City of
Springfield, Illinois
Home of President Abraham Lincoln

City of Springfield
Fleet Management Program Review

Prepared by
CST Fleet Services

May 2012

CST
Fleet Services

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1 Executive Summary

In general, the fleet of vehicles operated by a City government is a 'service tool'. This tool, and all the support which make the tool possible to use, allow the City Departments to serve City citizens in some way or another. The more efficient the tool is, the more efficient the service becomes. And the word "efficient" used in this manner encompasses both the degree to which the tools functional objectives are met, as well as those resources such as infrastructure, manpower and funds which are required to make the tool functional to begin with.

Fleet administrators across the country, both in the governmental and private transportation sectors, are challenged to meet large budget deficits and seek ways of cutting operating costs. City infrastructures are shrinking as the tax base reduces, while very often the vehicle asset fleet does not.

The City of Springfield operates over 800 pieces of licensed road and heavy vehicles and equipment, and another 700 or so light duty pieces of equipment in four distinct fleet departments. These fleets are maintained in four garages.

The City of Springfield engaged CST Fleet Services in March of this year to perform a small study. The primary objective of the study, (the results of which are summarized herein), is to evaluate the City's fleet operations and look at efficiencies which may be gained, and estimated savings which may be achieved, by consolidating the existing four fleet operations into a single fleet management group and implementing fleet management industry best practices.

The issue at hand is, "How much cost can the City save, and how can the City make any transitions to improved efficiencies in such a way that cost savings are realized without compromising service to the citizen?".

CST has analyzed the City's fleets and its practices and finds:

- Segregated fleet operations with redundant services in multiple departments.
- Poor record keeping with regard to maintenance and fuel (except in isolated cases), which in some situations may expose the City to liabilities.
- A vehicle asset fleet which is:
    - Too large for the existing City infrastructure.
    - Aged, and has upkeep that is 'treading water if not slightly sinking'.
- Inconsistent and poor fleet maintenance processes.
- Outdated and insufficient fuel management processes.

As a result, CST is making six primary recommendations for which each have specific and more detailed content shown in Section 5:

- Form a Fleet Management Division (FMD) to centralize all City wide vehicle asset management.
- Establish Service Level Agreements between the FMD and its Department Customers which are responsible for asset assignments, operational missions and usage.
- License and Implement an Asset Management System inclusive of maintenance and fuel management.
- Right-Size the Fleet to accommodate accurate customer requirements and utilization.
- Consolidate Vehicle Maintenance into a Single Facility.
- Restructure fuel management processes and 'lock-down' fuel with complete reconciliation.

Without a great deal of effort, we have found that the City as a whole does not know the exact amount of annual cost for its vehicle asset fleet. CST estimates this annual cost at probably $ 8.1 million. The recommendations put forth have an investment associated with their implementations; however we see a substantial return in net savings. Conservatively, based upon involvement with fleet restructuring projects, CST estimates above 7% annual asset operational savings. Over a six year forecast, including infrastructure investments, the net return is estimated to be a little more than $ 5.1 million. (See Savings Forecast in Section 6.4).

CST is appreciative of the opportunity to serve the City of Springfield and offer our teachings and experience.

2 About CST Fleet Services

CST Fleet Services was formed in 2000 as Carolina Software Technologies, Inc., a NC based corporation. Its founding partners, Jon White and Ron Hall, had been working together at that time for 17 years in various capacities in the US fleet community. Jon and Ron founded the company as a launching entity for fleet metric software packages, which have become very successful. The metric packages are utilized by multiple national vehicle management software companies. Each metric package offers a tool to manage 'more with less'

Over the years, we found that the knowledge we had gained from our customers as well as the insight we had developed regarding fleet management by working with metrics, could be taught and passed along to our customers with the goal of establishing proven and measurable cost savings.

Our little software company evolved as a consulting company with fleet metric software as a sideline. We found ourselves establishing relationships with a few customers and that those customers kept asking us to return and enhance our work, as well as to develop fresh and proven cost savings initiatives – sometimes based upon emerging technologies in the industry.

Since 2000, CST Fleet Services had as its primary customer base the following consulting clients:

City of Houston	New York City
City of Chicago	Waste Management, Houston
FedEx, Memphis	City of Long Beach, CA
City of Detroit	Ryder Systems, Miami
Southwest Gas, Las Vegas	State of Indiana
City of Tulsa	DeKalb County, GA
Calpine Gas, Houston	Walmart

Much of the CST work is founded upon industry best practices and metric evaluation.

An important facet which CST Fleet Services brings to this study is not only that have we studied and made recommendations for our customers,
WE HAVE IMPLEMENTED RECOMMENDATIONS MADE.
Therefore, WE ARE PRACTICAL IN OUR RECOMMENDATIONS AND FOCUS ON ACHIEVABLE RECOMMENDATIONS WHICH HAVE THE HIGHEST AND QUICKEST RETURN ON INVESTMENT.

In general, in one statement - CST Fleet Services is about being of service and teaching from experience.

3 Findings – Metrics and Fleet Cost Summary

Because of the inconsistency from department to department, gathering 'vehicle asset counts' in and of itself has been arduous. This was in part due to varying degrees of "what" constitutes and defines a vehicle. Similarly, gathering cost data was time consuming and dynamic as we moved through the process.

The four primary fleets which we 'briefly' interviewed were:

- Public Works
- Police
- CWLP
- Fire

We have used the following table for vehicle / asset counts:

Equipment Summary						
		Fire	Police	PubWrks	CWLP	Total
HDE, HDV, LDV		67	285	193	337	882
	LDE	113		241	232	586
	Other	10	20	17		47
	Total	190	305	451	569	1515

HDE = Heavy Duty Equipment (Non Licensed)
HDV = Heavy Duty Vehicle
LDV = Light Duty Vehicle
LDE = Light Duty Equipment (Non Licensed, primarily hand held or stationary).

Since there are no uniform standard systems for tracking maintenance and fuel dollars across the four fleets, we took macro costs from the City accounting systems in the following categories:

- Total Labor = All burdened labor associated with the department fleets
- Total Parts = All parts dollars associated with the department fleets
- Outside Services= All dollars spent on vendor provided maintenance
- Fuel = All fuel purchased by the City for all departments

This cost summary is shown below:

Fleet Costs FY 2012 ($ x 1000)						
Baseline Data for Study		Fire	Police	PubWrks	CWLP	
						Total
Total Labor		$478	$545	$995	$2,255	$4,273
Parts Costs		$132	$ 187	$ 326	$ 597	$1,242
Outside Services		$ 60	$ 22	$ 207	$ 52	$341
		$ 670	$ 754	$ 1,528	$ 2,904	
				Total Fleet Cost w/o Fuel	**$ 5,856**	
Fuel - CWLP		AVG per GAL		Fuel Police		All Fuel
UNL	230356	2.985	$ 687,686	240,536	$ 718,000	$ 1,405,686
DLS	233040	3.411	$ 794,895			$ 794,895
DSL - Dyed	30216	3.246	$ 98,078			$ 98,078
					All Fuel	$ 2,298,659
Total Fleet Costs FY 2012			**$ 8,154,659**			

We have estimated the annual expense on the City fleet, excluding capital, at: $8.1 million for all fleet maintenance and fuel operational cost. We are using this $8.1 million figure for our operational baseline costs in our models.

Observations, Assessments and Metrics:

- Overall Fleet Cost
  Generally, our experience indicates, across a City fleet, the annual expense averages about $ 10,000 per vehicle per year for maintenance and fuel. The $ 8.1 million baseline cost across the City fleet seems comparatively low for the City fleet size. We feel that there may be other unidentified fleet costs.

- City Employee Base Decline
  The City employee base over the last three years has declined approximately 11%, while the City-wide fleet has remained about the same size.

- Ratio of Vehicle Assets to Mechanics
  Generally, we find that the ratio of vehicle assets to technicians / mechanics should be.in the range of 35 to 50 for a fleet similar to the City.

The HDE/HDV/LDV vehicle groups yielded the following vehicle to mechanic ratios:

Vehicle to Mechanic Ratios					Ratio of Vehicles to Mechanics
		HDV-HDE-LDV	LDE and Other		HDV-HDE-LDV
	Mechanic Count	Units	Units	Total Units	Ratio
POL	6	285	20	305	48
FIRE	3	67	123	190	22
Pub.Wrks.	6	193	258	451	32
CWLP	19	337	232	569	18
	34	882	633	1515	
				City Wide	26

Although there is a wide disparity from department to department, we find that overall, across the City, the mechanic base is appropriately at about the level required for given the size and age of the fleet.

Note: Through the engagement of the recommendations in this project, the fleet age will reduce and become 'right-sized' relative to accurate customer usage and utilization. As this occurs, we have seen in other fleet operations, that the mechanic base will naturally reduce to some degree. As this evolves, vehicle to mechanic ratios will improve and the maintenance efficiencies will improve as well.

Vehicle to Mechanic Ratios in Other Fleets:

Tulsa = 60 (Out of balance – consolidation underway)
DeKalb County GA (Post Consolidation) = 38
Detroit (Post Consolidation) = 45
Chicago (Post Consolidation) = 43

- Fleet Age

By fleet – taking a straight average of vehicle age, using 2012 as the current model year, the age of the fleet is shown on the following table:

	Average	Average
	Age	Mileage
CWLP	14	
Public Works	10	
Police	9	83,175
Fire	10	76,591

In addition:

- Police Fleet
  - Crown Victoria Average Age = 7 years / 78,050 miles
  - 43 Crown Victoria Units have over 100,000 miles
  - 27 Crown Victoria Units have over 150,000 miles
  - Ford Taurus Average Age = 10 Years / 88,908 miles
  - 17 Ford Taurus Units have over 100,000 miles
- Fire Fleet
  - Engine Company Average Unit Age = 9 years / 73,404 miles
  - Truck Company Average Age = 12 years / 79,765 miles
  - Battalion Car Average Age = 9 years / 90,947 miles

The fleet age in Fire and Police is a concern.

Fuel Management

- The 2011 expense for fuel was approximately $ 2.3 million.
- The Police fuel site has an automated controller (Phoenix).
- CWLP has an automated controller (GASBOY) which is in by-pass quite a bit of the time and manual logs are used.
- Neither of the City fuel sites have an automated in ground inventory system for the underground storage tanks (UST's).
  - CWLP has leak detection and water detection system for the .UST's but it is not operational.
  - Police has leak detection and water detection systems which are working, but they do not know the manufacturer name.
- Public Works gets fuel from CWLP at their fuel island, or CWLP dispatches a mobile fuel truck.
- CWLP fuels Fire units with a mobile fuel truck. We are not certain if mobile truck fuel data is logged.

Analysis of the first quarter of 2012 shows that at the macro level, the difference between fuel purchased by the City and fuel dispense summaries is between 1% (for CWLP) and 5% (for Police).

Annual Fuel Reconciliation Estimate:

- From the 2011 YTD Financials of about $ 2.3 million, we can estimate total gallons (@ $3.50 per gallon) = 657k gallons.
- Using the 2012 first quarter gallons purchased, of about 156k gallons, this equates to about 625k gallons.
- The difference between these two estimates is approximately 5%, which is reasonable, however not an appropriate way to reconcile.
- We believe this 5% variation may be due to either the ordering cycle or mild the winter of 2011-2012.
- A better process of reconciliation needs to be developed and examined in more detail.

4 Findings and Observations Relative to Best Practices

CST is consistently requested by governmental agencies to assess the effectiveness of the fleet operations. As we do this, we collect and have built a table of 'industry best practices' upon which we assess a fleet operation. This is a fairly detailed table because we have found some rather advanced fleets. Section 4.1 is the CST appraisal, City wide, for the four City fleets.

4.1 Master Table of CST Best Practices

We have found a great deal of inconsistency across the fleets as it relates to the CST Best Practice table. Furthermore, we did not observe a single Best Practice, with active compliance, consistently in place across the four fleets.

Best Practice Evaluation Table

Assessment Key: A = Actively Compliant A+ = Excellent Compliance
P = Partially Compliant X = Not in Place - Needed

Best Practice Application	Assessment
Fleet Business Model	
Annual Fleet Business Plan	X
Mission statement	P
Fully burdened labor rate calculated and updated yearly	X
Occurrence based charge-backs and billing in place -Maintenance activity	X
Occurrence based charge-backs and billing in place -Fuel transactions	X
Comparison of inside service vs. out-sourcing services reviewed regularly	P
Established and Maintained Set of Authorized Policies and Procedures for all WO Activity in the Shop	P
Well defined job descriptions	P
In sourcing offered for other local government agencies	X
Fuel Management	
Emissions	

Carbon footprint, green-house gases or emissions tracked and monitored	X
Goals for Emissions or Green fleet initiatives set and tracked	X
Fuel Dispensing	
Fuel sites – automated, locked down secured	P
Fuel tracked by dept. and vehicle (MPG)	X
Fuel costs inclusive of overhead for fuel management (fuel stations, fuel employees, etc).	X
For on board computer in fleet vehicles - metrics from the vehicle downloaded periodically	X
Dispensed fuel tracked by fuel type	P
In house fuel transactions entered into a central database	P
Fuel tanks electronically monitored for level and water content	P
Fuel reconciliation on a regular basis – purchased/dropped with fuel dispensed.	X
Fuel purchase and distribution agreements reviewed and adjusted regularly.	P
Green Fuel Initiatives	P

Parts Management	
Parts costs inclusive of burdened rate for parts overhead costs	X
Parts availability tracked and above 80% (i.e. 80% of the time a mechanic goes to the parts window , part is immediately available)	X
Parts replacement warranty tracked	P
Statistics on part failures tracked and monitored - i.e. largest part failures in the fleet	X
Parts Management System in place with WO charges and Ordering System	P
Indirect parts and or supplies tracked and charged to departments	P
Parts charged to WO via bar code	X
Minor parts charged or built into overhead rate	X
Parts ordered efficiently	P
Parts inventory taken and balanced on a regular basis with slippage monitored	P
Parts for re-order calculated and ordered upon review	P
Efficient process in place for receipt and payment for parts	P
Plan implemented to identify and remove obsolete parts	P
System and process in place to adjust re-order levels based on usage trends	X
Ability to adjust parts inventories based on vehicle purchases and vehicle retirements	X
Parts in/out for satellite store rooms entered into a central database	X

All outgoing parts assigned to a WO/Vehicle or Indirect Code	X
Effective system for managing vendor supplied parts which do not go into inventory in place and charged against WO	X
Effective management and duration of part supplier contracts	P

Reporting and Metrics	
Metrics monitoring system implemented from your maintenance system provider or a third party to actively manage performance metrics	X
Unit Availability tracked and monitored by Metrics	X
Real Time Metrics with threshold of performance built, monitored and tracked	X
Visuals and dashboards for metrics that indicate threshold conditions	X
Summary Metrics and Trends built, monitored and tracked	X
Monitor vehicles with Telematics and GPS	P
Capability of Building and Saving Special Reports	X
Ad-hoc reporting capabilities in place and efficient	X
Shop Floor Diagnostics	
Diagnostic tools implemented in PM checks	P
Diagnostic tools implemented and available for all vehicles in fleet	P
Diagnostics costs and training considered in vehicle purchases	X
Online training available and used for all vehicle types repaired by the shop	X
Shop Floor General	
Computerized shop floor management system in place	X
Repairs in the Field (road-calls) tracked	X
Accurately Defined and Tracked Vehicle Downtime/Excessive Downtime at the Unit and Shop Level	X
Defined Usage and Monitoring of Reason for Repair	X
Quality monitored In Service Facility (re-work / comebacks tracked)	X
Adequate space in facility and shops are accessible	P
Shop – Labor Management	
Labor tracked in Real Time - Mechanic Scanning on and off jobs on	X

the Shop Floor	
All mechanic time direct and indirect time entered into a central database	X
Ratio of vehicles to mechanics monitored against similar industry standards.	X
Direct labor metric monitored - Mechanics achieve 80% direct labor on a regular basis, 20% indirect labor	X
Have a mechanic recognition/reward program to acknowledge mechanic excellence in place	X
Performance goals and metrics set as targets for mechanics	X
Shop – Vendor Services and Relations	
Have at least 2 vendors for repair estimates	P
Vendor repairs recorded (parts & labor) by work order into central data base	P
Preventive Maintenance	
PM Schedules and PM Policies and Procedures for PM's well documented	X
PMs completed on time - Above 95%	X
Method to monitor PM Quality in place	X
PM quality assurance in place- spot check PMs to insure they are being performed correctly	P
PM procedures and check lists clearly defined and available to mechanics	P
PM data recorded into a central data base	X
PM checklists for each type of vehicle serviced well documented - At each level of PM	P
Scheduling software to track and schedule PM's in place and utilized	X
Shop – Road calls	
Road call metrics tracked and monitored	X
Have mobile devices for diagnostics and work order entry on mobile repair vehicles	X
Dispatching system in place for road calls and for field support	P
Have ability to charge parts in the field from mobile repair vehicle	X
Have the ability to track repairs in the field	X
All road calls are entered into central database	X
Fleet Customer Relations	
Have regularly scheduled DVCR's sent to shop for review	X
Asset Management	
Complete a Vehicle utilization and fleet rightsizing study on an annual basis	X

Downtime monitored and vehicle downtime less than one day on an average	X
Have a vehicle evaluation and procurement committee, chaired by the director of fleet with seats from each of the major using departments. Charter is to approve all new vehicles, approve of vehicle disposition, evaluate and review vehicle usage and approve vehicle reassignment. Committee to be made up of key using departments.	X
Completed a vehicle assignment study to evaluate the usage class of vehicle to get breakdowns of when vehicles are needed and used (special events, daily's, seasonally) and usage class (take home, motor pool, crew, routes, location etc.) This will make sure the Fleet plans for the proper vehicle for the proper assignment	X
Life cycle replacement model in place and utilized. Base vehicle life cycle cost inclusive of fixed cost (insurance, licensing, etc.) not just sales price	X
Detailed vehicle specifications in place and in data base	P
Have vehicle in service procedures in place and in service center operated efficiently	X
Have vehicle retirement procedures in place inclusive of most optimum resale / salvage processes (on line auctions)	P
Motor Pool	
Motor pool in place	P
Motor pool Vehicles be reserved easily online	X
Motor pool vehicles shared between departments	X
Lease or rental contracts in place for short term needs of customers	P
Have ability to compare buy, vs. lease, vs. rental vs. seat leasing for motor pool vehicles	X
Warranty Management	
Established new vehicle and component Warranty Periods in place	P
Ability to track new vehicle warranty in place	X
Routinely apply for policy warranties after the basic OEM warranty period is expired	X
Track warranty claims in central database	X
Tire Management	
Standard tire contract / vendor in place	P
Used / recap tire policy in place	?
Adequate tire in inventory kept in stock to minimize downtime.	P
Operator / Shop Safety	

Clearly visible and documented method for denoting vehicles which are out of service or scheduled for work (red tag / yellow tag)	p
Safety procedures for maintenance work areas (yellow walkways, yellow vests, only mechanics in bays/service areas, etc.) in place and visible	P
Scheduled and documented vehicle safety inspections – over and above routine PM service in place	X
Accident and safety related repair tracking	P

4.2 Observations and Comments Relative to Best Practices

Specific Comments:

- Maintenance Systems
    - All four fleets use varying degrees of Microsoft XCL for storing and reporting data.
    - CWLP and Public Works partially use an antiquated system (Fleet Maint. 2000) which is no longer supported. Each states that they have had very little training.
    - Police produces a very formal monthly maintenance and metric report which is quite effective. It is done through a combination of XCL and Quick Books.
    - There was no vehicle availability information (metrics) produced from systems; i.e. assigned, in use, down or spare.
- Parts Management
    - The Fire garage does not have an 'official' parts room; they have shelves around the maintenance area – no inventory.
    - Across the CWLP, Police and Public Works, we found clean and organized parts rooms.
    - Police has an exceptionally efficient parts management system built around 'Quick Books'. (This is the first time we have ever seen an application like this; it shows exceptional initiative to get the job done with what is available.)

- Public Works estimates that only 20% of the time, needed repair parts are immediately available to the mechanic. That inventory availability metric implies that the inventory is in- effective.
- Police estimates that because of their control with 'Quick Books', 80% of the time, needed repair parts are immediately available to the mechanic.
- CWLP and Public Works use the inventory functionality in Fleet Maint. 2000. The parts are not bar-coded nor used in real time.

- Labor Management
  - No accurate direct and indirect time is captured anywhere in the four fleets. The only real assessment of labor is done with payroll, which is ineffective for tracking this key "direct vs. indirect" metric.

    The industry targets 80% direct labor as a percent of payroll hours.
  - CWLP and Public Works enter 'hand logged' maintenance hours after the fact into Fleet Maint. 2000.
  - Police uses a XCL to track labor summary.
  - No labor data is captured in real time.

- Facilities – Garages
  - The garage bay sizes in the four department maintenance facilities is:

	Approximate Garage Bays
CWLP	12
Police	12
Public Works	6 to 8
Fire	4

  - Public Works facility is too small for effective maintenance.
  - The Fire facility is not a true garage; it is just a make shift warehouse with adapted service bays.
  - CWLP and Police have ample maintenance space.

- Fuel Management
  - Poor record keeping; no reconciliation.
  - Purchase contract is OPIS based which is pretty standard.
  - Far too many records are manual.
  - The City owned fueling locations are in close proximity to the far east side of downtown.

- Fleet Asset Utilization Study

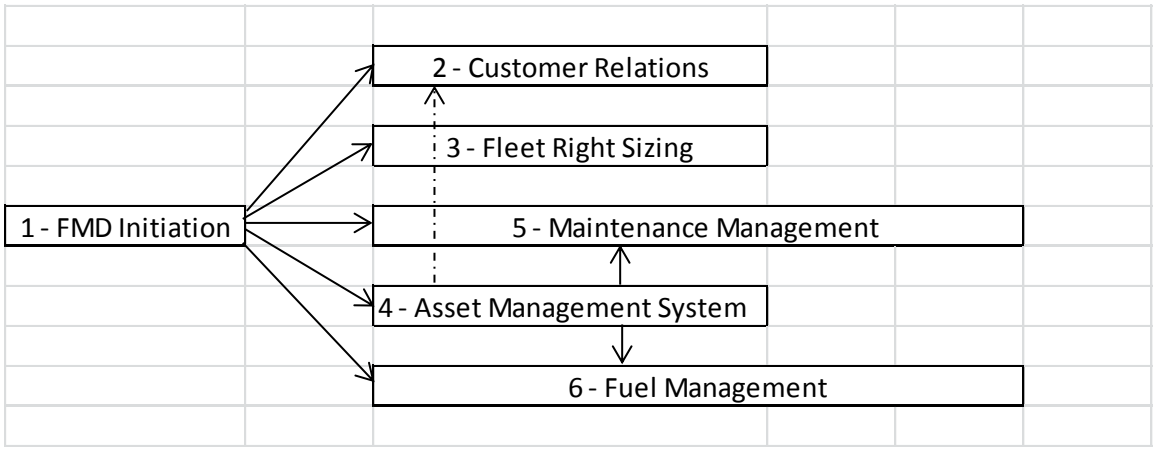
  - Long overdue.
  - Artificial fleet growth.
  - Under- utilized equipment.
  - Opportunity for short term lease / rental on some equipment.
  - Opportunity for one-time revenue with sale of surplus equipment.

5 Summary of Recommendations

We have 29 total recommendations for the City of Springfield as they consider moving forward with the fleet management. We have segregated the recommendations into six categories. Five of the six categories may be initiated and implemented in parallel.

Category 1 – Fleet Management Division (FMD) Initiation
Category 2 – Customer Relations
Category 3 – Fleet Right Sizing
Category 4 – Asset Management System
Category 5 – Maintenance Management
Category 6 – Fuel Management

The thinking here is to form a Fleet Management Division and then launch 5 initiatives in parallel so as to achieve a return on investment



Customer Relations, Maintenance and Fuel Management are to some degree dependent upon the Asset Management System – but not totally. As we tease these into isolated and specific recommendations, we will lay out a dependency network.

Category 1 – FMD Initiation (4 Primary Recommendations)

1 a – Form Fleet Management Division (FMD)

- Within the Office of Budget and Management
- Possibly by Executive Order

Note: There are two reasons for our recommendation that FMD reside within the Office of Budget and Management: first, this Office has responsibilities closest to a 'department of general services' – which is

where fleet management most often resides in city management; second, a move into this Office offers no preconceived notion or bias with regard to existent customer fleets.

1 b – Define and Centralize the Vehicle Fleet Management

Scope Inclusive of:

- Mission of Customer Focus
- All functions related to City owned vehicle asset
  - Acquisition
  - Capitalization for new fleet assets
  - Assignment at the Department (Customer) Level
  - Maintenance
  - Fuel
  - Disposal
- All Lease / Rental Vehicles
- Motor Pools
- Asset Management

1 c – Hire an experienced fleet manager of FMD

1 d – Establish and Take Ownership of the FMD Mission

Category 2 – FMD Customer Relations (6 Primary Recommendations)

2 a – Establish the Defined Customer Base

2 b – Establish a Fleet Liaison for each Department

2 c – Establish a Fleet Steering Committee

- Chaired by the Fleet Manager of FMD
- Determine Assignments
- Establish Acquisition Processes (Including Asset Specifications)
- Oversee and Agree to Chargeback Processes and Fees
  - Occurrence Based
  - Other
  - Establish Disposal Processes

2 d – Develop Service Level Agreements between FMD and Customers

- THIS RECOMMENDATION IS DEPENDENT UPON THE ASSET MANAGEMENT SYSTEM

2 e – Develop a plan for Capital expense and identify / budget for new equipment across the FMD customer base.

2 f – Lay Ground Work for Inter-Department Motor Pool

Category 3 – Fleet Right-Sizing (4 Primary Recommendations)

Note: As has been stated previously, we feel the City has too many assets for the City's infrastructure. The fleet right-sizing has potential for early and sizable return and needs to be done immediately and in parallel with the other primary recommendation categories as soon as FMD is formed.

3 a – Analyze all Assets Owned by the City
- Assignment
- Utilization
- Age
- Mission Criticality

3 b – Develop a Candidate List of Assets for Re-Assignment or Disposal
3 c – Refine the List and Segregate
- Re-Assignment
- Disposal

3 d – Dispose of Equipment

Category 4 – Asset Management System (4 Primary Recommendations)

4 a – Develop the Requirements for an Asset Management System
Scope:
- Asset Specification
- Asset Fixed Costs
- Asset Assignment and Utilization
- Maintenance Management
- Real Time Shop Floor Control
- PM Scheduling
- Metrics / Dashboards (Summary and Real Time)
- Ad-Hoc and Standard Reporting
- Fuel Management (Automated fuel controllers)
- Automated Fuel Site Control
- Parts Management
- Labor Management

4 b – Develop an RFP and Seek an 'Off the Shelf' System
4 c – Evaluate Responses and Select a System
4 d - Implement

Category 5 – Maintenance Management (6 Primary Recommendations)

5a – Consolidate all Maintenance into a Single Facility
- Expand Existing Facility – More analysis required.
  - CWLP currently has the most available maintenance space and has ground footprint for expansion.

Preliminary estimates indicate that there is room enough for a 160' x 60' expansion which could be configured for 8 to 10 additional bays depending upon the equipment type).

- Consider commercially available sites as second alternative.

5 b– Expand Maintenance Operations into 2 Multiple Shifts (Overlapping).

5 c – Implement Maintenance Management System

- THIS RECOMMENDATION IS DEPENDENT UPON THE ASSET MANAGEMENT SYSTEM

5 d – Develop and Implement Comprehensive Policies and Procedures

5 e – Evaluate the out-sourcing of selected FMS maintenance functions

- Body Shop
- Rebuilds
- Small Engine and Equipment Repair

5 f – As Fleet Right Sizing evolves – evaluate the reduction of the mechanic base.

Category 6 – Fuel Management (5 Primary Recommendations)

All of these recommendations are dependent upon the implementation of the asset management system.

6 a – Implement the Asset Fuel Management System

6 b – Lock Down All Fuel Sites

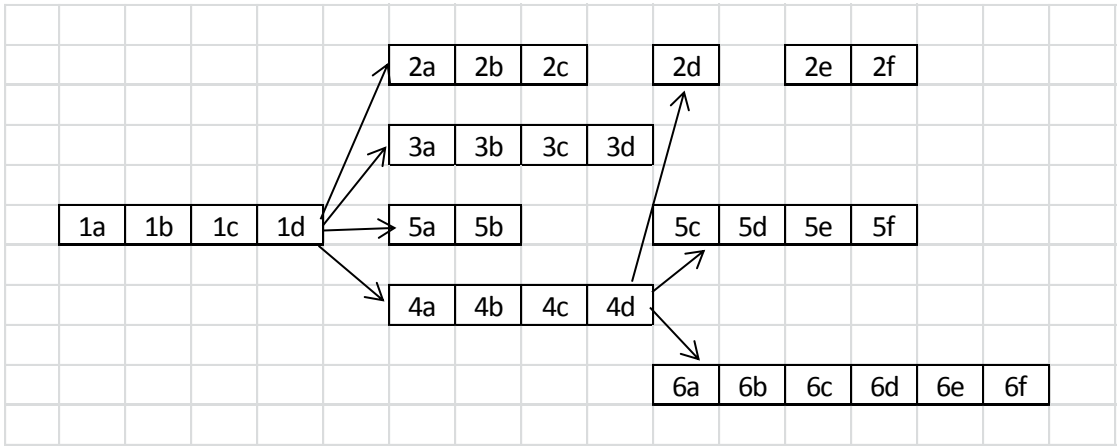
6 c – Establish processes for tracking internally distributed fuel

6 d – Establish comprehensive policies and procedures for fuel management – account for all fuel from "delivery to dispense".

6 e – Evaluate the feasibility for a City owned fueling location on the west side of the City. (Possibly an available small closed fueling location with a one or two bay minor maintenance location.)

"Road Map"

The dependency and approach to all of the above recommendations in sequence and in parallel can be envisioned as a 'road map' shown below. This overview will need to be converted into a detailed project plan with timeline.



We envision that it is feasible to implement the above project plan within 12 to 18 months from approval and launch.

6 Opportunities for Savings

The primary recommendations put forth in the previous section are heavily focused upon the consolidation of 4 fleet departments into a single department and 4 garages into a single two shift garage. This 'current' vs. 'new' scenario could be modeled if there were substantial maintenance and fuel data upon which to formulate the model and forecast around.

However, the only detailed cost data we have which is consistent across the City is labor, and it is only from the payroll system.

We have done is build a savings forecast with three key elements:

1. Costs associated with the recommendations – capitalized inclusive of cost of money.
2. Projected labor savings 'current' vs. 'new' scenario
3. Projected fleet savings based upon experience and measurable

6.1 Costs Associated with the Recommendations

The capital investments required for this process are:

- Garage Upgrade estimated at $ 750k.
- Asset Management System (See scope outlined in Recommendation Category 4a) estimated at $ 450k.

We have included this in the savings summary forecast (Section 6.4) as amortized over 5 years at 3.5%.

We also recommend an outside firm to provide oversight and coaching; this firm needs to have been through similar consolidation experiences for a City fleet at least as large as the City, if not larger.

6.2 Projected Labor Savings

With a consolidation of the four primary fleets operated by the City of Springfield, we have first isolated a reduction in the redundant administrative and management, which would be eliminated with the formation of a new FMD. We see this elimination cost as the mechanism to fund the new FMD management structure so as to not incur additional costs.

- Current non-mechanic administrative and supervisory burdened annual labor cost across the 4 fleets:
  - 13 FTE's
  - Approximately $ 1.3 million in fully burdened labor costs
- Proposed management and administration:

New Admin Staff	6
Manager	$95,000
2 Fleet Supervisors	$150,000
2 Inventory Clerks	$120,000
Admin Assistant	$50,000
	$415,000

  At a burdened rate of 30%, the new admin total labor cost would be $ 540 k for the proposed FMD management team.
- The base of 34 technicians / mechanics would remain in place at the current time. However as a result of the recommendations put forward this number will most likely decline over time.
- Net annual projected labor savings per year = $ 760 k.

6.3 Projected Overall Fleet Savings

Given the scope of this work and the lack of detailed data from the City fleets, it has not been possible to do extensive modeling and forecasting of actual fleet historical data.

However, in 2011, CST was involved in a consolidation project for a city fleet. This project required us to look at several fleet consolidation and right-sizing projects and average the results. This work yielded the following average savings which are applicable to this study:

Annual Achievable Savings:

- Maintenance 8.7% Applied to Total Maintenance Costs*
- Fuel 4.0% Applied to Total Fuel Costs
- Fleet Right-Sizing 1.7% Applied to Total Maintenance* and Fuel Costs

*Note: We have applied the achievable percentage to Total Maintenance Costs Less $ 1.3 million for administrative and supervisory burdened labor as we are including this savings as a line item in the summary savings forecast.

When applied to City baseline costs:

		City Cost x 1000	Potential Savings
Maintenance	8.7%	$4,556	$396.372
Fuel	4.0%	$2,299	$91.946
Fleet Right-Sizing	1.7%	$6,855	$116.529
			$604.848
			$ 604,848

The annual estimated savings from the above is $ 604,848, which is approximately 7% of the $ 8.1 million annual spend.

Also, we see that as the fleet is right-sized, equipment will be sold at auction or for salvage. We estimate 135 potential units at an income level of $ 2,500 per unit which equates to $ 337,500 onetime income for the City.

6.4 Savings Forecast

Based upon the data presented in the previous three sections we have the following savings forecast:

(Year 0 is intended to be a 'ramp up / start up' year. We have approximated the Year 1 savings at 50% of the annual estimated savings.)

Macro Savings Model Estimates		One Division - Single Garage					
Savings	Baseline	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Annual Estimated Savings	$ 604,848	$0	$302,424	$604,848	$604,848	$604,848	$604,848
Administrative/Mgmnt Labor Savings	$760,324	$0	$380,162	$760,324	$760,324	$760,324	$760,324
Surplus Equp Salvage (One Time)	$337,500	$337,500					
	Savings	**$337,500**	**$682,586**	**$1,365,172**	**$1,365,172**	**$1,365,172**	**$1,365,172**
Investment Costs	Baseline						
Garage Upgrade*	$750,000	$155,400	$155,400	$155,400	$155,400	$155,400	
Asset Management System*	$450,000	$93,240	$93,240	$93,240	$93,240	$93,240	
Over-Sight and Coaching	$120,000	$80,000	$40,000				
(* Amortized @ 3.5% over 5 Years)	**Costs**	**$328,640**	**$288,640**	**$248,640**	**$248,640**	**$248,640**	**$0**
	Net Savings	**$8,860**	**$393,946**	**$1,116,532**	**$1,116,532**	**$1,116,532**	**$1,365,172**
				Total Net Savings (Yr 0 - Yr 5)			**$5,117,572**

7 Critical Factors in the Implementation

The following are key aspects of this proposed consolidation, which require additional emphasis. The following represent important points which may place the overall project success at risk and impact timely garnering of savings unless adhered to:

- Timely Start of Project – The new FMD needs 'top down' directives from administration; the field employees must sense the "City of Springfield's" big picture need for this consolidation. The employee base needs to sense the urgency and the fact that other cities have already moved in this direction.
- A Simple ' Re-Org' Will Not Achieve These Savings – Simply a paper reorganization has been shown not to work and lay the groundwork for a disaster. The consolidation plan envisioned in this report is based upon successful experience and the entire spectrum of recommendations.
- Appointment of Fleet Manager -. This individual needs to have significant experience in fleet operations as well as consolidation and be able to envision FMD in its future state and take ownership of its mission. Part time management in this project will not achieve results. The Fleet Manager needs to be able to navigate the politics and be a strong leader who can instill ***deep cultural change*** among peers and all levels of the fleet organization. This appointment needs to be made as soon as possible.
- External Experienced Counsel –The Fleet Manager needs the advice and counsel of a team of experts who are well seasoned, from within the industry and who have gone through this consolidation process more than once for a City fleet of comparable size.
- Policies and Procedures – This step is very often not given enough attention. Solid P&P are needed, especially at the outset of the initial absorption of the initial maintenance organization.
- Fleet Management System and Metrics – The move to an organization like FMD in essence spells "Do the same job with less". The need for an asset management system in place as soon as possible is critical and essential.
- Detailed Planning – This project will need detailed planning steps.; This is important because the plan written herein is based upon past experiences of CST; however, experience also dictates that steps have been overlooked or placed out of order.
- Flexibility – ***Do not get 'concretized'***. Remain fluid in this process. As planning moves forward, details will be dynamic.