COUNTY OF SAN MATEO INTER-DEPARTMENTAL CORRESPONDENCE

To: Neil Cullen, Director of Public Works

From: Tom Huening, Controller

Date: March 17, 2004

Re: Fleet Maintenance Division – Operational Review

We are pleased to submit our report on the Fleet Maintenance Division of the Department of Public Works.

The primary objective of the review was to assist management in identifying the areas that yielded the greatest benefit from its ongoing process improvement and cost saving efforts.

Our report consists of an executive summary followed by detailed analyses and recommendations. Management responses and implementation plan are also included.

We worked closely with Division management to develop issues, perform analyses and identify potential solutions. We are very grateful to: Robert Radcliffe, Vehicle and Equipment Manager; Rudy Gopez, Fiscal Services Manager; Judy Grossetti, Management Analyst; Donna Vaillancourt; Deputy Director; and everyone involved in this review for their participation. We look forward to working with Public Works personnel in the future.

Att: Department of Public Works Fleet Maintenance Division Operations Review

Report, March 17, 2004

CC: Robert Radcliffe, Vehicle and Equipment Manager

Rudy Gopez, Fiscal Services Manager Donna Vaillancourt, Deputy Director

John Maltbie, County Manager/Clerk of the Board of Supervisors (8)

Peggy Thompson, Jury Commissioner (7)

Department of Public Works Fleet Maintenance Division SAN MATEO COUNTY

Operations Review Report

March 17, 2004



Office of the County Controller Audit Division

Table of Contents

Executive Summary	1-3
Background Information	4
Purpose and Scope	5
Methodology	5
Opportunities for Improvement	6-11
Implementation Plan	11
References	11
Appendices	12-23
Discussion Points	24
Management Response	25-27

Executive Summary

Fleet Maintenance is a division of the Department of Public Works. The division is managed by the Director of Public Works and there are an additional 17 full-time employees. The primary function of the division is to provide procurement, maintenance and repair services in a quality, professional and cost-effective manner that ensures safe and reliable vehicles for San Mateo County (the County) agencies. Fleet Maintenance management has strived to achieve its goals and objectives by proactively improving processes and maximizing cost savings. One notable accomplishment provided \$4.6 million in cost avoidance through internal vehicle replacement.

Fleet Maintenance Facts	FY2003
County assigned vehicles	589
County motor pool	138
County lease program	27
County driver training	34
County motorcycles	4
Total County Vehicles	792
Assigned vehicle miles	5,218,496
Assigned vehicle cost/mile (1) 31.5 cents
Benchmark cost/mile (2)	31.9 cents
Source: (1) WinCams (2) Edmunds.com	

We reviewed fleet maintenance operations in collaboration with the Director of Public Works, Fiscal Services Manager and other personnel. The primary objective of the review was to assist management in identifying the areas that yielded the greatest benefit from its ongoing process improvement and cost saving efforts.

The scope of the review included the following:

- Vehicle selection, procurement and replacement process
- Preventative maintenance program
- Insurance subrogation and warranty recovery programs
- Vehicle eligibility policy
- Safeguarding of inventory parts and fuel

After our review of Fleet Maintenance operations, we identified \$1.75 million in cost savings through investment in various programs which enhance operational efficiencies. The following is a summary of opportunities, which is also depicted in Table 1:

> Adjust the vehicle mileage rate commensurate with true operating cost and address the \$1.2 million residual in the Fleet Maintenance internal service fund (ISF)

Fleet Maintenance established an ISF to account for goods and services it provides to other organizations within the County. By definition, ISF's are not supposed to be profitable. They should operate on a cost-reimbursed basis for their services, and when necessary, adjust their service charges for changes in cost structure or service level. Our review indicates that revenues collected from service charges have exceeded costs for the past five fiscal years, resulting in a reserve balance that exceeds requirements. Fleet Maintenance should at a minimum validate the mileage rates annually to assess if the reimbursement revenue is commensurate with the actual cost of vehicle maintenance and use the residual for the investment programs identified below. The remainder would fund shortfalls in the ISF replacement reserve or be refunded back to the user departments.

➤ The County can realize \$162 thousand of cost savings by upgrading the current fleet of assigned compact vehicles to hybrid vehicles over the normal replacement cycle

While the initial purchase price of a hybrid vehicle is higher than that of a conventional vehicle, the combined fuel and maintenance cost savings of a hybrid is a discounted \$1,764 per unit over the 7-year life of the vehicle. In addition to the aforementioned hard savings, there are soft savings in the form of environmental benefits by using a higher mix of hybrid vehicles. Therefore, Fleet Maintenance should continuing pursuing opportunities to use hybrid vehicles whenever possible.

> Retrofitting gas tank rings onto the current County fleet will provide efficiency gains of \$113 thousand over the next 8 years

The current methodology of capturing odometer readings, which provide the basis for preventative maintenance and billing mileage rates, requires data entry on the part of the vehicle operator. When errors or omissions occur, a great deal of time is spent by fleet maintenance administration, user department administration and vehicle operator in identifying and correcting for errors and omissions. Under the current process, an employee is also able to dispense fuel to a non-County vehicle. We recommend utilizing gas tank rings which can electronically read vehicle information every time a vehicle is fueled in order to save considerable labor costs and provide safeguarding of fuel.

➤ Reducing the motor pool by 37 vehicles will yield one-time savings of \$37 thousand and ongoing discounted savings of \$22 thousand per annum

Fleet Maintenance needs develop a process to better track motor pool usage so that the optimum number and mix of vehicles is maintained. Based on an analysis of motor pool usage, we identified between 28 and 46 excess vehicles. Taking average of 37 vehicles, the County could hypothetically auction each vehicle @ \$1,000 per unit and realize ongoing maintenance cost avoidance of \$685 per vehicle per annum.

Table 1 Summary of Opps	Capital Required A +	One-Time Savings B +	Annual Savings*	Life Years D)	NPV Savings* = E
Hard Savings	21	ъ ,	(C x	υ,	- L
ISF reserve residual		1,218,865			1,218,865
Hybrid vehicle upgrade	(493,764)		93,720	7	162,274
Reduce motor pool		37,000	21,918	7	190,424
Subtotal	(493,764)	1,255,865	115,638		1,571,563
Efficiency Gains Install gas tank rings Build new car wash Inventory barcode Subtotal	(119,596) (100,000) (4,000) (223,596)		29,067 9,740 4,588 43,395	8 15 5	112,943 46,107 18,941 177,991
Total	(717,360)	1,255,865	159,033		1,749,554
* Discounted by 3.77% per annum over life					

> Other operational opportunities

o Presently there is only one car wash facility located in Redwood City that handles approximately 25 to 30 washes per day. Employees with vehicles located in the northern region and at the motor pool located at Tower Road must travel up to 8 miles or 16 minutes to receive car washing services. We recommend building a secondary car wash

facility located in the northern region of the County in order to save commute time necessary to receive car washing services. There would be no incremental personnel costs associated with the second car wash as the Sheriff's Work Program will provide inmates to perform car washing duties as it does with Redwood City.

- o Fleet Maintenance should extend the parts inventory bar code system and include repair orders to better track parts as they enter and leave the supply store and eliminate the data entry function which is prone to errors. Errors result in considerable time spent on tracking down a supposedly in-stock part or having to leave the premises to buy the part.
- o Fleet Maintenance needs to develop and implement policies and procedures that ensure appropriate use of fuel credit cards. Fuel dispensed at a retail station using a credit card is typically 30% more expensive than the six County-owned fueling stations (GasBoy). In addition, valuable information such as vehicle odometer reading is lost by not refueling at GasBoy, and most importantly, a control weakness exists where it is very easy for an employee to dispense fuel to a non-County vehicle.
- Our review indicates that the ISF replacement reserve is delineated by department. Statements given to user departments, however, do not indicate projections for replacement adequacy, thus user departments are not aware of additional exposures or resources in meeting budgets. We recommend that Fleet Maintenance distribute periodic statements with projections to their customers so that they are able to treat the ISF reserve as a management resource.

As noted earlier, Fleet Maintenance management has strived to achieve the division's goals and objectives by proactively improving processes and maximizing cost savings. Our collaborative review focused primarily on identifying programs that would further improve operational efficiencies and identifying weaknesses in controls and potential risk management issues. Fleet Maintenance should continue to explore investment opportunities that yield additional operating efficiencies and concentrate its management efforts on fleet utilization.

Background Information

Fleet Maintenance is a division of the Department of Public Works which operates the Grant Corporation Yard maintenance facility located at 752 Chestnut Street in Redwood City and the San Mateo County motor pools located in both Redwood City and Tower Road, Belmont. The division is managed by the Director of Public Works and there are an additional 17 full-time employees – 11 mechanics, 3 office personnel, 2 service supervisors, and 1 field manager. The primary function of the division is to provide procurement, maintenance and repair services in a quality, professional and cost-effective manner that ensures safe and reliable vehicles for San Mateo County (County) agencies. Fleet Maintenance also operates and maintains the new Gas Boy fueling system, which has been installed in six locations through out the County. The system gives employees access to fuel 24 hours a day, seven days a week, and provides timely data for a preventative maintenance schedule.

In FY1996, the County established an internal service fund (ISF) to account for its vehicles. An ISF is a proprietary type fund, meant to account for goods and services provided by one government organization to one or many other organizations within the same entity. The benefits of an ISF to fleet management include increased visibility to the utilization of vehicles, appropriateness of mileage rates, an assessment of cash flow for replacement of vehicles and a discipline of establishing a replacement fund over the useful life of a vehicle. Table 2 depicts the ISF's financial performance over the last three fiscal years.

Table 2 ISF Financial Data \$	FY01	FY02	FY03
Revenue All Sources	5,109,375	5,561,888	5,625,578
Salaries & Benefits Fleet Maintenance Vehicle Replacement Prior Year Refund Other	763,562 1,281,740 1,873,954 0.0 383,598	803,096 1,172,434 2,103,907 0.0 354,535	862,488 1,235,714 1,115,088 350,937 427,592
Total Expenses	4,302,854	4,433,972	3,991,820
Net Income / (Loss)	806,521	<u>1,127,916</u>	<u>1,633,758</u>
Source: IFAS			

Notable Accomplishments

Over the past couple of years, fleet maintenance has solicited input from user departments when considering options for purchase, service and funding. Balancing customer needs and environmental impacts with costs have been considered in implementing a number of new programs and processes. The more recent accomplishments have been:

- Operating cost per mile of the County fleet betters benchmark data provided by Edmunds.com, an online automobile resource
- □ Percent of customer survey respondents rating services good or better is 99.5%
- □ A new Windows Cost Accounting Management System (WinCAMS) has been installed to provide better data on vehicle repairs and preventative maintenance
- □ New models and styles have been added to the fleet without incremental costs; the cost and depreciation for a Ford Expedition (SUV) is similar to that of a Ford Crown Victoria (mid-size sedan)
- □ Participation in the State bid process and sealed bid process has ensured best purchase prices for new and replacement vehicles
- □ Proper recovery for insurance and warranty subrogation

- □ The internal preventative maintenance schedule is strictly adhered to, follows the manufacturer recommended service intervals and is consistent with other jurisdictions
- □ Effective fleet management has saved the County over \$4.6 million through internal vehicle replacement

Purpose and Scope

Fleet Maintenance has strived to achieve its goals and objectives through prudent management by improving processes and maximizing cost savings. The primary objective of this review was to assist management in identifying the areas that yielded the greatest benefit from its ongoing process improvement and cost saving efforts.

We reviewed Fleet Maintenance operations in collaboration with the Director of Public Works, Fiscal Services Manager and other personnel. We focused our efforts on the following areas:

- Vehicle selection, procurement and replacement processes for operational improvements
- Cost effectiveness and adherence to the preventative maintenance program
- Ensure proper insurance and warranty subrogation
- Vehicle eligibility policy as potential for eliminating unnecessary County vehicles and risk management weakness
- Ensure proper safeguarding of inventory (parts and fuel)

We also followed up on the recommendations set forth in an earlier ISF Fleet Review performed by Steve Leckey's consulting group dated October 7, 2002.

Methodology

To achieve our audit objectives we performed the following audit procedures:

- ✓ Interviewed Fleet Maintenance personnel
- ✓ Observed current processes within the division
- ✓ Reviewed applicable laws and regulations
- ✓ Reviewed financial data from IFAS (County accounting system)
- ✓ Reviewed cost accounting data from WinCAMS
- ✓ Surveyed other jurisdictions and reviewed national survey results for benchmarking purposes
- ✓ Conducted detailed analysis/testing of areas within fleet maintenance
- ✓ Researched investment opportunities for revenue enhancement or cost savings through improved operational efficiencies

Based on our review, we made recommendations where we saw an opportunity for improvement.

Opportunities for Improvement – Tier 1

1. Address ISF Operations Reserve Residual

Chapter 13.12 in the Accounting Standards and Procedures for Counties set forth by the California State Controller's Office states that:

An internal service fund's activities may result in income or loss for the fiscal year. If the mid-year results indicate that there will be either a substantial income or loss for the year, rates should be adjusted at that time; otherwise, they should be adjusted at year-end. The determination of the income or loss must take into consideration any required reserves¹.

Our review indicates that the ISF related to fleet operations has been showing positive net

income for the past 5 fiscal years through FY2003, where revenue collected has exceeded expenses. When taking into consideration any required reserves, the ISF reserve balance related to fleet operations also exceeds requirements. Table 3 depicts the ISF operations financials by

Fiscal	Income	Reserve	Reserve	Over
Year	(Loss)	Balance	Required	(Under)
1999	560,999	697,152	665,692	31,460
2000	306,770	1,003,922	808,596	195,326
2001	255,197	1,259,120	906,311	352,809
2002	593,910	1,853,029	908,934	944,096
2003	329,236	2,182,265	963,400	1,218,865

fiscal year. Our analysis shows that there is a \$1.2 million residual in the ISF reserve above the reserve requirement as of the end of FY2003.

As suggested by the California State Controller's Office above, Fleet Maintenance should have charged a vehicle mileage rate that was commensurate with the cost of maintaining vehicles for other County departments with consideration given to required reserves.

Recommendation 1

We recommend that Fleet Maintenance develop a new methodology in calculating vehicle mileage rates that reflects the true cost of vehicle maintenance and annually adjust the mileage rate as part of the fiscal budget process, when necessary.

Fleet Maintenance should invest the residual in the investment programs identified below, fund any shortfalls in the ISF replacement reserve and refund the residual balance to the user departments.

2. Upgrade Assigned Compact Class to Hybrid

The United States Department of Energy has cited the following advantages of a hybrid vehicle over a conventional vehicle²:

• Fuel efficiency is greatly increased (hybrids consume significantly less fuel than vehicles powered by gasoline alone)

- Hybrids can reduce dependency on fossil fuels because they can run on alternative fuels
- Engines can be sized to accommodate average load, not peak load, which reduces the engine's weight
- Special lightweight materials are used to reduce the overall vehicle weight
- Emissions are greatly decreased

In addition to the hybrid advantages noted above, our analysis has shown that hybrids are less expensive to operate and maintain than conventional vehicles. The maintenance, fuel and resale advantages offset the higher initial purchase cost of a hybrid by \$1,764 over the life of the vehicle, which is typically 7 years. If the savings were applied to the entire fleet of assigned compact vehicles (92), then the County can realize total savings of \$162,274. See Table 4.

Table 4 – Hybrid Program \$	
7-year cost of ownership conventional 7-year cost of ownership hybrid Hybrid Advantage Per Vehicle County Assigned Compacts	34,271 32,507 1,764 92
Total Savings See Appendix 2 for cash flow analysis	<u>162,274</u>

Fleet Maintenance has already replaced 6 of the County's motor pool vehicles with hybrids to help increase our energy conservation efforts as these vehicles produce low emissions and high gas mileage. Fleet Maintenance has budgeted for an additional 8 hybrid vehicles to replace gasoline powered motor pool vehicles in FY2003-04.

Recommendation 2

We recommend that Fleet Maintenance extend the hybrid program to include assigned vehicles, and replace them with hybrids when their normal replacement date comes due. The County can realize both fiscal savings and continue conservation efforts as additional hybrid vehicles make their way into the fleet.

3. Install Gas Tank Rings to Current Fleet

In reviewing real time WinCAMS data for vehicle odometer readings, which formulates the basis for charging user departments the vehicle mileage rate and for alerting departments of an impending preventative maintenance, we noted several instances where the odometer reading was absent or the reading was incorrect. The fleet administration department spends considerable time generating exception reports in identifying missing or incorrect vehicle data, and spends even more time corresponding with the user department administrative staff. This in turn creates a situation where the user department administrative staff must now contact the vehicle operator for the correct vehicle information.

The current GasBoy fueling system requires data entry on the part of the vehicle operator in capturing odometer readings. Data entry is both time consuming and prone to errors. In many instances, vehicle operators also entered dummy data (55,555 or 99,999) when fueling their vehicles. The current fueling process also has a control weakness. Vehicle operators unlock the pumps with an electronic card key, but there was no safeguard against fuel dispensed to a non-County vehicle.

GasBoy, the manufacturer of our fueling system, offers a product named FuelPoint that eliminates driver interaction and the need for keys, cards and manual entries in capturing

vehicle information. All the hardware needed to implement FuelPoint is gas tank rings fitted to each vehicle's fuel fill pipe and a minor software upgrade is needed. When the vehicle operator inserts the nozzle in the fill pipe, odometer and vehicle identification information are automatically transferred to the GasBoy fuel management system, which authorizes fueling and then records the vehicle and transaction information into WinCAMS.

The initial capital outlay for FuelPoint would be \$119,596 and the discounted savings for the life of the project of 8 years is \$232,539 for net present value savings of \$112,943. See Table 5 for details.

Table 5 – Gas Boy Project \$					
Hardware					
Cost of tank rings	126				
County vehicles	792				
Total	99,792				
Other	19,804				
Capital Outlay	119,596				
Savings 8-Year Life					
Fleet admin labor	112,489				
User admin labor	56,245				
Operator labor	63,805				
Total Savings	232,539				
Net Present Value	<u>112,943</u>				
See Appendix 3 for further details					

Recommendation 3

Fleet Maintenance should retrofit the current County fleet with the gas tank rings and integrate the FuelPoint fuel management system into the GasBoy fueling system. Eliminating the data entry function every time a vehicle operator dispenses fuel will reduce errors and save labor costs (fleet administration and administrative labor in the user departments). FuelPoint will also provide a safeguard against fuel dispensed to non-County vehicles.

4. Reduce Motor Pool Vehicles

As of the end of June 30, 2003, there were 138 vehicles in the County motor pool. Based on our analysis of motor pool usage, we identified between 28 and 46 excess vehicles. The methodology we employed was comparing peak usage days by vehicle class and comparing peak usage days for the motor pool as an aggregate. We cited no instance where peak usage exceeded supply for any of the motor pool classes.

Table 6 – Motor Pool Usage							
Vehicle Class	Peak	Vehicles	Excess	Date			
Compact	45	46	1	10/23/01			
Midsize	23	26	3	1/24/02			
Small Van	18	24	6	7/10/01			
Pickup Large Van	19	36	17	11/8/01			
Large Truck	<u>5</u>	<u>6</u>	<u>1</u>	11/15/01			
Total	110	138	28				
Aggregate Day 1	92	138	46	10/23/01			
Aggregate Day 2	92	138	46	11/8/01			
Source: WinCAMS							

Fleet Maintenance has an opportunity to reduce the motor pool vehicle count and still serve the County motor pool needs. Each of the County vehicles typically sells for \$1,000 at auction and requires approximately \$685 in annual maintenance costs. Reducing the motor pool 37 vehicles, the average of the two aforementioned methodologies, would save the County \$37,000 one-time from an auction sale and \$21,918 discounted savings per annum from maintenance cost avoidance.

Fleet Maintenance has the responsibility of ensuring the most appropriate and most efficient use of County assets.

Recommendation 4

We recommend that Fleet Maintenance reduce the motor pool by the appropriate amount to avoid the maintenance cost of unnecessary vehicles and at the same time realize one-time savings from the sale of the surplus vehicles. Fleet Maintenance should also perform an annual review of the motor pool in determining optimum mix and number of pool vehicles.

Opportunities for Improvement – Tier 2

5. Build New Car Wash Facility

The Grant Corporation Yard located at 752 Chestnut Street in Redwood City operates the only County-owned car wash facility in San Mateo County. The car wash services between 25 and 30 vehicles per day, and the Sheriff's Work Program provides the labor.

Fleet Maintenance operates a motor pool located at 29 Tower Road in Belmont. There are approximately 50 motor pool vehicles and a couple of buses in Belmont, representing more than 1/3 of the total motor pool count of 138. In order for the Belmont motor pool vehicles or any other County-owned vehicle in the vicinity to receive a car wash, an employee must travel as much as 8 miles or 16 minutes driving time.

By building a new car wash facility located in the northern region of the County, net present value labor savings of \$46,107 can be realized over the next 15 years, the useful life of the new facility. The initial capital outlay for the project is \$100,000. See Appendix 4 for details. Note that there would be no incremental labor costs in operating the new car wash as the Sheriff's Work Program will provide the labor as it does with Redwood City.

Recommendation 5

Fleet Maintenance should build a second car wash facility located in the northern region of the County. There are considerable time and fuel savings from County employees driving to a closer facility.

6. Implement Bar Code System for Repair Orders

The inventory clerk overseeing the maintenance materials stores performs approximately 25 inventory transactions per day from repair orders, with each transaction taking 30 seconds to enter. Repair order transactions made in the current inventory system require data entry, which is both time consuming and prone to errors.

We noted instances when an item status was defined as "in stock" when in fact it was out of stock. The frequency of items not found when believed to be "in stock" is about one item per week, but 30 minutes is spent on trying to locate the item or leaving the premises to purchase the needed item.

The maintenance materials stores also saw \$5,800 of inventory shrinkage in FY2003, the difference between physical inventory and book inventory. Data entry or physical count errors normally contribute to inventory shrinkage.

The maintenance materials stores inventory is already on a bar coding system. The capital outlay needed to upgrade the inventory bar code system to include repair orders is \$4,000 while the net present value labor and shrinkage savings is \$18,941 total over the next five years, at which time another system upgrade will likely be needed. See Appendix 5 for details.

Recommendation 6

Fleet Maintenance should extend the current inventory barcode system to include repair orders, de facto saving labor costs, reducing errors and safeguarding against shrinkage.

Opportunities for Improvement – Tier 3

7. Develop Policies and Procedures For Use of Fuel Credit Cards

Fleet Maintenance makes available fuel credit cards (Chevron and Texaco brand) to departments that require travel outside the County limits where GasBoy is not available. Upon request, the cards are assigned to a specific user or vehicle, but instances do exist where departments own a couple of "floater cards" for emergency purposes. There are approximately 224 fuel credit cards currently issued to user departments. In fiscal year 2003, the County spent \$58,747 (or 12% of total fuel costs) on vehicle fuel through the use of fuel credit cards.

Current use of fuel credit cards poses accounting, operational and control risks. Although Fleet Maintenance assigns fuel credit cards to specific users or vehicles, invoices and statements from the vendor cannot be traced back to a specific card. The expense is then treated as a vehicle mileage rate overhead allocation and spread back to all departments. Furthermore, fuel dispensed outside of GasBoy does not require the vehicle operator to capture valuable information such as odometer reading, gallons dispensed, location or price paid per gallon. Fleet Maintenance thus has a difficult time determining service intervals, system miles per gallon and appropriate vehicle mileage rates. Lastly, a condition exists where there is no safeguard against a vehicle operator dispensing fuel to a non-County vehicle or purchasing mini-mart items.

The Fleet Maintenance division has the management responsibility in ensuring proper accounting of its services, a means of capturing vital vehicle information for service alerts and proper safeguarding against misuse of County property.

Recommendation 7

We recommend that Fleet Maintenance develop and implement policies and procedures that address the use of fuel credit cards which allows for proper accounting of services, provides a

means for capturing vehicle information and safeguards the County's assets. One suggestion may be the requirement of a vehicle operator when using a fuel credit card to fill out a fuel log due at the end of each month. The operator would provide date, location, gallons dispensed, price per gallon, vehicle odometer reading and vehicle number on the log.

8. Give Projections For The ISF Replacement Reserve By Department

Our review indicates that the ISF replacement reserve is delineated by department, but statements given to user departments do not indicate projections for replacement adequacy. As a result, user departments are not aware of additional exposures or resources in meeting budgets or financial targets.

A detailed ISF replacement reserve financial statement can be found in Appendix 6.

Recommendation 8

Fleet Maintenance should distribute periodic statements with projections to their customers so that they are able to treat the ISF reserve as a management resource.

Implementation Plan

We recommend that the Fleet Maintenance division develop a detailed implementation plan and timeline for addressing the aforementioned recommendations. As a service to our clients, we automatically schedule a one-year status review from the date of this report.

^{1.} State of California, Accounting Standards and Procedures for Counties, May 2003, page 13.7

^{2.} United States Department of Energy, <u>Office of Transportation Technologies (website)</u>, <u>http://www.ott.doe.gov/hev/hev.html</u>



Appendix 1

ISF Operations Detailed Financial Statement
Subunit 47650 Fleet Maintenance Administration

As of fiscal years ending June 30

	FY1999 Actuals	FY2000 Actuals	FY2001 Actuals	FY2002 Actuals	FY2003 Actuals
Revenue					
Total Revenue Sale of Surplus & Salvage (1) Interest Income (2) Replacement Pool (3)	2,729,102 (105,832) (24,069) (128,589)	2,786,641 (60,644) (90,237) (133,947)	3,056,864 (88,768) (113,435) (141,155)	3,206,975 (52,875) (102,567) (149,712)	3,550,390 (70,652) (116,651) (175,280)
Base Revenue	2,470,612	2,501,813	2,713,506	2,901,820	3,187,807
Operating Expenses					
Salaries & Benefits Vehicle Fuel Auto Insurance Vehicle Maintenance Central Allocation Facilities Rent Interest Expense Prior Year Refund Fixed Assets Equipment Other	668,601 322,784 285,000 325,366 178,347 50,089 13,811	705,179 413,979 273,726 371,620 280,560 50,091 35,559 - 5,407 58,922	763,562 543,660 325,000 372,475 189,929 50,088 41,568 - 53,930 118,097	803,096 414,388 320,147 386,429 174,427 54,822 45,344 - 6,170 103,088	862,488 489,499 315,369 376,774 203,333 55,919 94,929 350,937
Total Expenses	1,909,613	2,195,043	2,458,309	2,307,911	2,858,572
Net Income/(Loss)	560,999	306,770	255,197	593,910	329,236
Reserve Balance	697,152	1,003,922	1,259,120	1,853,029	2,182,265
Reserve Requirement					
60-Day Working Capital Deposits From Other Acc Depr Improvements Acc Depr Equipment	318,269 - 297,037 50,386	365,840 67,644 311,726 63,386	409,718 93,792 326,415 76,386	384,652 93,792 341,104 89,386	411,429 93,792 355,793 102,386
Total Requirement	665,692	808,596	906,311	908,934	963,400
Balance Over/(Below) Reserve Requirement	31,460	195,326	352,809	944,096	1,218,865

^{1.} Sale of salvage and surplus originally booked to subunit 47650 should have been booked to subunit 47680

Source: IFAS

^{2. 100%} of interest income booked to subunit 47650; 41.24% of the ISF reserve is operations, thus 58.76% of interest income should have been booked to subunit 47680

^{3. 70%} of revenue from motor pool rentals is depreciation and CPI and belong in subunit 47680

Appendix 2

Cash Flow Analysis - Hybrid versus Conventional

Discount 4%	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Purchase Toyota Prius (Hybrid)	21,837							
Insurance Taxes Fuel Maintenance Repairs Salvage		830 257 649 27 0	859 230 668 137 0	889 206 688 410 37	920 185 709 828 238	952 167 730 1,572 357	985 152 752 498 476	1,019 140 774 498 595 -6,524
Annual Cash Flow	21,837	1,763	1,894	2,230	2,880	3,778	2,863	-3,498
Discounted Cash Flow	21,837	1,699	1,759	1,996	2,484	3,140	2,293	-2,700
Net Present Value	32,507							
Purchase Ford Focus LX (Gas)	16,470							
Insurance Taxes Fuel Maintenance Repairs Salvage		819 161 889 762 0	848 144 916 1,011 0	878 128 943 905 38	909 113 971 1,460 241	941 100 1,000 1,835 361	974 89 1,030 1,000 481	1,008 80 1,061 1,000 601 -3,235
Annual Cash Flow	16,470	2,631	2,919	2,892	3,694	4,237	3,574	515
Discounted Cash Flow	16,470	2,535	2,711	2,588	3,186	3,521	2,862	397
Net Present Value	34,271							
Discounted Cash Flow Increment	-5,367	836	952	592	702	381	570	3,097
Net Present Value Increment	1,764							

Source: edmunds.com

See next page for assumptions and methodology

Appendix 2a

Assumptions and Methodology - Hybrid versus Conventional

Purchase price includes 8.25% California State sales tax and has been removed from Year 1 taxes & fees line from edmunds.com

Financing from edmunds.com has been removed as analysis is done on a discounted cash flow basis

There was no Year 6 nor Year 7 information on fuel. Both the Ford Focus and Toyota Prius projection for Year 6 and Year 7 follows the historical growth pattern from Years 1-5.

There was no Year 6 nor Year 7 information on maintenance. The Ford Focus projection assumed a decline from Year 4 and Year 5, which are typically maintenance-heavy years from new tires, spark plug changes, radiator drain, transmission fluid changes and replacement of the timing belt. The Toyota Prius Year 6 and Year 7 projection is a ratio of Years 1-5 vis-à-vis the Ford Focus maintenance.

There was no Year 6 nor Year 7 information on repairs. The Year 6 and Year 7 assumption for both vehicles was a trended growth from Year 4 and Year 5.

<u>Salvage</u>	Toyota	YOY	Ford	YOY
	Prius	Factor	Focus	Factor
Purchase	20,173		15,215	
Year 1 Depr	5,336		6,041	
Year 2 Depr	1,824	34%	1,304	22%
Year 3 Depr	1,605	88%	1,147	88%
Year 4 Depr	1,423	89%	1,016	89%
Year 5 Depr	1,277	90%	912	90%
Year 6 Depr	1,149	90% derived	821	90% derived
Year 7 Depr	1,034	90% derived	739	90% derived
Total Depr	13,649		11,980	
Salvage	6,524		3,235	

2003 Toyota Prius True Cost to Own ratings at Edmunds

Page 1 of 3

edmund Financing As Low As 3.69% APR Free Insurance Quote 0 Sav Free Price Quotes CAR DISCUSSION TIPS & ADVICE OWNERSHIP USED CARS CAR REVIEWS **NEW CARS** 2003 Toyota Prius 4dr Sedan (1.5L 4cyl Gas/Elec Hybrid CVT) View All Styles | Compare Styles | 2004 Style • Latest Ir 9.4 RATE IT 48 Reviews Competi Consumer Rating J.D. Power Ratings | View all Ratings | Editors' Review Awards • Downloa SAVE THIS CAR Calculate Low Payments • Get a Free Price Quote PRICING AND COSTS Free Insurance Quote Find a Local Toyota Dealer Have Dealer Price Quotes rece Pricing True Cost to Own ^{sм} (TCO) PRIC Price with Options About TCO Incentives & Rebates from d True Cost to Own in y Summary Resale Values Payment Calculators \$28,453 view details True Cost to Own* Get Free CAR FEATURES \$19,958 view details **Total Amount Financed** Standard Features \$0.38 compare similar vehicles Average Cost per Mile* Specs 66 The Compare Styles True Cost to Own Ratings** is fast, ea Colors depreciation cost saves mo operating cost Safety good for Photos & Video have an a \$\$\$ \$\$\$ Maintenance otiations. Standard Warranty This is a 5-year estimate (based on 15,000 miles per year). the decis ** Ratings are determined for a specific vehicle category more info Note: Manufacturers periodically offer cash rebates/incentives which may result in a net overall reduction in your actual costs to own. REVIEWS AND RATINGS buyer car possibiliti Editors' Review atmosphe Based on regional costs for Zip Code: $944\overline{01}$ Change Consumer Reviews Edr Road Tests & Awards Ratings True Cost to Own Consumer Discussions Year 1 Year 2 Year 3 Year 4 Year 5 5-yr Total Get a l Depreciation \$5,336 \$1,824 \$1,605 \$1,423 \$1,277 \$11,465 NEXT STEPS PRICE \$2,767 Financing \$959 \$767 \$564 \$351 \$126 **Dealer Price Quotes** \$889 \$920 \$952 \$4,450 Insurance \$830 \$859 Calculate Monthly \$230 \$206 \$185 \$167 \$2,721 Taxes & Fees \$1,933 **Payments** \$688 \$709 \$730 \$3,444 Fuel \$649 \$668 Free Insurance Quotes \$27 \$137 \$410 \$828 \$1,572 \$2,974 Maintenance Free Warranty Quote \$37 \$238 \$357 \$632 Repairs \$0 \$0 FIND A RELATED CAR \$9,734 \$4,485 \$4,399 \$4,654 \$5,181 **Yearly Totals** \$28,453 **Competing Vehicles View All Styles** ▶ Get Additional True Cost to Own Information **Previous Years** 2004 Future Vehicles Other Toyota Models

2003 Ford Focus True Cost to Own ratings at Edmunds Page 1 of 3 edmunds com SAVEC Financing As Low As 3.69% APR Free Insurance Quote Free Price Quotes 0 Sav OWNERSHIP **NEW CARS** USED CARS CAR REVIEWS TIPS & ADVICE HOME 2003 Ford Focus LX Premium 4dr Sedan (2.0L 4cyl 5M) View All Styles | Compare Styles Awards • Latest Ir Consumer Rating 8.7 RATE IT 116 Reviews ۹ Competi J.D. Power Ratings | View all Ratings | Editors' Review Downloa SAVE THIS CAR • Get a Free Price Quote • Calculate Low Payments PRICING AND COSTS • Find a Local Ford Dealer • Free Insurance Quote Dealer Price Quotes Edmui Pricing Buy True Cost to Own ™ (TCO) • Price with Options About TCO Incentives & Rebates Edmun • True Cost to Own Summary of conte • Resale Values negotia Payment Calculators True Cost to Own* \$30,015 view details deal po CAR FEATURES Become **Total Amount Financed** \$11,606 view details Standard Features consum Specs Average Cost per Mile* \$0.40 compare similar vehicles Compare Styles True Cost to Own Ratings** • Colors operating cost depreciation cost Safety • Photos & Video **\$** \$\$\$ \$ \$\$\$ Maintenance Standard Warranty This is a 5-year estimate (based on 15,000 miles per year). ** Ratings are determined for a specific vehicle category See **REVIEWS AND RATINGS** Note: Manufacturers periodically offer cash rebates/incentives which may result in a net overall reduction in your actual costs to own. Are I Editors' Review Change Based on regional costs for Zip Code: 94401 Consumer Reviews Road Tests & Awards Ratings True Cost to Own Consumer Discussions Year 1 Year 2 Year 3 Year 4 Year 5 5-yr Total \$1,016 \$912 \$10,420 Depreciation \$6,041 \$1,304 \$1,147 **NEXT STEPS** Financing \$687 \$550 \$405 \$252 \$90 \$1,984 **Dealer Price Quotes** \$941 \$4,395 \$909 Insurance \$819 \$848 \$878 **Calculate Monthly** \$128 \$113 \$100 \$1,884 Taxes & Fees \$1,399 \$144 **Payments** \$1,000 \$971 \$4.719 Fuel \$889 \$916 \$943 Free Insurance Quotes \$762 \$1.011 \$905 \$1,460 \$1,835 \$5,973 Maintenance Free Warranty Quote <u>Get</u> Repairs \$0 \$0 \$38 \$241 \$361 \$640 <u>Quo</u> FIND A RELATED CAR \$10,597 \$4,773 \$4,444 \$4,962 \$5,239 \$30.015 **Yearly Totals Competing Vehicles View All Styles** ▶ Get Additional True Cost to Own Information **Previous Years** Other Ford Models http://www.edmunds.com/new/2003/ford/focus/100083474/cto.html?tid=edmunds.n.prices... 9/17/2003

Appendix 3

Investment Analysis - FuelPoint Gas Tank Rings

Cost Per Ring Per Vehicle	126
Assigned and Direct Bill Vehicle Count	792
Total Cost of Rings	99,792
Other hardware/software costs	19,804
Total upfront cost of gas rings	119,596
Errors Per Annum (10 manhours per week * 52 weeks)	520
Fully loaded administrative cost per hour	32
Annual opportunity for error correction	16,550 (I)
Downstream error correction (5 manhours per week * 52 weeks)	260
Fully loaded administrative cost per hour	32
Annual opportunity for downstream error correction	8,275 (ii)
Time spent per visit in hours on data entry into Gas Boy	0.008
System miles FY2003	5,218,496
Average MPG	16
Gallons Per Year	326,156
Gallons filled per visit	12
Visits	27,180
Operator hours per year	226
Fully loaded operator cost per hour	41
Annual opportunity for operator time savings	9,387 (iii)
Total savings per year from gas rings	34,211 (i)+(ii)+(iii)
Payback	3.5 Years

Appendix 3a

Cash Flow Analysis - FuelPoint Gas Tank Rings

Discount		Cost	Cost	Annual	Discount	Cash
3.77%		Rings	Software	Savings	Factor	Flow
3 7	0	(00.702)	(10.004)		1 00000	(110.506)
Year	0	(99,792)	(19,804)		1.00000	(119,596)
Year	1			34,211	1.03770	32,968
Year	2			34,211	1.07682	31,771
Year	3			34,211	1.11742	30,616
Year	4			34,211	1.15954	29,504
Year	5			34,211	1.20326	28,432
Year	6			34,211	1.24862	27,399
Year	7			34,211	1.29569	26,404
Year	8			34,211	1.34454	25,444
Total		(99,792)	(19,804)	273,690		112,943 NPV

Appendix 4

Investment Analysis - New Car Wash Facility

Total upfront cost of new wash rack in Belmont	100,000	
No incremental water conservation savings assumed as a car washed at Tower Road would have been washed at Grant Yard anyways		
Washes Per Day	9	
Washes Per Year (9 * 5 * 52)	2,340	(I)
Life of facility (15 years)	15	<u>-</u>
Washes over life of facility	35,100	
Average travel time between Tower Rd and Grant Yard (16 mins)	16	
Algorithm adjustment as any car past the midpoint between Tower Rd and Grant Yard would go to Grant Yard	0.5	-
Travel time in minutes saved per wash	8	
Travel time in hours saved per wash	0.13	(ii)
Fully loaded operator cost per hour	41	(iii)
Annual time savings	12,931	(I)*(ii)*(iii)
Payback	7.7 Years	1

Appendix 4a

Cash Flow Analysis - New Car Wash Facility

Discount	t	Build	Annual	Discount	Cash
3.77%		Facility	Savings	Factor	Flow
Year	0	(100,000)		1.00000	(100,000)
Year	1		12,931	1.03770	12,461
Year	2		12,931	1.07682	12,008
Year	3		12,931	1.11742	11,572
Year	4		12,931	1.15954	11,151
Year	5		12,931	1.20326	10,746
Year	6		12,931	1.24862	10,356
Year	7		12,931	1.29569	9,980
Year	8		12,931	1.34454	9,617
Year	9		12,931	1.39523	9,268
Year	10		12,931	1.44783	8,931
Year	11		12,931	1.50242	8,606
Year	12		12,931	1.55906	8,294
Year	13		12,931	1.61783	7,992
Year	14		12,931	1.67883	7,702
Year	15		12,931	1.74212	7,422
Total		(100,000)	193,958		46,107 NPV

Appendix 5

Investment Analysis - Inventory Barcode System

Additional upgrade cost to current barcode system	4,000
Data entry time per inventory transaction (30 seconds)	0.5
Transactions Per Day	25
Minutes per day spent on data entry	13
Fully loaded cost per clerk per hour	28
Total annual data entry cost savings	1,500 (I)
Frequency of items not found (1 per week)	1.0
Time spent finding or purchasing needed part (30 minutes)	0.5
Hours spent per year on finding or purchasing needed part	26
Fully loaded cost per clerk per hour	28
Total annual cost avoidance from errors	720 (ii)
Inventory shrinkage in FY2003	5,800
Assumption for shrinkage improvement from better controls	0.5
Annual shrinkage improvement	2,900 (iii)
Total savings per year from barcoding	5,120 (I)+(ii)+(iii)
Payback	9 Months

Appendix 5a

Cash Flow Analysis - Inventory Barcode System

Discount 3.77%		Software Upgrade	Annual Savings	Discount Factor	Cash Flow
Year	0	(4,000)		1.00000	(4,000)
Year	1		5,120	1.03770	4,934
Year	2		5,120	1.07682	4,755
Year	3		5,120	1.11742	4,582
Year	4		5,120	1.15954	4,415
Year	5		5,120	1.20326	4,255
Total		(4,000)	25,599		18,941 NPV

Appendix 6

ISF Replacement Detailed Financial Statement
Subunit 47680 Fleet Replacement

As of fiscal years ending June 30

	FY1999 Actuals	FY2000 Actuals	FY2001 Actuals	FY2002 Actuals	FY2003 Actuals
Revenue					
Base Revenue	2,083,049	1,764,679	2,052,511	2,342,776	2,075,187
Sale of Surplus & Salvage (1)	105,832	60,644	88,768	52,875	70,652
Interest Income (2)	24,069	90,237	113,435	102,567	116,651
Replacement Pool (3)	128,589	133,947	141,155	149,712	175,280
Total Revenue	2,341,539	2,049,506	2,395,869	2,647,930	2,437,770
Operating Expenses					
Motor Vehicle Purchases	1,712,461	1,848,291	1,643,933	2,097,737	1,115,088
Other	60,567	13,871	12,721	28,314	18,149
Total Expenses	1,773,028	1,862,162	1,656,654	2,126,051	1,133,237
Net Income/(Loss)	568,511	187,344	739,215	521,880	1,304,533
Reserve Balance FY2003 Encumbrance	1,678,821	1,866,165	2,605,380	3,127,260	4,431,793 550,000
Restated Reserve Balance	1,678,821	1,866,165	2,605,380	3,127,260	3,881,793
Reserve % Purchases	95%	100%	157%	147%	231%
Including Encumbrance	<<<		increasing trend	. •	>>>

^{1.} Sale of salvage and surplus originally booked to subunit 47650 should have been booked to subunit 47680

Source: IFAS

 $^{2.\,100\%}$ of interest income booked to subunit 47650; 41.24% of the ISF reserve is operations, thus 58.76% of interest income should have been booked to subunit 47680

^{3. 70%} of revenue from motor pool rentals is depreciation and CPI and belong in subunit 47680



Implement a Central Vehicle Policy

Presently, there is no central vehicle policy that exists within the County and there are no policies in place within the user departments. Without an eligibility policy, the County incurs costs for unnecessary vehicles and has a potential legal liability in case of accident.

Surveys returned from various user departments indicate that division managers are open to having policies that address vehicle eligibility, usage, personal use and type of vehicle given to an employee. Mike Marzano, Safety Manager, indicated that safety policies prohibiting cell phone use while driving and additional driver training courses also be considered.





COUNTY OF SAN MATEO

Inter-Departmental Correspondence

Date: March 3, 2004

TO: Tom Huening, Controller

FROM: Neil R. Cullen, Director of Public Works

SUBJECT: Responses to the Recommendations in the Fleet Maintenance Division

Operational Review

The following are our responses to the Recommendations in the Fleet Maintenance Division Operational Review using a Recommendation Response format:

Recommendation 1. We recommend that Fleet Maintenance develop a new methodology in calculating vehicle mileage rates that reflects the true cost of vehicle maintenance and annually adjust the mileage rate as part of the fiscal budget process, when necessary.

Response 1. We will review operating cost, vehicle usage, and mileage rates semiannually, and will adjust rates subject to the approval of the County Manager and service charge committee, as part of the budget process. This should more accurately reflect true costs.

The option of itemizing cost and direct billing was given consideration; but the additional monitoring, accounting, and administrative costs would have an adverse impact on mileage rates. We believe that this would not be cost effective or beneficial to user departments.

Recommendation 2. We recommend that Fleet Maintenance extend the hybrid program to include assigned vehicles, and replace them with hybrids when their normal replacement comes due. The County can realize both fiscal savings and continue conservation efforts as additional hybrid vehicles make their way into the fleet.

Response 2. We agree. The additional cost of the hybrid could be offset by the residual in the ISF. The use of hybrids can also lower emissions and reduce the use of fossil fuels.

Recommendation 3. Fleet Maintenance should retrofit the current County fleet with the gas tank rings and integrate the Fuel Point fuel management system into the GasBoy fueling system. Eliminating the data entry function every time a vehicle operator dispenses fuel will reduce errors and save labor costs (fleet administration and administrative labor in the user departments). Fuel Point will also provide a safeguard against fuel dispensed to non-County vehicles.

Response 3. We agree. We believe that the Fuel Point system will provide the necessary safeguards while providing more effective and efficient fuel accounting practices.

The current GasBoy fueling system requires an upgrade to a Windows format in order to accommodate the Fuel Point system. A plan for the purchase, installation, and implementation of the Fuel Point System and gas tank rings will be included as an objective in our Outcome Based Management Budget program priorities for Fiscal Year 2004/05.

Recommendation 4. We recommend that Fleet Maintenance reduce the motor pool by the appropriate amount to avoid the maintenance cost of unnecessary vehicles and at the same time realize one-time savings from the sale of the surplus vehicles. Fleet Maintenance should also perform an annual review of the motor pool in determining optimum mix and number of pool vehicles.

Response 4. We agree. The Department is currently surplusing ten (10) vehicles from the motor pool fleet and will evaluate and surplus low use vehicles by mid-year 2004/05. We also believe that these difficult budget times may cause user departments to reduce their number of vehicles and return these vehicles to the motor pool fleet. We believe delaying the surplusing of vehicles until mid-year 2004/05 will allow us enough time to evaluate the user departments motor pool needs after the 2004/05 budget is approved.

We also believe that waiting until we know the impact of the 2004/05 budget will allow us to retain newer and/or better vehicles turned in by the user departments and sell or surplus the older or higher maintenance vehicles in the motor pool fleet. This methodology would result in newer motor pool vehicles and reduced maintenance costs.

Recommendation 5. Fleet Maintenance should build a second car wash facility located in the northern region of the County. There are considerable time and fuel savings from the County employees driving to a closer facility.

Response 5. We agree. The car wash facility in Belmont was closed due to environmental problems. A second facility in the northern region would provide better service, reduce costs and be environmentally sound. A car wash utilizing recycled water is included in our program priorities in 2004/05. The funding for a new car wash facility will come from the ISF residual.

Recommendation 6. Fleet Maintenance should extend the current inventory barcode system to include repair orders, de facto saving labor cost, reducing errors and safeguarding against shrinkage.

Response 6. We agree. The inventory is currently on a bar coding system for performing the end of the physical inventory count; and the technology is available to add the repair orders to the system.

This recommendation will be implemented as Phase Two of the upgrade to the computerized maintenance system (WinCams) that is currently scheduled for June 30, 2005. The funding for adding the bar coding to the upgrade will come from the ISF residual.

Recommendation 7. We recommend that Fleet Maintenance develop and implement policies and procedures that address the use of fuel credit cards which allows for proper accounting of services, provides a means for capturing vehicle information and safeguards the County's assets. One suggestion may be the requirement of a vehicle operator when using a fuel credit card to fill out a fuel log due at the end of each month. The operator would provide date, location, gallons dispensed, price per gallon, vehicle odometer reading, and vehicle number on the log.

Response 7. The Department agrees with this recommendation and has drafted a form to be completed by the vehicle operator and user departments and submitted to Fleet Maintenance on a monthly basis.

An alternative, with approval by the County Manger, would be for departments to use their own credit cards as the departments would then have more control over cost and charges. Departments would report fuel usage to Fleet Maintenance and Fleet Maintenance would reimburse the cost of fuel to the departments at the County cost per gallon; the departments would be responsible for the credit card charges.

Implementation of either the forms or departmental card usage has an estimated start date of the beginning of fiscal year 2004/05.

Recommendation 9. Fleet Maintenance should distribute periodic statements with projections to their customers so that they are able to treat the ISF reserve as a management resource.

Response 9. Fleet Maintenance will continue to send pre-budget information in February/March, and the budget work authorizations and service level agreements in May/June. In addition, we will send a statement to each department detailing the status of their ISF account in October/November after all purchases for the fiscal year have been completed.

If the County Manger approves the timeframe, the first account status statements will be sent in October/November of 2004.

Fleet Maintenance management and staff continually strive to achieve the Division's goals and objectives by improving processes and maximizing cost savings. We appreciate the Audit Team diligently working with Public Works' management and staff in completing this review and for making recommendations for providing better service to our customers, increasing efficiency, and further reducing costs.

Neil R. Cullen Director of Public Works