

CITY OF LOS ANGELES

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February 12, 2013

Honorable Jan Perry, Chair
Information Technology & General Services Committee
c/o Office of the City Clerk
Room 395, City Hall

Attention: Marie Espinoza, Legislative Assistant

CITY COUNCIL ITGS COMMITTEE REPORT BACK OPTIONS FOR REPLACING/UPGRADING THE VEHICLE MANAGEMENT SYSTEM

On June 5th 2012, the City Council instructed the Department of General Services (GSD) with input from Los Angeles Police Department (LAPD), Los Angeles Fire Department (LAFD) and Information Technology Agency (ITA) to report back options for upgrading or replacing the City's current Vehicle Maintenance System and related motor pool and fuel management systems with new technologies to improve efficiencies and reduce costs.

VEHICLE MANAGEMENT SYSTEM (VMS)

Background

In March 1996 the City implemented a computerized Vehicle Management System (VMS). The underlying technology was developed in the 1980's and while the software provider, AssetWorks, pledges continued support for this legacy system, the level of support is dependent upon available vendor and ITA technical staff who still possess the knowledge of the older software programming language VMS is built on. Currently, GSD, LAPD, and LAFD are using the VMS system to manage their respective fleets. ITA also uses VMS for City-wide radio management and provides VMS support. The City uses the oldest AssetWorks version of VMS which is named MCMS. AssetWorks subsequently released software version M4 and later released a web-based software version called M5, which is the latest software available. The VMS improvement entails upgrading to software version M5.

Fleet managers at GSD, LAPD, and LAFD, with support from ITA staff have customized VMS over the years to find day-to-day efficiencies such as bar code scanning of labor entries, employee motor pool usage through driver license magnetic strip scanning, developing customized data entry screens, and developing automated management reports. New fleet management systems that use the latest web-based technology are available and have been proven to work by State, County and local government fleets across the country. These systems surpass the current capabilities of VMS and integrate with the automated fleet fuel system the City currently employs. Other fleet technologies the City is considering include automated motor pool management systems and GPS fleet telematics which integrate with M5.



Benefits of an Upgraded Fleet Management System

Upgrading the fleet management system will ensure that the City of LA fleet managers have the best fleet management tool available and that fleet managers are not limited by the outdated features and diminishing support of the existing 1980's fleet management system. Upgrading the system not only meets the current capabilities and requirements of the existing system but it exceeds and expands those capabilities with internet-based technologies that result in productivity gains, increased efficiencies, and cost savings.

The M5's upgraded system features and modules are based on modern fleet management techniques and best practices. Customer service and vendor training for the upgraded system are greatly increased and there is a greater network of contemporary fleets using M5 which results in improved peer support and customer feedback for on-going VMS improvements.

While this report is not intended to provide extensive details of all the benefits of upgrading the fleet management system, there are some key benefits that increase productivity, efficiency, and cost savings.

New fleet management system technology allows City computer systems to talk to each other and more easily share data across systems. This upgrade has the ability to push the application out to as many users as necessary, such as shop floor mechanics, customer departments, and City executive management through customized portals. Data sharing is especially important for proper management of auto parts and fuel transactions. The upgraded system also provides enhanced management reporting capabilities. Reporting tools include applications for non-technical users to run "dashboard" type reports using real-time data updates.

Operational benefits of M5 include:

- *Vehicle asset lifecycle tracking from procurement to end-of-life salvage,*
- *Detailed vehicle lifecycle costs and asset salvage revenue,*
- *Maintenance alerts and enhanced shop scheduling via e-mail, SMS, and cell phone messaging,*
- *Secure customer portals to request repair appointments and to submit comments about vehicle problems,*
- *Potential to increase productivity and time savings via the vehicle parts module which allows for faster ordering of the correct parts needed for repairs (if budgetary controls reside in SMS),*
- *Increased interface capability with other City systems such as SMS and FMS,*
- *Enhanced interface capability with other City systems such as SMS and FMS,*
- *Enhanced vehicle replacement modeling,*
- *GPS Fleet telematics integration; and*
- *Automated motor pool integration.*

Key Comparisons - Current vs. Upgraded System:

Current Fleet Management System:	Upgraded Fleet Management System:
Mainframe-based.	Web-based.
Limited interfacing –City and vendor systems.	Expanded integration with related systems.
No customer portals.	Customer portals for departments to view fleet information.
Customized reports generated on request by Fleet Services report writing analysts.	Customized reports available instantly through Key Performance Indicators.
Limited "service due" e-mail notification system.	Customizable customer alerts and notifications.
No Integration with automated Motor Pool or GPS.	Fully Integrated with automated Motor Pool and GPS.

The system is organized through various "modules" such as work order management, asset management, reporting, parts inventory, and system administration. Each module access can be given to users with various security features such as read-only and field level security access.

For example, the parts inventory module has the ability to interface with third party parts vendor networks. As a result, mechanics will be able to look up parts needed for a repair through the M5 system, select parts on the screen and place the parts order all in one motion. This streamlines the ordering process and reduces parts wait time. However, since budgetary controls reside in SMS, this function will not be turned on until there are discussions with ITA and GSD Supply Services to determine if it is possible to interface with SMS to enable this function and still maintain the required budgetary controls. In fact, LAPD's position is that this module is an essential component to their ability to realize increased efficiencies and productivity. Therefore, any issues that may compromise full implementation of the parts inventory module should be resolved prior to investing in a new system.

Preliminary Project Plan

Prior to implementation of the fleet management system upgrade/replacement, several factors need to be considered in a preliminary project plan. The first is current City systems support capabilities to plan, implement, manage, and maintain any system that the City brings in whether it be AssetWorks or any other fleet management system vendor. The next factor will be to decide on whether or not to purchase a vendor hosted vs. a non-hosted solution.

Vendor Hosted vs. Non-Vendor Hosted Solutions:

A vendor hosted solution is one where the vendor maintains a secure server and provides all necessary computer hardware infrastructure and systems support independently. The City then has access to its data and software system with minimal computer workstation hardware and intranet communications investment. City users access the system simply by logging into the City intranet and web browser. Annual costs are higher in a vendor hosted solution, but upfront infrastructure costs decrease since there is no need to purchase expensive computer servers and hire Database Administrators (DBAs) to maintain the data. Some vendors offer solutions whereby the servers are hosted at the vendor's facility or at a designated location. This is similar to the Google Gmail system. However, this solution may not be practical due to LAPD's and LAFD's security concerns for their data.

A non-vendor hosted solution tasks the City with providing full computer infrastructure including server hardware acquisition costs, hiring full-time DBAs to maintain the data, and working with vendors to install and test software system upgrades. Upfront costs increase but annual licensing costs decrease since the vendor is not charging for infrastructure support.

In both options, vendor hosted or non-vendor hosted, an assessment of each fleet's PCs will need to be made to determine which are too old and need to be upgraded or replaced in order to run the new fleet system via intranet and wired or wireless access. This needs assessment plan should be developed internally to determine the hardware costs to run the system City-wide. Once the authority to proceed has been granted, a detailed implementation plan will be expected to be developed by the winning project bidder and agreed upon by each department.

LAPD has expressed particular concern regarding cost issues as they have invested in the implementation of several customizations and enhancements related to their current VMS system, that have become an essential component to managing their public safety fleet. It will be essential that these systems customizations, the extra cost of which can be more fully vetted

as we prepare specifications for the upgrades and the contract bid process, be included in the final cost of the systems approved for purchase.

Cost to Upgrade VMS: Vendor Hosted vs. Non-Vendor Hosted Options

VENDOR HOSTED OPTION	Year 1:	Year 2:	Year 3:	3-year Cost:
Software, Maintenance, Services, Server Set-up, Annual Hosting, & Training	\$1,753,360	\$431,737	\$437,829	\$2,637,926

Refer to Attachment A, Exhibit 1 for detailed vendor hosted costs.

NON-VENDOR HOSTED OPTION	Year 1:	Year 2:	Year 3:	3-year Cost:
Software, Application, Report, Batch Servers, ORACLE Server (initial purchase & subsequent annual maintenance) & Training	\$1,631,060	\$194,437	\$200,529	\$2,026,026

Refer to Attachment A, Exhibit 2 for detailed non-vendor hosted costs.

The non-vendor hosted cost only includes the software in year 1 and software maintenance and upgrades for two additional years. The difference in price between vendor hosted vs. non hosted options is the server setup and annual hosting costs. Additional costs will be incurred with the hosted option. There will be ongoing support cost for software and annual maintenance each subsequent year. There will also be additional cost for equipment, such as computers.

If it is decided to select the non-vendor hosted server solution, then new servers will need to be purchased. This includes a potential for separate servers for each system. A decision will also need to be made if each department will maintain their own servers. The optimal and efficient solution would be that the servers are centralized in the Information Technology Agency ICF Server Farm. Database Administrators would have to be hired by ITA to host and manage the data. Alternatively, individual departments could purchase separate servers for their own use. A decision will need to be made whether each department will purchase and maintain their own servers or whether ITA will host and maintain the system for all City departments.

MOTOR POOL MANAGEMENT SYSTEM (MPMS)

Background

In an effort to find efficiencies in fleet operations, GSD has been examining additional fleet technologies widely used in public and private fleets that would be beneficial to the City. Automated Motor Pool Management Systems (MPMS), such as Invers and Key Valet, offer a comprehensive way of managing multiple motor pool operations with the end result being that fleet managers have the tools necessary to "right-size" motor pool operations while increasing utilization of fleet vehicles. The more visible benefits of this type of system are online vehicle reservations and greater accessibility to vehicle checkouts up to 24-hours, 7-days-a-week if necessary.

The Arroyo Group's Fleet Management Utilization Study also recommended the use of a MPMS system. The basis for their recommendation was in concert with other key recommendations to reduce the size of the fleet based on optimal fleet utilization. The study recommended decreasing the size of the fleet by 447 units and moving 75 units currently operated by single departments to shared pool operations in an effort to increase utilization. The study recommended expanding the current pool operation at City Hall East P1, Caltrans Building, Broadway Public Works Building, and to create new pools at Piper Tech and at Fleet Services Maintenance Facilities on 7th Street. In order to efficiently manage a more complex multiple site motor pool without hiring additional staff, a MPMS was recommended.

MPMS Operation

The MPMS system creates an on-line vehicle reservation system. City staff logs into the secure motor pool intranet website and reserve a vehicle at the desired time and location. A confirmation code is emailed to them when a reservation is made. The employee goes to the secure key box at the motor pool site and enters the confirmation code. The vehicle key is then picked from the correct box. Only one key per confirmation number can be obtained. The reservation is start-date and time-stamped and logged into the reservation system. When the trip is completed, the odometer of the vehicle is recorded automatically and the end of trip date and time-stamp are entered into the system when the key is returned to the box.

Benefits of a MPMS

- *Cost savings of running multiple pool operations without additional staffing,*
- *Greater customer service with up to 24/7 access to motor pool reservations,*
- *Accurate motor pool usage reporting and billing,*
- *Accurate odometer reading captured for vehicle maintenance requirements,*
- *Detailed utilization reporting for fleet management vehicle replacement planning; and*
- *Full integration with the M5 fleet maintenance system.*

Cost of a MPMS

The total MPMS cost for Year 1 is \$252,840, which includes acquisition expenses, maintenance support, and service. Year 2 and 3 are for on-going maintenance support and service. Refer to Attachment B, Exhibit 1 for detailed costs by site.

FUEL MANAGEMENT SYSTEM (FMS)**Background**

GSD currently uses a Fuel Management System (FMS) by EJ Ward to manage all non-proprietary department fueling. GSD purchased the FMS from EJ Ward in 1999. The system consists of fueling transmitters on vehicles and fueling pumps and is capable of recording data such as; date and time of fill-up, vehicle numbers, the department associated with the vehicle, vehicle odometer readings, miles changed in odometer since the last fill-up, and the site where the vehicle was filled. With this information available through GSD's intranet site, departments have the capability of generating fuel reports to review and follow-up on unusual instances and to look for opportunities to reduce fuel usage. In addition to generating reports, GSD sends automated fuel reports via email to the user departments.

Although the FMS is capable of providing fueling access and general fueling data at this time, the system and technology is over 10 years old. At its current software release (Ward 2) and hardware configuration, the current system has very limited expandability other than what it is currently providing. Future expansion of the FMS in order to become fully integrated with current technology to include employee data, additional enhanced vehicle data, telematics and GPS data will require eventual software, hardware, and communication upgrades.

As part of the report, GSD interviewed numerous FMS vendors to find out the latest technology offerings. These vendors included EJ Ward (the current FMS provider), AssetWorks, OPW, Fuelforce, and Fuelmaster. Many of these vendors are capable of advanced features such as capturing employee data, enhanced vehicle data, and GPS data all within a real-time server and web-based environment.

Advanced FMS Features

Real-Time Server

The ability to use a real-time server over what the current system is capable of today provides a significant security benefit. Vehicle identification data is checked online in real-time against the database in the server. With the current system, vehicle identification data is pushed to the remote fueling terminals at the fuel stations. The server then polls the remote fueling terminals every 3 to 4 hours to update the database in the server. The problem with polling is that certain business security rules can be nullified since the fueling terminals and the server have delayed information. With a real-time server, the fueling terminals and the server always have the same information instantly. Vehicle fueling access can be changed and taken into effect instantly with real-time server capability.

Web-Based Software

The current Ward 2 FMS is not web-based. GSD generates exception reports and distributes them to the departments on a periodic basis. If departments require data beyond the "canned" reports, departments will have to access the data using the Fuel Automation Report Center at the GSD's intranet site. The Fuel Automation Report Center can provide basic queries based on transaction date, department, vehicles and fuel card. However, if data is required beyond the basic queries, departments would have to export their data into Excel for further data refinement. This process could be very time consuming and cumbersome. All FMS vendors that were interviewed provide an FMS that is web-based. A web-based FMS provides departments the ability to generate their own user-friendly queries, exception reports, and dashboard metrics at anytime. Furthermore, the web-based software allows anyone with permission to query the database without any additional software licensing costs.

Employee Badge Authorization

One of the features in the FMS that GSD has been trying to implement with the current system is fuel authorization based on employee ID badges. The system currently authorizes based on vehicles. GSD has looked into installing HID badge readers on the fuel control terminals. The HID badge reader is a contactless reader that would validate and capture employee information at the time of fueling. However, the limitations of the current fuel control terminal and software precluded implementation. The capability to capture employee information at the time of fueling would significantly deter the potential for fuel theft as well as incorrect odometer inputs since it would impose employee accountability for all fueling transactions. Based on the interviews with FMS vendors, the latest fuel control terminals and software available in the marketplace today provide this capability.

Enhanced Vehicle Data

At this time, the current system is capable of capturing vehicle odometer readings through the vehicle's computer. However an abundance of additional vehicle information is available at the vehicle's computer which could be read and captured with latest vehicle peripheral technology. This enhanced vehicle data include critical engine (oil and water temperatures), idle and power take-off (PTO) times, speed and rpm data and engine alerts which can be downloaded into VMS to reduce vehicle maintenance cost.

GPS & Telematics

GPS technology cannot be introduced to the current system because of system hardware and software limitations. However most of the FMS vendors provide the GPS option to their system. GPS tracking can introduce features like remote engine diagnostics, geofencing or restricting

vehicles from certain areas and two-way communication with the fleet, which can facilitate fleet maintenance and utilization.

GSD recently began a GPS/telematics pilot project which was not integrated with FMS and VMS. Even without integration, the GPS proved to be a powerful tool in decreasing fuel consumption through changes to driver behavior measured through reduced vehicle idle time and speed reductions. Vehicle maintenance cost is also reduced due to proactive maintenance from real-time vehicle engine alerts.

LAPD is also in the process of field testing non-integrated GPS/telematics equipment in response to an effort to reduce officer-involved traffic collisions and enhance driver safety training. In addition to gathering a multitude of vehicle operations information, LAPD's position is that an integrated GPS/telematics component is an essential upgrade that will provide driver behavior information that could lead to significant cost savings and officer/public safety.

GPS and telematics recurring costs involve the data plans associated with real-time reporting of vehicles at a cost of up to \$300 per vehicle per year. However, some FMS systems are capable of "passive" GPS and telematics where the data is downloaded when the vehicle is in the vicinity of a City fueling station instead of real-time. Passive GPS allows for GPS technology without having the need for the data plan.

Cost of FMS Full System Upgrade

When the City implemented the FMS in 1998, the cost was \$6 million. The system upgrade would require a complete replacement of the system which entails new software, fuel control terminals and vehicle mounted transmitter devices. Based on vendor estimates, the cost for such an upgrade can range up to \$18 million.

Please note that the costs listed in this report are preliminary estimates that are subject to change depending on the functionality of the systems that are chosen and the customization needs of each department.

FMS Software

The latest software provided by the various FMS companies would allow the City to take advantage of the technological features such as real-time server, employee badge authorization, enhanced vehicle data capture and GPS. However, with the current FMS and VMS software providers, there are some benefits over the rest of the providers.

The current FMS software is version Ward 2 by EJ Ward. The software that EJ Ward is currently offering is version Ward 4. Upgrading with EJ Ward would provide the least disruption in implementation and allow upgrading in phases since their latest software is backward compatible.

AssetWorks, the current software provider of VMS, also has FMS software called FuelFocus. The benefit of the FuelFocus software over the others is that there would not be a need for an interface between FMS and VMS since the software would work from only one database. All other software, including EJ Ward, would require the synchronization of data periodically since there are two databases involved.

Fuel Control Terminals

There are 153 Ward Fuel Control Terminals (FCTs) that will require replacement. The replacement costs of the existing fuel control terminals (can range up to approximately \$11,000 each) include electrical installation, upgrade of modem to TCP/IP network communications, system startup and testing. Replacement with EJ Ward terminals would provide the least disruption in implementation and allow replacement in phases since their latest fuel control terminals are backward compatible.

In addition to replacing the FCTs, the communication lines will need to be upgraded at the FCTs. GSD has been working with ITA to convert the communication lines from modem to TCP/IP protocol as budget would allow. Faster communication entails more data download. As of this report, 60 FCTs still require communication upgrades. If the FMS upgrade is approved, any outstanding FCTs requiring communication upgrade will have to be completed, since the replacement FCTs will not operate with the slower modem protocol.

Vehicle Mounted Devices (CANceiver and GPS)

The vehicle-installed modules are the devices that gather the vehicle data and allow the communication between the vehicle and fuel control terminal. The new generation EJ Ward vehicle-installed modules called CANceivers or other current modules provided by other vendors will ultimately be required for each vehicle in order to fully take advantage of vehicle data gathering and GPS capabilities.

However, the new Ward 4 system is backward compatible with the existing CANceivers. Given the backward compatibility, the City has the option of not having to retrofit existing vehicles with the new generation EJ Ward CANceivers and only new vehicle purchases will receive the new generation Ward CANceivers. The cost of the new CANceivers can be capitalized with the purchase of a vehicle.

GPS tracking can introduce features like remote engine diagnostics, geofencing or restricting vehicles from certain areas and two-way communication with the fleet, which can facilitate fleet maintenance and utilization. The hardware cost of GPS can range up to approximately \$400 per vehicle. It is not anticipated that the whole City fleet will require GPS. However, if GPS devices were installed in all 17,000 City vehicles, the one-time present value cost is \$6.8 million. GPS costs are above and beyond the FMS upgrade costs.

There are communications costs associated with each GPS which can vary significantly if data from the GPS is required in real-time or can be gathered passively at each fueling terminal using WiFi. For real-time, multiple data plans range from \$20 to \$50 per month for each vehicle. For hotspot Wi-i, the one-time cost can range up to approximately \$2,000 for each fuel control terminal. Data can also be gathered passively when a vehicle is fueled which requires no data plans. Some users such as non-dispatched vehicle use can fall under passive GPS data gathering. In instances where service truck dispatching and regular service routing is required such as parking enforcement, refuse collection, street sweeping and public safety, active GPS offers additional productivity benefits beyond fuel savings such as route optimization and real time service dispatching. WiFi connectivity and GPS technology would have to be requested through the Information Technology Agency. ITA would need to determine and take mitigated measures to prevent the WiFi connectivity interfering with existing City systems that also utilize these types of wireless technologies.

FMS Implementation Schedule

Since the FMS is a system-wide upgrade, which involves software and hardware replacements for vehicles and 153 fueling terminals City-wide, GSD anticipates up to 5 years to fully implement this upgrade.

OVERALL VMS, FMS, and MPMS STAFFING NEEDS

GSD, LAFD and ITA are requesting positions as outlined in Attachment B, Exhibit 2 to support VMS, FMS and MPMS. These positions are required for the implementation, end user training, continued information technology support, system administration, and management reporting and analysis for both fleet and fuel management operations.

LAPD is certain that additional staffing will be needed related to the implementation of these new systems. On-going technical support, data entry and training positions will be identified

and requested as decisions regarding what systems will be purchased, if the systems will be vendor hosted or non-hosted, and what functions ITA will or will not perform are finalized.

CONCLUSION

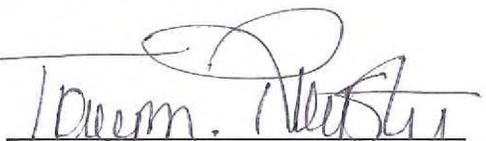
An upgrade of the 16-year-old fleet management program with inclusion of the automated pool management system module, parts inventory module, and 11-year-old FMS is recommended. All fleet and operating departments within the City will realize benefits by upgrading and added benefits will be realized by each operating department that uses the upgraded system through their own customized secure portal. Upgrading will also ensure that the City is using a fleet management tool with the best available web-based technology which will offer many productivity enhancements over the current system.

Additionally, all systems detailed in this report are stand-alone components. While it is optimal to acquire all systems to maximize the benefits of an upgraded tool, each may be purchased individually. Furthermore, the need for support staff will vary dependant on the systems acquired. Refer to Attachment B, Exhibits 3 and 4 for detailed costs.

RECOMMENDATIONS

1. Instruct the GSD, ITA, LAFD, and LAPD to work with the City Administrative Officer to identify funding to staff, purchase and install the upgraded fleet management system, motor pool management system, GPS/telematic system and fuel management system, including the parts inventory module (if SMS is able to maintain budgetary controls), the motor pool management system, and other specifications and customizations essential to each department's fleet operations.
2. Because each of the systems identified in Attachment B are stand-alone systems, direct GSD, ITA, LAPD, and LAFD to work together to determine which option(s) are best for implementation based on funding that is identified.
3. Authorize the Department of General Services, following collaboration with LAPD and LAFD regarding specifications and customizations, to initiate a Request for Proposal for the fuel management system upgrade upon identification and availability of funding by the CAO.
4. Authorize GSD, LAPD, and LAFD to upgrade their fleet management, motor pool management system, GPS/telematic system and fuel management system upon identification and availability of funding by the CAO.

Attachments



Tony M. Royster, General Manager
Department of General Services



Charlie Beck, Police Chief
Los Angeles Police Department



Stephen P. Reneker, General Manager
Information Technology Agency



Brian L. Cummings, Fire Chief
Los Angeles Fire Department

ATTACHMENT A

VEHICLE MANAGEMENT SYSTEM COSTS - VENDOR HOSTED

EXHIBIT 1

YEAR 1					
	LAFD	GSD	LAPD	ITA	All Depts.:
Software	\$40,250	\$254,000	\$120,025	\$136,150	\$550,425
Maintenance	\$14,000	\$50,800	\$24,005	\$27,230	\$116,035
Services	\$112,040	\$270,080	\$194,420	\$228,060	\$804,600
Server Set-up	\$7,500	\$7,500	\$7,500	\$7,500	\$30,000
Annual Hosting	\$29,400	\$105,000	\$79,500	\$38,400	\$252,300
One-time Training	\$0	\$15,000	\$0	\$0	\$15,000
<i>Year 1 Total:</i>	\$203,190	\$702,380	\$425,450	\$437,340	\$1,768,360

YEAR 2					
	LAFD	GSD	LAPD	ITA	All Depts.:
Software	\$0	\$0	\$0	\$0	\$0
Maintenance	\$14,700	\$53,340	\$25,205	\$28,592	\$121,837
Services	\$14,400	\$14,400	\$14,400	\$14,400	\$57,600
Server Set-up	\$0	\$0	\$0	\$0	\$0
Annual Hosting	\$29,400	\$105,000	\$79,500	\$38,400	\$252,300
<i>Year 2 Total:</i>	\$58,500	\$172,740	\$119,105	\$81,392	\$431,737

YEAR 3					
	LAFD	GSD	LAPD	ITA	All Depts.:
Software	\$0	\$0	\$0	\$0	\$0
Maintenance	\$15,435	\$56,007	\$26,466	\$30,021	\$127,929
Services	\$14,400	\$14,400	\$14,400	\$14,400	\$57,600
Server Set-up	\$0	\$0	\$0	\$0	\$0
Annual Hosting	\$29,400	\$105,000	\$79,500	\$38,400	\$252,300
<i>Year 3 Total:</i>	\$59,235	\$175,407	\$120,366	\$82,821	\$437,829

Overall 3-Year Estimated Costs

	LAFD	GSD	LAPD	ITA	All Depts.:
Software	\$40,250	\$254,000	\$120,025	\$136,150	\$550,425
Maintenance	\$44,135	\$160,147	\$75,676	\$85,843	\$365,801
Services	\$140,840	\$298,880	\$223,220	\$256,860	\$919,800
Server Set-up	\$7,500	\$7,500	\$7,500	\$7,500	\$30,000
Annual Hosting	\$88,200	\$315,000	\$238,500	\$115,200	\$756,900
One-time Training	\$0	\$15,000	\$0	\$0	\$15,000
<i>Overall Estimated 3-year Costs:</i>	\$320,925	\$1,050,527	\$664,921	\$601,553	\$2,637,926

VEHICLE MANAGEMENT SYSTEM - NON-VENDOR HOSTED (ITA Costs)

EXHIBIT 2

	YEAR 1	YEAR 2	YEAR 3	3-year Costs:
Software	\$1,471,060	\$179,437	\$185,529	\$1,836,026
Application, Report & Batch Servers	\$25,000	\$5,000	\$5,000	\$35,000
ORACLE Server (initial purchase & subsequent annual maintenance)	\$120,000	\$10,000	\$10,000	\$140,000
One-time Training	\$15,000	\$0	\$0	\$15,000
<i>Totals:</i>	\$1,631,060	\$194,437	\$200,529	\$2,026,026

NOTE: The above costs do not include staffing. See Attachment B for staffing needs & costs.

ATTACHMENT B

Motor Pool Management System

EXHIBIT 1

Location:	Key Box Size:	Y1 Costs:	Y1 Hosting:	Y2 Maint:	Y3 Maint:	3-Year Cost:
City Hall	130	\$70,290	\$52,200	\$34,350	\$36,068	\$192,908
Broadway	30	\$34,905	\$7,200	\$8,775	\$9,214	\$60,094
Caltrans	20	\$34,835	\$4,800	\$6,375	\$6,694	\$52,704
Piper Tech	30	\$34,905	\$7,200	\$8,775	\$9,214	\$60,094
7th Street	20	\$26,015	\$4,800	\$6,375	\$6,694	\$43,884
Smaller Site A	10	\$25,945	\$2,400	\$3,975	\$9,214	\$41,534
Smaller Site B	10	\$25,945	\$2,400	\$3,975	\$9,214	\$41,534
Totals:		\$252,840	\$81,000	\$72,600	\$86,310	\$492,750

Staffing Needs

EXHIBIT 2

Support Staff Required:	Department:	Annual Salaries
Systems Analyst II (VMS Support)	GSD	\$85,838
Management Analyst II (VMS & MPMS Support)	GSD	\$85,838
Management Analyst II (FMS Support)	GSD	\$85,838
Management Analyst II (VMS & MPMS Support)	LAFD	\$85,838
Programmer Analyst IV (VMS Support)	ITA	\$105,439
Programmer Analyst V (VMS Support)	ITA	\$113,669
Database Architect (VMS Support)	ITA	\$121,415

NOTE: Does not include LAPD's potential support staffing needs.

All Systems Upgrade Costs (Vendor Hosted) including Staffing over 3 yrs.

EXHIBIT 3

Systems for Upgrade:		Estimated Totals:
VMS Replacement (Vendor Hosted)	3-year cost	\$2,637,926
Motor Pool Management System (MPMS)/Key Valet	3-year cost	\$492,750
Fuel Management System (excludes GPS)	One time cost	\$18,000,000
GPS/Telematics	One time cost	\$6,800,000
Staffing (does not require ITA's additional staffing)	3-year cost	\$1,030,056
		\$28,960,732

NOTE: The above systems are stand-alone components and can be purchased individually. Staffing will vary based on the systems acquired.

All Systems Upgrade Costs (Non-Vendor Hosted) including Staffing over 3 yrs.

EXHIBIT 4

Systems for Upgrade:		Estimated Totals:
VMS Replacement: Non-Vendor Hosted	3-year cost	\$2,026,026
Motor Pool Management System (MPMS)/Key Valet	3-year cost	\$492,750
Fuel Management System (excludes GPS)	One time cost	\$18,000,000
GPS/Telematics	One time cost	\$6,800,000
Staffing (support for all systems excluding LAPDs potential nee	3-year cost	\$2,051,625
		\$29,370,401

NOTE: The above systems are stand-alone components and can be purchased individually. Staffing will vary based on the systems acquired.