834 Section 1 (2018) states:

“The Congress has enacted a wide range of statutory requirements related to energy and environmental performance of executive departments and agencies (agencies), including with respect to facilities, vehicles, and overall operations. It is the policy of the United States that agencies shall meet such statutory requirements in a manner that increases efficiency, optimizes performance, eliminates unnecessary use of resources, and protects the environment. In implementing this policy, each agency shall prioritize actions that reduce waste, cut costs, enhance the resilience of Federal infrastructure and operations, and enable more effective accomplishment of its mission.”

Fleet managers are required to ensure that motor vehicle fleet-related statutory and regulatory requirements are met; these requirements call on fleet managers to promote fleet accountability by pursuing reductions in fleet size and identifying and selecting the most efficient vehicles relative to mission requirements. They must develop and execute plans that result in reductions in vehicle miles travelled, reductions in petroleum consumption, and increase alternative fuel use. When renewing their fleet, they must replace vehicles with more fuel efficient, alternative fuel (AF) (where AF is available), or low greenhouse gas-emitting vehicles where AF is not available. To accomplish these tasks, the fleet manager must (i) work with facility, environmental, and financial offices to plan, design, and install alternative fuel infrastructure; (2) locate alternative fuel vehicles where the appropriate fueling infrastructure is available; and (3) ensure that appropriations are in place to cover costs.

As with other types of personal property, several FMR and other Code of Federal Regulations requirements establish minimum asset accounting and reporting standards. To manage the agency fleet, a fleet manager requires a state-of-the-art fleet management information system (FMIS) that can capture fleet operational data and meet the new VLD requirements.

FMIS data can be used to make more informed decisions that affect reliability, availability, and efficiency. To promote reliability, fleet managers can use repair data to spot trends in breakdowns and get to the root causes. Fleet data can be used to promote vehicle availability through tracking of motor pool reservations and vehicle downtime. And fleet data can promote efficiency by letting fleet managers know the total cost of ownership for the owned vehicles (including all operating costs); when the best time is to replace vehicles for fleet renewal; and whether it is better to continue owning the vehicle or to lease the vehicle from GSA. The lease vs. own analysis must incorporate indirect costs as well as direct costs and recognize whether sufficient appropriated funds are available to replace vehicles at the optimum time.

A state-of-the-art FMIS can provide the data required for the fleet manager to make these decisions. Often departments and agencies attempt to modify their current property management systems to meet fleet requirements. Not only is this costly, but unlike a robust FMIS, the legacy (in-house) property system will likely not be updated to address ever-changing fleet requirements.

Dependent upon where fleet managers are located within the organizational structure, they typically have differing priorities. For example, the headquarters fleet manager’s priorities typically include compliance with EPAct, Executive Orders, agency and Department of Energy scorecards, fleet reductions, increased alternative fuel use, Federal Automotive Statistical Tool (FAST) submissions, home-to-work use, policy, laws and regulations; whereas the fleet manager in the field is focused on day-to-day operations such as
keeping drivers happy and their vehicles operational, reducing and dealing with accidents, managing license plates, fueling, FAST data tracking and reporting, and other jobs as assigned. ¹⁰

Unlike Federal property managers, Federal fleet managers have had little or no formal training on how to manage a fleet available to them. To remedy this, the National Property Management Association (NPMA) partnered with Mercury Associates to develop the Federal Fleet Managers Certification Program, which is specifically designed for personnel in the business of Federal fleet management.

To further complicate fleet management, many supervisory managers above the fleet manager do not realize their fleet specialists are managing a multi-million-dollar program under the strictures and complexities of numerous Federal and state laws, mandates and other requirements. And to top it off—because fleet gets little if any visibility unless something goes wrong—management often sees no need for the fleet management role to be more than a part-time duty with scant training or support.

The following diagram displays many but not all of the responsibilities of a fleet manager. The graphic illustrates that an effective fleet manager must have full visibility and operational knowledge of the fleet and the individual assets from procurement through disposal.

With the exception of an FMIS and effective fleet management shown in the previous diagram, property and fleet accountability have many similarities as shown in the agency-devised illustration in the previous column at the bottom.

**CONCLUSION**

When we as property managers simply concentrate our efforts on accountability, we are contributing, but we are not fully managing property. In the greater Federal property community, we should consider how some of the fleet innovations can be spread to other classes of personal, and, perhaps, even to real property. What data collected for fleet purposes are equally applicable to property in general; and how might the collection of data such as repair cost, downtime, failure rates, and utilization help make better management decisions? Is the determination of total cost of ownership applicable to other property classes? What policies and processes may be useful and expanded to the profession as a whole? Perhaps we can leverage the work already done to provide greater value to our upper management and to be better property managers. At the same time, knowledge of Federal fleet management requirements can provide a greater appreciation of the efforts of individuals who must perform this work.

**REFERENCES**


**ABOUT THE AUTHORS**

William Gookin, CFFM is an Associate Vice President with Mercury Associates where he assists on Federal agency projects. With over 40 years of experience in all aspects of supply chain management, his background includes managing major government logistical programs in the Department of Defense and National Aeronautics and Space Administration (NASA). Specific areas of expertise include program management, fleet management, transportation, training, packaging, distribution, logistics, real and personal property.

Mike Showers, CPPM is a property professional with over 40 years of property management experience. He began his career managing inventory for Giant Food. As a Federal Government Supply Clerk he recorded inventory transactions and ordered resupply (by hand) for several thousand items of printed material for the U.S. Public Health Service. He retired in early 2014 from his position as the Manager, Contract Property Programs, for the National Aeronautics and Space Administration (NASA), where he represented NASA in the 2007 and subsequent FAR rewrites, as well as being the principle author of the NASA FAR Supplement property related regulations. Prior to NASA, he served as Director, Division of Personal Property Services and Acting Director for the Division of Logistics Services at the National Institutes of Health. Along the way, Showers has held positions in both the civil service and contractor communities. He was a logistics manager for Maxima Corporation and Warehousing and Distribution Project Manager for Macro Systems, Inc. He now owns Asset Management Assistance, L.L.C., a consulting firm. Mike is a past president of the NPMA Harbour Lights Chapter where he also served as one of the Chapter Delegates. In addition, he served as NPMA’s National Seminar Director and National Accreditation Director.
A new kind of data-driven public/private partnership is emerging as the number of dockless vehicles in cities grows. Both government entities and “urban mobility solution providers” -- think app-based rental scooters from Uber, Lime and Bird -- stand to benefit by sharing information such as vehicle use, curb regulations and traffic statistics.

Cities regulate curbs, parking and drop-off/pickup zones, so they need data to make sure mobility companies and their customers are in compliance. Cities can also use the data for planning and rezoning based on usage statistics. Companies, on the other hand, can improve their services by getting information from cities on construction zones and parking costs in a given area, for example, that they can pass to customers.

For cities, the first step to using this app is to run a map match so that they see data from a mobility company on their existing maps. Second, SharedStreets helps a city determine what metrics they want from company data. Because the platform is built on open source, cities can make changes as needed.

The full article by Stephanie Kanowitz for GNC can be found at https://gcn.com/Articles/2019/02/12/cities-scooter-data.aspx
A while ago, I reached out to our NPMA Council of Consulting Fellows to ask them a series of short answer questions with the intent of gaining a broader and deeper understanding into property management as a whole.

What follows are consolidated answers from the shared experiences of over eight centuries of property knowledge, with an average of 32 years in the profession.

**Q: What do you like most about property management?**

A: In general, we like finding new and unique problems. We like to don the proverbial Sherlock Holmes deerstalker (yes, that is actually the name), and determine why “it depends,” by pooling the who, the what, the whens, the wheres, and the hows, into our “cranial decision matrix,” for grey-matter processing of the all too common grey-areas in property management.

**Q: What do you like least about property management?**

A: The greatest frustration, by a landslide, is dealing with both management and end-users that don’t have an understanding of the importance of property. Although, dealing with data inconsistencies and the challenges associated with compliance to requirements (company or customer) that adds little to no value, can both be ever-present burdens, too.

**Q: What’s your “elevator answer” when asked what you do for a living?**

A: Depending on the height of the building, it’s anywhere between: “I take care of stuff,” (a single floor), to providing a detailed listing of just about every regulation and cooperative group it takes to get the job done (the 163 floor Burj Khalifa).

**Q: If you could improve one thing, what would it be?**

A: Was there really any doubt that the answer would predominately reference the awareness and education to just about anyone external to property management? No, not really. And we want to be at the “table” not only where, but also when contract decisions are being made!

**Q: What is your Expert Subject Matter?**

A: This question really shows off the diversity among the Consulting Fellows – providing both the depth and breadth – necessary and indicative of any professional council of Consulting Fellows. If there is any one thing that stands out, it is our comprehensive understanding of policy and regulation.

**Q: What is the one thing we should know, but might not?**

A: Guess what... it depends! It is really all about mastery of discipline, where continual education seems to be the key. It is dangerous to not know what we don’t know, and even worse to know what we need to – and not do anything about it.

**Q: What books would you suggest for business, leadership, and professional development?**

A: Here are just a few (of the many) suggestions:

- **Selected Readings in Defense Contract Property Management** - Dr. Douglas N. Goetz, Ph.D.
- **Seven Habits of Highly Effective People** – Steven R. Covey
- **Give and Take** – Adam Grant

- **Fundamentals of Property Management, and Intermediate Studies** – NPMA
- **FAR & DFARS**

It may be a little mischievous on my part, but it is my hope that this left you with more questions, instead of less. All people of great success have mentors, and many of them have more than one – each with a different expertise. If you are looking to take things to the next level, I would encourage you to reach out to a Consulting Fellow that specializes in the next property management area you’d like to conquer.

So until there’s an option to “plug-in” to the matrix and download the petabytes of property management information needed, you’ll just have to settle with doing things the old fashioned way – and ask.

**ABOUT THE AUTHOR**

Scott W. Peterson, CPPM is a Certified Property Professional Manager (CPPM) with Raytheon IIS as a Senior Government Property Compliance Specialist. He has over 15 years of experience in Property Accountability and Integrated Logistics Support. He lives in Ammon, Idaho, and currently serves as the Previous Past President of the Denver Rocky Mountain Chapter, the Central Region Editor, and the National Director of Membership Media for the NPMA.
Connection corner is a new column in *The Property Professional* designed for Chapters to share information with the membership. In this issue, we interviewed Chapter President, Heide Hellriegel, from the Houston Lone Star Chapter in Texas. The Houston Lone Star Chapter is a small chapter in the Central Region with 50 active members.

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**What type of meetings does your Chapter hold? (In person, GoTo Meeting, etc.)**

The chapter holds meetings in person at lunch. We have tried GoToMeeting, but there has been no interest.

**Why does this work for you?**

We hold our meetings during lunch and take member’s location suggestions to make it convenient for them (so whoever picks the location has no excuse not to be there). We encourage our members to apply for scholarship funds to attend conferences, but they have to attend meetings in order to apply.

**How does your chapter drive participation?**

We hold our meetings during lunch and take member’s location suggestions to make it convenient for them (so whoever picks the location has no excuse not to be there). We encourage our members to apply for scholarship funds to attend conferences, but they have to attend meetings in order to apply.

**Does your Chapter participate in community service activity? If so, please share!**

The Houston Lone Star Chapter wanted to do something to make a positive impact on our local community. We discussed volunteering our time, but realized we were all maxed out with other responsibilities. Upon further discussion, we decided to make a donation to a local non-profit organization for 2018 that was not just a monetary donation, but one we could deliver in person. We talked about organizations that we were involved with or aware of. One of us was involved in animal rescue in Houston, so suggested BARC (Bureau of Animal Regulation and Care), the City of Houston animal shelter. We looked on their website for a list of things they needed and went shopping. We are not a big chapter and we are struggling with chapter participation, but we are trying to think of opportunities for us to make an impact in the hopes that others would see that being involved in a chapter is not just about us, but about the community in which we live, too. We’re trying to do what we can to support each other and our community and we thought a donation involving us physically being present was a good way of doing that.

This is not the first time we have donated to the community. Last year, we donated to a boys/girls home for children in transition whose parents were temporarily unable to care for them. We purchased gifts for them and were invited to their Christmas celebration to watch them open the gifts.

**Tell us something unique / interesting about your chapter?**

Our members make our chapter interesting and unique. Some of us are University, the rest are Government Contractor. Very different businesses, so we learn from each other. But we are able to engage in meaningful discussion because we all handle property and most of the same rules apply.

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**WANT TO SHARE SOMETHING FROM YOUR CHAPTER?**

Email Kim Saeger, VP of Marketing & Communications at vpmarketing@npma.org today!
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• CPPM Certification Review & Testing

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WASHINGTON, DC
GET READY!

VEHICLE TECHNOLOGY IS CHANGING FAST!

By Fabian Cardona, CFFS, DC – Federal Center Chapter
According to Mary Barra, Chairman, and CEO of General Motors, the vehicle industry “will change more in the next five to 10 years than it has in the last 50.” As fleet managers, we have a professional responsibility to look ahead at the changes technology is bringing to the automobile industry. To that end, the following will focus on what we describe as the “vehicle technology triad,” which includes electrification, connectivity, and autonomy. This set of topics demonstrates how the fast pace of technology advancement is affecting our vehicle fleets, and what we as fleet managers need to know to take fleet management to the next level.

Vehicle Electrification

During the era of fossil-fueled powered vehicles, two questions have emerged: how long will crude oil last, and how much greenhouse gas can we emit into the atmosphere? In the early 20th century, fossil fuels were cheap and abundant, but as evidence of the finiteness of such fuels came to light, governments started enacting legislation to slow consumption and to protect the environment. One such move in the United States was the signing of Executive Order (EO) 13693: Planning for Federal Sustainability in the Next Decade, which mandated greenhouse gas (GHG) reductions of 15% by 2021 and 30% by 2025 for the Federal fleet. EO 13693 also directed fuel efficiency for passenger vehicles to improve by 20% by the year 2020 and by 50% by the year 2025. EO 13834: Efficient Federal Operations has revoked EO13693, but, to date, the Federal government has not generated any instructions or guidance that modify those plans, and the laws that established the GHG and fuel efficiency goals remain in effect.

The production and sales of hybrid and electric vehicles have seen a steady increase in the last decade from the starting point of only a few hundred thousand to over 1.6 million units sold in 2018. Multiple factors are driving this increase in sales, but perhaps a key one is the incredible drop in lithium-ion battery prices, falling by as much as 24% from 2016 levels. Lithium-ion battery prices are expected to continue to drop to as low as $100 per kilowatt-hour (kWh) by the year 2025, a substantial decline from $209 per kWh in 2017. This benchmark of $100 per kWh is important because it represents the tipping point at which battery electric vehicles can be purchased at the same cost as comparable gasoline vehicles, assuming a 200-mile range.

Driven by the laws that remain in effect, improved battery technology, and enhanced economics, hybrid and electric vehicles are certain to become increasingly embedded in fleet inventories. So how can fleet managers prepare for the necessary and inevitable adoption of vehicle electrification? Fleet managers need to turn to these fundamental management actions: (1) set objectives, (2) gather data, and (3) analyze the data.

Setting objectives requires fleet managers to recognize that achieving high levels of utilization (which in turn will lower operating costs to offset higher capital costs) is important to the fleet and the organization. Another paramount objective is minimizing disruption to productivity because employee labor is expensive. Finally, fleet managers need to prepare to deal with the closure of vehicle product lines as manufacturers discontinue internal combustion engines, keeping in mind that this will shrink certain capabilities and hinder organizational flexibility.

Gathering relevant data enables a fleet manager to set the stage for smoother management of vehicle electrification. Especially important are vehicle data on:

- utilization (miles, hours and trips),
- range factors (trip length, distance, and frequency),
- charging variables (overnight or opportunity charging),
- vehicle location (parking locations and proximity to charging stations), and
- fleet composition (vehicle typing and sizing).

After gathering the data, analysis will enable a fleet manager to match mission and utilization requirements to available electric vehicle types while staying informed about new models and discontinuations. Correspondingly, fleet managers need to match a charging station deployment strategy to the projected fleet composition and use, including—but not limited to—charging prioritization and level of charging infrastructure (fast, moderate, overnight charging).

Vehicle Connectivity

The underlying technology that enables vehicle connectivity has evolved over the past four decades through four main phases:

- Engines connect to humans digitally: using blinking lights and codes, engine computers communicate diagnostic data to aide in performing repairs;
- Engines interface with other devices: new vehicles feature a controller area network (CAN) that allows communication between various vehicle components and with computerized diagnostic equipment;
- Vehicles interface with consumer and aftermarket electronics: consumers start connecting personal devices to their vehicles through Bluetooth and USB; fleets start connecting telematics devices to their vehicles through the on-board diagnostic (OBD) port; car sharing technology utilized radio frequency identification (RFID), cellular networks, and Global Positioning System (GPS) technology;
- Vehicles go online by themselves: vehicle manufacturers have developed factory-installed telematics devices which have enabled over-the-air computer updates, vehicle utilization tracking, geo fencing, and vehicle-to-vehicle (V2V) and vehicle-to-everything (V2X) communications.

Unfortunately, the increase in connectivity has opened the door to hacking, allowing vehicles to be controlled remotely by unauthorized users and thereby becoming a cybersecurity threat for vehicle manufacturers and users alike. Vehicle connectivity will change fleet management in five significant ways:

1. The need to develop data interfaces will increase, as an organization's Financial Management Information System (FMIS) will need to communicate with multiple original equipment manufacturers (OEM) to download factory telematics information;
2. Fleet managers will need to develop policy and guidelines that address in-vehicle internet use, such as the need to control incoming and outgoing data flow;
3. Preventive maintenance (PM) programs will need to be updated to take advantage of potentially replacing calendar and mileage PMs with condition-based maintenance;
4. Methods to evaluate alternatives to ownership will include OEM vehicle subscription solutions and other motor pool and car sharing technologies; and
5. Analytical support will become essential for interpreting the increasing volume of fleet data from new sources.

**Vehicle Autonomy**

As the automobile continues to evolve, OEMs aim to deliver more safety benefits for drivers with the introduction of vehicle automation. According to the Intelligent Transportation Systems Joint Program Office within the Department of Transportation, “automated vehicles are those in which at least some aspect of a safety critical control function (e.g., steering, throttle or braking) occurs without direct driver input.” The Society of Automotive Engineers (SAE) developed SAE J3016, a guidance document that covers vehicle automation and explains the levels of automation going from level zero (no automation) to level five (full automation). This document, in turn, was adopted by the National Highway Transportation Safety Agency (NHTSA) as the official reference to define the levels of automation in the U.S. and to provide guidance on the “road to full automation.”

The automation age has demonstrated that autonomous vehicles perform better than humans at basic driving tasks, but—depending on the vehicle and its operating environment—transitional areas still exist that require humans to intervene and retake control. It is within these transitional areas where the lack of human attentiveness could lead to accidents and safety mishaps (and have led to some in several instances already). To combat this, autonomous vehicle manufacturers have developed additional technologies to ensure that drivers remain attentive (referred to as “nags” in some cases), but as with any new safety technology, there are some drivers and technicians that develop workarounds so that they can remain inattentive while using the autonomous vehicles. This can obviously cause problems when the vehicle is presented with driving conditions that are outside of its capabilities.

Between 2010 and 2016, OEMs started to offer vehicles with Advanced Driving Assistance Systems (ADAS), enabling vehicles to control steering, braking and acceleration, in some instances simultaneously (levels one and two). In 2016, partially automated safety features arrived (level three automation), whereby vehicles began using an Automated Driving System (ADS) to perform all aspects of the driving task; under those circumstances, the human driver was still responsible for assuming control at any time the ADS requested the driver to do so.

NHTSA forecasts that by the year 2025, OEMs will offer fully automated safety features (levels four and five), such as highway autopilot, where vehicles can monitor the surrounding environment while performing all tasks related to driving. Eventually, as OEMs continue their progress with automation, fleet managers can expect advances in processing power, artificial intelligence, and environmental mapping. These advancements will become key in removing humans from the driving experience, and vehicle occupants will merely be passengers.

**Technology Triad Challenges and Benefits**

The “technology triad” will yield significant benefits such as decreased dependency on fossil fuels. Expanded onboard vehicle diagnosis and vehicle connectivity will enhance tracking of utilization and simplify maintenance forecasting. Automated Driving Systems will increase overall vehicle safety. As vehicle manufacturers continue to take advantage of technological advancements, fleet managers need to be aware that with changes in the automobile industry comes a need for fleet management practices to evolve as well.

As fleet managers integrate advanced vehicle automation and self-driving vehicles into their fleets, they will need to develop new safety guidelines and policies. New risk management and risk mitigation strategies will be essential. Maintenance and repair diagnostic tools and training and protocols will change dramatically. However, data and performance measures will remain central to dealing with the fleet of the future.

**REFERENCES**

ii Ibid
vi Ibid

**ABOUT THE AUTHOR**

Fabian Cardona, CFFS, is a senior consultant with Mercury Associates, Inc. Over his more than 26-year fleet management career, he has directed and supervised large and small federal fleets. A former ASE-Certified technician, Mr. Cardona successfully navigated the transition from vehicle technician to enterprise-wide fleet manager. Mr. Cardona possesses a combination of first-hand experience with a deep knowledge of vehicle and equipment technology and fleet management organization that is rare in the fleet management consulting profession. Prior to joining the firm, he spent 21.5 years in the Air Force from which he honorably retired in 2014. In his Air Force career, Mr. Cardona served as vehicle maintenance superintendent and fleet manager for various small and large fleets. He started his military career as a technician and ended it as a logistics and maintenance advisor to general officers in CONUS and OCONUS (e.g., Afghanistan, Iraq) assignments. He has overseen fleet maintenance programs with as many as 160 military and civilian maintenance technicians. Since his retirement, Mr. Cardona has held positions as a service manager for Penske Truck Leasing and as program manager for a defense contracting agency where he participated in the world-wide deployment of the Defense Property and Accountability System, the new fleet management information system for the Air Force.
DEAR EXPERT PANEL,

We are a Department of Defense contractor performing a cost reimbursement type contract at our own facility where we have many other Government contracts. We have been told that it would generally be inappropriate for us to acquire vehicles and direct charge them to the Government. Our question – WHY are we being told this? They will only be used on this contract.

FROM, A DOD CONTRACTOR

DEAR DOD CONTRACTOR,

On the surface this seems like an easy answer. The MYTH is that “All property acquired under a cost reimbursement type contract is Government property, of the Contractor acquired property (CAP) variety.”

Well, that is not exactly true. Multiple areas of understanding must come into play: The Government’s policy on providing Government property; The Government property clause, FAR 52.245-1; The Allowable Cost and Payment Clause, FAR 52.216-7. Paragraph (a) which states that the Government can only make payments determined to be “Allowable.” That same paragraph directs us to FAR Subpart 31.2, entitled “Contracts with Commercial Organizations” where we find definitions of the word allowable – broken down into Reasonableness, Allocability, CAS or generally accepted accounting principles and practices (GAAP), and two other issues – Terms of the Contract and Any limitations set forth in this subpart. So, you need to read the definitions of:


Ahhh, but there is more. What is this CAS requirement? Discussion of CAS is set forth in FAR Part 30 and the standard CAS clause making it contractually binding upon the contractor is set forth in 52.230-2 (Current version). This clause requires that you have and submit a “Disclosure Statement” – a CASB-DS1 form, https://www.whitehouse.gov/wp-content/uploads/2017/11/CASB_DS-1.pdf.

And in this form, YOU, the Contractor, tell the Government how you are going to charge the items you are acquiring under your contracts. Generally, automobiles – vehicles – are items that YOU would acquire with your own capital and apply the appropriate form of depreciation – as set forth in your disclosure statement – CASB-DS1, Item 5.1.0.

So, from the information provided, GENERALLY you, the Contractor would provide your own vehicles. And if you DID acquire vehicles – they, most appropriately, would be YOUR property and only chargeable to the contract in the appropriate amount of depreciation. The last note – now, if you were tasked under the contract to acquire vehicles – that opens up a whole new can of worms!

FROM, YOUR EXPERT PANEL

LEGAL DISCLAIMER:
This email and the advice contained within is for recommendation purposes only. NPMA makes no representations or warranties of any kind, express or implied, including without limitation any implied warranty of fitness for a particular purpose. Please note that additional issues may exist that could affect the treatment of the recommendation. The recommendation does not consider or reach a conclusion with respect to additional issues. This is not to be construed as legal advice and NPMA is not liable for any damages, etc. that result from following (or not following) their advice. In no event shall NPMA be liable for any lost profits, lost data, or any form of special, incidental, indirect, consequential or punitive damages of any kind (whether or not foreseeable), whether based on breach of contract, tort (including negligence), product liability or otherwise, even if it is informed in advance of the possibility of such damages.

ASK THE EXPERT

BY YOUR NPMA ‘EXPERT’ PANEL

DEAR DOD CONTRACTOR,

Again, you have to read the WHOLE sentence – and you left out, “for which the Contractor is entitled to be reimbursed as a direct item of cost...” Can you charge these vehicles as a DIRECT ITEM OF COST?

That then takes us to the Allowable Cost and Payment Clause, FAR 52.216-7. Paragraph (a) which states that the Government can only make payments determined to be “Allowable.” That same paragraph directs us to FAR Subpart 31.2, entitled “Contracts with Commercial Organizations” where we find definitions of the word allowable – broken down into Reasonableness, Allocability, CAS or generally accepted accounting principles and practices (GAAP), and two other issues – Terms of the Contract and Any limitations set forth in this subpart. So, you need to read the definitions of:


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So, from the information provided, GENERALLY you, the Contractor would provide your own vehicles. And
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Federal Government Property Management is a 2 1/2 day-course that will prepare Federal government property personnel for management level thinking. The class will engage students in the life cycle phases of property management from requirements gathering to final record closeout, with discussions of roles and responsibilities, process relationships, value and risk management responsibilities, performance measures and impacts on sound property management. The class structure will be to review requirements and to discuss an application process of how an organization implements the requirements into their own organization and governance structure.

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MAY 17 // HOUSTON, TX

Supply Chain News:
DRIVERLESS RAILROAD FROM AUSTRALIAN MINER RIO TINTO MAY SHOW FUTURE OF US RAIL FREIGHT

Autonomous freight transportation is in fact here. It's just being used with rail transport, not trucks.
An article last week from the Wall Street Journal says mining giant Rio Tinto spent 10 years developing its driverless train system, which it calls AutoHaul. Now, the system manages some 200 locomotives with no drivers that move iron ore from mines in the interior of Australia in to coastal ports.
The trains are operated hundreds of miles away in the city of Perth, with the fully driverless approach now in operation for about a month, running on about 1000 miles of rail track.
This type of automation and more is likely coming to US railways sooner rather than later. This new era of technology, the Journal report says, will automate many tasks once handled by crew and lead to fluid rail networks that operate something like a model train set, versus the many stops and starts seen in today’s networks.
Of note, the US Department of Transportation released guidelines on autonomous vehicles last October, but had little to say on driverless rail technologies in the report.
The full article can be found at http://www.scdigest.com/ontarget/19-01-22-1.php?cid=15089
Over half of federal cabinet level agencies manage assets in Sunflower.

50%

60 BILLION DOLLARS
in assets are managed with Sunflower software.

10 MILLION
Sunflower customers perform over 10 million transactions each year.

100
Sunflower is in use at over 100 organizations.

ONE SYSTEM
for all of your assets from firearms and biologics to IT equipment and fleet vehicles.

1500
Sunflower customers manage their assets in 100 countries worldwide and in over 1400 US locations.