

T&E COMMITTEE #4
February 25, 2010

MEMORANDUM

February 23, 2010

TO: Transportation, Infrastructure, Energy and Environment Committee

FROM: Susan J. Farag, Legislative Analyst 

SUBJECT: **FY11-16 Capital Improvements Program**
Fuel Management (Department of General Services, Division of Fleet Management Services)

Those expected for this worksession:

David Dise, Department of General Services
Millie Souders, Chief, Division of Fleet Management Services
Calvin Jones, Fleet Management Services
Richard Holzman, Assistant Chief, Montgomery County Fire and Rescue Service
Steve Lamphier, Apparatus Section, Montgomery County Fire and Rescue Service
Bruce Meier, Office of Management and Budget

This new project (PDF at © 1) will establish a County-wide fuel management system for fleet vehicles, including County and volunteer fire stations. The first phase of the project will focus on implementing a fuel management system for County and volunteer fire stations. It will later be expanded to meet all County fleet needs. The first phase of the project will fund a fuel management system for approximately 400 Montgomery County Fire and Rescue (MCFRS) vehicles as well as approximately 20 fuel sites located at individual fire stations. For FY11, the tank monitoring system will be installed. In FY12 the system for MCFRS will be close to completion and work will begin on the next phase.

BACKGROUND:

Initially, the Montgomery County Fire and Rescue Service (MCFRS) identified a need for a centralized fuel management system for both its County and volunteer fire stations. Providing a uniform system across all stations would permit any vehicle to fuel at any fuel site.

Fuel management systems also record mileage, and this feature would help optimize fuel management and vehicle maintenance (which is based on both mileage and time).

The Council accepted the MCFRS “Apparatus Management Plan” in April 2004, which included fuel management as a fleet management best practice. A MCFRS fleet fueling report was prepared by Mercury Associates, Inc. in October 2008. The Department of Technology Services review the project in September 2009. While many of the fire-rescue stations have fueling sites, only apparatus assigned to those stations can obtain fuel. After installation of the system, all fire apparatus will be able to fuel at any fire station fuel site.

In October 2009, MCFRS presented information to the Public Safety Committee regarding its obsolete fuel systems, highlighting:

- Most fuel control equipment is obsolete and requires replacement. Except for the paper-based systems, the existing fuel dispensing systems are not expandable;
- Obsolete equipment allows for “workarounds” and there is no interoperability;
- Reporting methods vary, i.e. paper, electronic, or none;
- Reports are prone to human error and are not timely;
- If a vehicle is not allowed on an individual fuel pump, then it cannot fuel;
- Any advantage of Countywide fuel purchasing is not currently available to MCFRS.

MCFRS and other executive department staff will provide a presentation to the Committee outlining the issues the County faces in regard to its current fuel management practices, its goals, and how this project will facilitate those solutions. A PowerPoint presentation is attached at © 2-8.

QUESTIONS: Council staff also asked a series of questions about the proposed project. Executive staff will be prepared to answer these questions at the Committee meeting.

- 1) Please provide background information regarding this project.
- 2) Do you have a current cost estimate for the fuel management system (limited to fire stations)? Do you have a current cost estimate for the fuel management system once it’s been fully expanded to meet County needs?
- 3) Please describe cost expenditures for Planning, Design, and Supervision in FY11 and FY12.
- 4) Please describe cost expenditures for Site Improvements in FY11 and FY12.
- 5) How does short-term financing work relative to this project?
- 6) Please describe the operating budget impact in the out years (FY12 through FY16). What do the projected cost savings stem from?

DISCUSSION ITEMS:

Short-Term Financing: This project was initially proposed within MCFRS to address some of its operational inefficiencies and to meet best practice standards for its own fleet management. Council staff agrees that modernization of the fuel management system for MCFRS would lead to operational savings and other efficiencies; however, Council staff is concerned with the use of short-term financing to fund the project. The Committee should understand what the terms of repayment are for the loan (i.e., percentage rate, length of loan, annual payment amounts) and how this relates to expected operational savings (about \$110,000 annual net savings in the out years). Is this project eligible for G.O. Bond funding? Is it more appropriately funded through current revenues?

Taking the Fuel Management System County-wide: The PDF outlines expenditure data for the first phase of this project – implementing a portion of the new fuel management system for MCFRS only. However, it lays the foundation for a County-side fuel management system used by all County fleet vehicles. The Committee may wish to ask Executive branch staff for more detail on this expansion, including the estimated full project cost, method of financing (i.e., is it eligible for G.O. Bond funding), long-term maintenance and replacement costs, and estimated County-wide savings.

This packet contains the following attachments:

Executive’s Recommended FY11-16 Fuel Management PDF	© 1
FY11-16 CIP Project Review (PowerPoint)	2-8
“Best Practices in Fleet Fuel Management,” <i>Government Fleet</i> (January 2010)	9-13

Fuel Management -- No. 361112

Category
Subcategory
Administering Agency
Planning Area

General Government
Other General Government
General Services
Countywide

Date Last Modified
Required Adequate Public Facility
Relocation Impact
Status

January 08, 2010
No
None.
Planning Stage

EXPENDITURE SCHEDULE (\$000)

Cost Element	Total	Thru FY09	Est. FY10	Total 6 Years	FY11	FY12	FY13	FY14	FY15	FY16	Beyond 6 Years
Planning, Design, and Supervision	72	0	0	72	36	36	0	0	0	0	0
Land	0	0	0	0	0	0	0	0	0	0	0
Site Improvements and Utilities	244	0	0	244	122	122	0	0	0	0	0
Construction	0	0	0	0	0	0	0	0	0	0	0
Other	2,171	0	0	2,171	1,204	967	0	0	0	0	0
Total	2,487	0	0	2,487	1,362	1,125	0	0	0	0	0

FUNDING SCHEDULE (\$000)

Short-Term Financing	2,487	0	0	2,487	1,362	1,125	0	0	0	0	0
Total	2,487	0	0	2,487	1,362	1,125	0	0	0	0	0

OPERATING BUDGET IMPACT (\$000)

Maintenance				279	0	31	62	62	62	62	
Program-Staff				99	0	11	22	22	22	22	
Cost Savings				-776	0	0	-194	-194	-194	-194	
Net Impact				-398	0	42	-110	-110	-110	-110	

DESCRIPTION

This project will be the first phase of a broader, County-wide enterprise fuel management system. This project provides for a fuel dispensing, tank monitoring, and fuel management system for County and volunteer fire stations. After installation of the system, all fire apparatus will be able to fuel at any fire station-based fuel site. Once fully implemented, it is estimated that a fuel management system will create savings due to fuel loss control, more efficient scheduling, identification of potential maintenance problems before the problems occur, and less driver time. In addition, there can be additional cost savings if the fuel is purchased through one vendor, once the system is fully implemented.

CAPACITY

The first phase of this project will fund a fuel management system for approximately 400 Montgomery County Fire and Rescue Service (MCFRS) vehicles as well as approximately 20 fuel sites located at individual fire stations.

ESTIMATED SCHEDULE

For FY11, the tank monitoring system will be installed and approximately fifty percent of the fleet will have the system installed. In FY 12 the Fire Service fleet will be near to completion and work will begin on the next phase..

JUSTIFICATION

In April 2004 the Montgomery County Fire and rescue Service (MCFRS) "Apparatus Management Plan" was accepted by the County Council and within that plan fuel management was identified as a fleet management best practice. A fuel monitoring and distribution system and a fuel tanker are also identified under Section 5 of the MCFRS Master Plan ("Apparatus and Equipment" and "Environmentally-Compatible Facilities and Equipment"), adopted by the County Council in October 2005. A MCFRS fleet fueling report was prepared by Mercury Associates, Inc. in October 2008. The Department of Technology Services reviewed the project in September 2009. Finally, while many of the fire-rescue stations have fueling sites, only apparatus assigned to those stations can obtain fuel. After installation of the system, all fire apparatus will be able to fuel at any fire station-based fuel site.

OTHER

The expenditures reflect a turnkey project to install fuel dispensing and monitoring equipment at each fuel site, and install fuel rings on the majority of the fire apparatus in the County. MCFRS' mechanic technicians will install the fuel rings on the remainder of the fire apparatus.

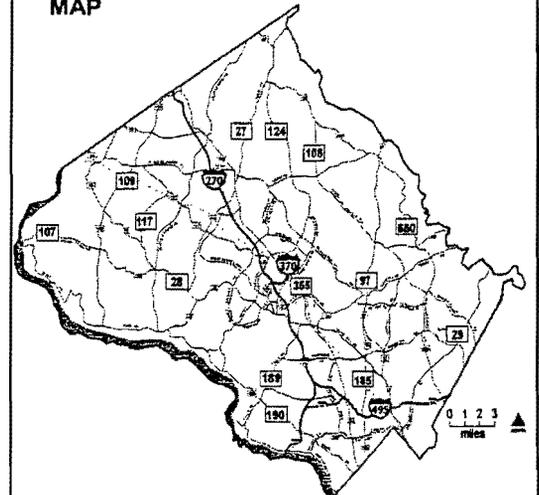
APPROPRIATION AND EXPENDITURE DATA

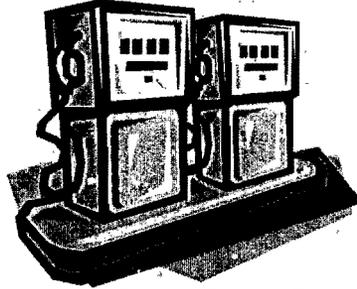
Date First Appropriation	FY11	(\$000)
First Cost Estimate	FY11	2,487
Current Scope		
Last FY's Cost Estimate		0
Appropriation Request	FY11	1,362
Appropriation Request Est.	FY12	1,125
Supplemental Appropriation Request		0
Transfer		0
Cumulative Appropriation		0
Expenditures / Encumbrances		0
Unencumbered Balance		0
Partial Closeout Thru	FY08	0
New Partial Closeout	FY09	0
Total Partial Closeout		0

COORDINATION

Department of General Services
Montgomery County Fire and Rescue Service
Department of Technology Services
Local Volunteer Fire and Rescue Departments

MAP





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Montgomery County, Maryland
County Council T&E Committee
FY11-16 CIP Project Review

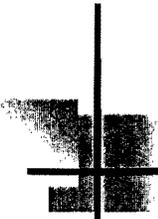
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Background



- Montgomery County Government dispenses 6.9 million gallons of fuel to vehicles and equipment that provide service to residents of the County.
- The Division of Fleet Management Services (DFMS) manages fuel for Police, Heavy Equipment, Transit, and administrative fleets.
- ③ ■ Fire and Rescue Services (FRS) manages fuel for fire equipment operated by the County and Volunteer Fire Companies operating in Montgomery County.
- DFMS dispensed 6.8 million gallons of fuel through eleven fuel sites in FY09.
- Fire and Rescue Services (FRS) issued 334,000** gallons of fuel through 26 fuel sites (**based on 2/2009 County-stat information).
- DFMS employs a fuel management system that uses "ring mounted" technology that interfaces between the vehicle and the fuel pump to provide fuel accountability.

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Background (cont.)

- FRS methods of accountability vary based on fuel site location; including some sites using paper to account for fuel usage.
- While the DFMS' fuel management system is effective at recording transactions, the technology [has become obsolete] is dated (*How old?*) resulting in:
 - Changes in vehicle technology have required the purchase of adapters in order to track vehicle mileage on newer vehicles.
 - *Are there other examples of the obsolete technology such as support difficult to obtain, down time, lost data, can't be upgraded, what?*

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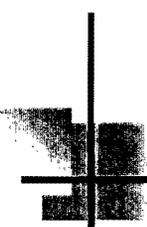
Goals

- Strategic

- Allow all county-owned or operated vehicles to obtain fuel from all county-owned fuel sites.
- Potential to expand this same flexibility to other county agencies (MNCP&PC, MCPS, Montgomery College, etc.)
- Consolidate fuel functions county-wide to obtain economy of scale benefits.
- Compatibility with current Fleet Management Technology (FASTER System), which is used by DFMS and MCFRS.
- Standardize all fuel applications across all agencies countywide.
- In the event of an emergency, allow fuel quantities to be monitored remotely for all fuel sites.

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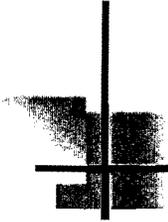


Goals (cont.)

- Operational
 - Increase operational efficiency by eliminating the need for employees to fill out paperwork to obtain fuel.
 - Fuel orders can be made from a central location.
 - Update the technology of the current fuel management system county-wide.

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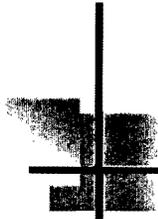
Goals (cont.)

- Accountability

- Allow all fuel purchases and deliveries to be tracked through a centralized system.
- Allow accurate fuel inventory to be maintained countywide.
- Accurately monitor vehicle usage, which will enhance preventive maintenance planning.
- Develop accurate operating costs by vehicle and type of vehicle.
- Eliminates the ability of drivers to fuel unauthorized vehicles at County Fuel sites.
- Allow for comprehensive tracking of fuel usage through the County's current FASTER technology.

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Solution

- Implementation of new, innovative countywide fuel management system.
- Phase I of implementation to issue solicitation and award contract for installation of new, countywide fuel management system.
 - Phase I will include implementation of the software and new fueling systems at most MCFRS sites.
- Phase II installation of new fuel management system county-wide.

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GOVERNMENT FLEET

MANAGING PUBLIC SECTOR
VEHICLES & EQUIPMENT

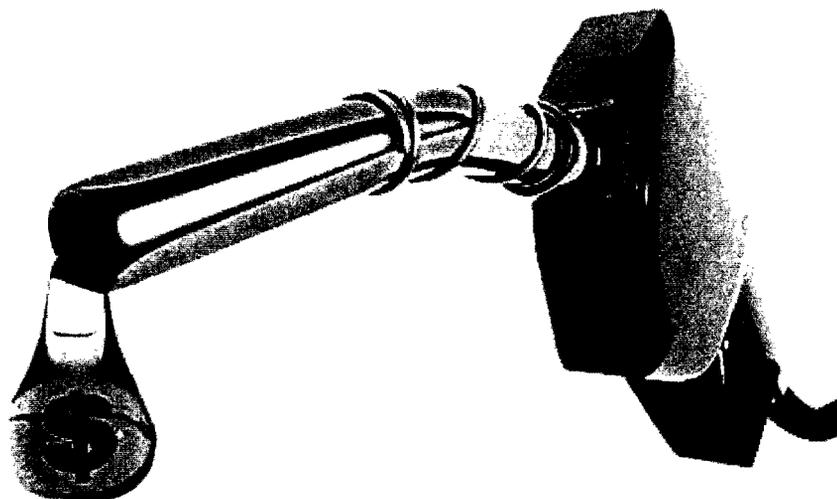
ARTICLE

January 2010, Government Fleet - Feature

Best Practices in Fleet Fuel Management

SECOND ONLY TO DEPRECIATION, FUEL IS THE SECOND-LARGEST PUBLIC SECTOR FLEET EXPENSE. MUNICIPAL, COUNTY, AND STATE FLEETS SHARE BEST PRACTICES IN REDUCING FUEL EXPENSES.

By Lauren Fletcher



While currently not as volatile as in past years, fuel is still one of the largest operating expenses public sector fleets must manage, second only to depreciation. The following explores how government fleets around the country are managing fuel costs.

Municipal Fleets

City of Chesapeake, Va.

The City of Chesapeake monitors fixed-price fuel contracts and is poised to commit as soon as pricing is favorable for its 2,800-vehicle fleet (cars, light-, medium-, and heavy-duty trucks). George Hrichak, fleet manager, said to better manage fleet fuel expenses, the City has negotiated an attractive daily Oil Price Information Service (OPIS)-plus contract for fuels. The City also is replacing an obsolete Petro Vend system.

City of San Antonio

The City of San Antonio's Fleet Maintenance and Operations Department reviews fuel, mileage, and maintenance costs and sets criteria to identify underutilized vehicles and equipment with high maintenance costs throughout the organization. The

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City's fleet comprises approximately 5,050 vehicles and equipment, mostly sedans (1,500) and specialized equipment (3,000-plus), including refuse trucks, trailers, and off-road equipment.

"In an effort to further reduce fuel costs and emissions, the City is currently evaluating the introduction of both E-10 (10-percent ethanol) and B-5 (5-percent biodiesel) fuels," said Florencio Peña, fleet manager, City of San Antonio. "Compressed natural gas (CNG) is used to power 30 of the City's side-loader refuse trucks, and propane has been used for several years to power both vehicles and equipment."

The City of San Antonio replaced a decade-old fuel card reader system with an automated fuel management system (AFMS) in late 2009.

"The AFMS uses radio frequency that allows only those vehicles pre-programmed by fleet to fuel at city fuel dispensers," said Peña. "Improvements gained through the implementation of the new system will help alleviate human error, duplicity, and technological inefficiencies by accurately reporting mileage, fuel inventory, and automatically linking to the City's fleet management system."

The AFMS system increases auditing capabilities and contains security features as well as hardware that supports customer hands-free authorization for dispensing fuel and accurate data exchange between the vehicle's onboard computer and the island kiosk through a local wireless transmission.

"The automated fuel management system incorporates both hardware and software to track, monitor, and manage fuel inventory, dispensing, and billing processes," explained Peña. "It's resulted in the elimination of fuel cards, decreased time spent dispensing fuel, and implemented the transmission of vehicle data (i.e., mileage) via radio frequency."

AFMS hardware and dispensing equipment has also been installed on mobile fuel trucks.

Based on AFMS use, the state eliminated fuel card use and the need to replace lost, stolen, or damaged cards, as well as monitor misuse.

Transaction automation with the new system increased the reliability of the overall data stream and reduced database exception management. Continuous vehicle mpg monitoring allows mileage parameters to be set for intervention.

Fuel security is provided by a filler pipe sensor that prevents dispensing fuel into unauthorized vessels (vehicles, gas cans, and other equipment). According to Peña, a reduction in consumption is anticipated. AFMS data reliability eliminated hand checking meters, which previously consumed 30 working hours per month, and produced more accurate preventive maintenance (PM) reports.

AFMS technology is a passive process in which the driver/fueler is not required to interact with the fuel control system to obtain fuel when utilizing a city-issued ID card. Data entry at the control terminal is eliminated, which Peña estimated will decrease each refueling event by 2.5 minutes.

Due to warranty and other considerations, many fleets utilize an early routine maintenance cycle rather than exceed the established interval. The AFMS eliminates early maintenance cycles and their associated unnecessary cost expenditures. Data is imported from the island computer, which contains AFMS data for each vehicle. The data is imported into a fleet management program, resulting in an estimated savings of about 35 hours in monthly labor and overhead costs.

County Fleets

County of Sacramento, Calif.

The County of Sacramento Fleet Services division utilizes the Fuel Focus fuel management system, under which user departments are charged for fuel use. The system also prevents theft.

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"County departments pay for the fuel they use. Fuel is not included in vehicle rental rates, so any fuel savings county departments realize, based on efficient use of their vehicles, is passed directly to [the departments]," said James Collins, chief fleet manager.

Departments that let employees take home vehicles daily can incur expensive fuel bills, especially if the employee drives a truck and/or lives a long distance from work, according to Collins.

The fleet services division also purchases fuel-efficient and eco-friendly gasoline-electric hybrid cars.

"There are fuel savings with the gasoline-electric hybrid cars; however, there is a purchase price penalty that is generally offset by lower fuel costs. So, in the end, the only real benefit is a reduction of the fleet's carbon footprint and emissions," said Collins.

State Fleets

State of Georgia

In 2009, the State of Georgia started educating state agency fleet professionals about the costs of fuel relative to other fleet expenses. The education process began with the introduction of a new program called, "Accurate Mileage is the Lifeblood of Great Fleet Management!"

The program, according to Steve Saltzgeber, director of the Office of Fleet Management (OFM), was aimed at reinforcing the importance of maintaining accurate fleet vehicle mileage data, such as fuel cost per mile, miles per gallon, and other metrics used to manage fleet assets.

"The program targeted agencies with the highest number of operator-induced mileage errors in an effort to bring the errors under control," said Saltzgeber.

The program includes a weekly "Bottom Ten" report, listing agencies with the highest number of errors. The State also is implementing several fuel cost reduction initiatives in 2010, including a revised statewide fuel policy that requires agencies manage vehicles using strict "fuel profiles" established by the OFM.

"These enhanced fleet profiles will aid agency compliance to much tighter fuel purchase controls, leveraging the State's existing fuel management program facilitated by its partner, Wright Express," said Saltzgeber. "Each of the stricter fuel profiles will be configured using historical purchasing trends seen with different types of vehicles. For example, sedans will be configured to regulate the gallons and frequency of fill-ups to prevent potential for fraud and misuse."

Additionally, cards used for equipment fueling (e.g. lawn mowers, fuel cans, etc.) will be governed with greater scrutiny to reduce unaccounted fuel purchases.

In 2010, the OFM plans to establish a statewide "fuel taskforce" to proactively seek effective solutions to reduce vehicle fuel costs. Emphasizing its fuel-reduction focus, taskforce meetings will be conducted via a series of "Webinars" to eliminate staff travel.

The fuel taskforce will focus on vehicle sizing (state standard is compact sedan), fleet fuel purchase documentation, accurate mileage entry, reduction of premium fuels (currently about 5 percent), tire pressure monitoring, PM compliance, and promotion of alternative transportation, such as mileage reimbursement for personal vehicle use, daily rental, telecommuting, carpooling, public transit, and car sharing (i.e. Flexcar, Zipcar, etc). The State provides a tool for state agency use that suggests the lowest-cost transportation solution based on current fuel costs.

The State of Georgia partners with Wright Express (WEX) to manage its fuel program, which includes working with WEX on several nationwide programs designed to create proactive processes and reports to alert Georgia employee drivers about missing vehicle data and fueling incidents outside set vehicle parameters.

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In addition, WEX will initiate a program that aids the State with analyzing vehicle mileage in advance. WEX will review all odometer readings, comparing the data to historical mileage, and suggest adjustments based on a calculation of gallons and historical vehicle mpg. WEX will replace errant odometer readings with an adjusted reading downloaded to the State. This adjusted mileage will aid in strengthening accurate mileage.

According to Saltzgiver, the State has consistently reduced fuel costs over the past few years based on reduced travel. In addition, the WEX fuel program assisted the State with securing purchase prices at less than the industry pricing index.

Fuel Management Keys to Success

There are many areas of fuel management. Glen Sokolis, president of the Sokolis group, a nationwide outsourced **fuel management and fuel consulting** company, discusses sound and easy methods to improve government fuel management programs.

There are three main keys to success in any government fuel management program.

- Fleet Fuel Card.
- Controls.
- Fuel Audits.

With each type of government it is a matter of drilling down to make your fuel management program better.

State governments need the three main keys, and from there, they need to make sure all fleet fueling is done on the same platform, which starts with the fleet fuel card, according to Sokolis. A state government needs every fleet fuel card to have controls on the vehicle, pin numbers, who fueled the vehicle, odometer reading, time of day refueling can take place, and how many times a day a vehicle can fuel.

All state government fixed-site fuel locations must be able to accept the same fleet fuel card used on the street at a retail fuel location. This allows all data to be warehoused in the same area, with the same controls. It also allows fuel audits to be performed easier. A fuel audit that reviews 30 out of 3,000 transactions is not a fuel audit, Sokolis cautions. All fleet fuel transaction must be audited to be successful.

Municipal government has the same needs as the state government. The difference is they operate in smaller geographic areas. This allows the placement of tighter controls and improved fleet fuel discounts. A municipal government runs its fleet in certain areas, or zip codes. This allows fuel locations out of these areas to be "locked down." In other words, according to Sokolis, your fleet won't be able to get fuel there. Within the area your fleet does buy fuel, the fuel purchasing manager can aggregate your fuel volume and negotiate discounts with local retail fuel stations. This will lower your fuel management cost and improve the controls on your fleet.

City governments, depending on the size, operate more like a state than a municipality. In fuel management, Sokolis noted the biggest problem is theft. Do you read the stories on the Internet about large amounts of fuel stolen? Most involve governments due to the lack of controls and processes in place.

With fleet fuel cards, Sokolis recommends to make it a rule that drivers pay at the pump. By implementing this rule, there is less chance for fuel card fraud.

Underutilizing Fueling Facilities

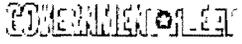
Janis Christensen, TITLE, from Mercury & Associates, "often finds public sector fleet organizations neglect to consider use of commercial fueling to augment or, if appropriate, replace their internal bulk fuel tanks."

Both fuel delivery methodologies should be considered in terms of convenience of location for driver productivity, cost of fuel, cost of infrastructure, environmental compliance matters, effectiveness of information, and exception reporting, fraud detection, provision of fuel during emergencies such as natural disasters, management, and distribution of fuel cards, etc.,

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according to Christensen.

"Fleet organizations will most likely be well-served to close underutilized bulk fuel facilities in favor of commercial facilities," she concluded.



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