11-20-2012

Fleet Management Tips for Municipal Decision Makers

Sharon Rollins
Municipal Technical Advisory Service, Sharon.Rollins@tennessee.edu

FLEET MANAGEMENT TIPS FOR MUNICIPAL DECISION MAKERS

By Sharon Rollins, P.E., Technical Consulting Program Manager

November 2012

THE UNIVERSITY of TENNESSEE
MUNICIPAL TECHNICAL ADVISORY SERVICE

In cooperation with the Tennessee Municipal League

FLEET MANAGEMENT TIPS FOR MUNICIPAL DECISION MAKERS

November 2012

By Sharon Rollins, P.E.
Technical Consulting Program Manager

MTAS OFFICES

Knoxville (Headquarters) ..... (865) 974-0411
Johnson City ..... (423) 854-9882
Nashville ..... (615) 532-6827
Jackson ..... (731) 423-3710
Martin ..... (731) 881-7057
(731) 881-7058

www.mtas.tennessee.edu

The Municipal Technical Advisory Service (MTAS) was created in 1949 by the state legislature to enhance the quality of government in Tennessee municipalities. An agency of the University of Tennessee Institute for Public Service, MTAS works in cooperation with the Tennessee Municipal League and affiliated organizations to assist municipal officials.

By sharing information, responding to client requests, and anticipating the ever-changing municipal government environment, MTAS promotes better local government and helps cities develop and sustain effective management and leadership.

MTAS offers assistance in areas such as accounting and finance, administration and personnel, fire, public works, law, ordinance codification, and water and wastewater management. MTAS houses a comprehensive library and publishes scores of documents annually.

MTAS provides one copy of our publications free of charge to each Tennessee municipality, county and department of state and federal government. There is a $10 charge for additional copies of "Fleet Management Tips for Municipal Decision Makers."

FLEET MANAGEMENT TIPS FOR MUNICIPAL DECISION MAKERS

Municipal fleets provide a variety of services to city residents. In many cases these services are provided on wheels. The ability to provide services in an effective and efficient manner is partly dependent on a fleet of vehicles and other equipment. Services range from fire and police to water distribution and wastewater collection and treatment to solid waste collection and others. Average citizens are not familiar with the structure of government and how city employees and departments interact with each other. They simply expect the potholes to be patched, to have a police car or fire engine respond when called and to see the garbage disappear when it is placed at the curb. Residents expect these tasks to be accomplished as economically as possible, with taxes and fees remaining low.

It is the job of city government — elected officials and staff — to deliver city services as effectively and efficiently as possible. To fulfill this mission, city staff must have a dependable fleet. It is tempting to keep operating the fleet the "way it's always been operated" and to delay vehicle and equipment purchases, especially during economic downturns, but freezing equipment purchases is not a sustainable long-term solution. So, how should municipal decision makers manage and fund fleet operations?

First, *look at how much your city has invested in fleet*. Inventory the city's vehicles and equipment — even those units sitting in the vehicle "bone yard." It is not unusual for even small cities to have several million dollars invested in vehicles and equipment. The size of the investment dictates good management. When listing fleet costs, include:

- Capital costs — the sticker price of vehicles and equipment
- Operating costs — fuel, oil, etc.
- Overhead — administration, accounting, purchasing, etc.
- Repair and maintenance — both preventive and routine maintenance and repair costs — both in-house and out sourced work.

Choose good fleet management software and use it in decision making. In order to properly track costs, fleet management software is a must. Software tied to make, model, class and department should track preventive and scheduled maintenance, fuel usage, repair time, etc., for each vehicle. Software should interface with fuel systems. Many good fleet management software systems are on the market. The main goals of any fleet management system are to provide information to improve efficiency, decrease downtime and in-service breakdowns, reduce inventory, lower ownership cost and avoid waste. The selected software should provide detailed vehicle information such as: downtime, percentage of downtime, total miles traveled and cost/mile. It should be able to provide information on mechanics' efficiency and productivity. It should track parts inventory and have the capability to track/analyze all direct and indirect labor costs. This information should be used in purchasing decisions.

Centralize fleet management under a professional manager. This centralizes ownership and maintenance of all city vehicles and equipment under a separate stand-alone department. For many cities, fleet has traditionally been organized as a division within the public works department.

However, it is very difficult for fleet to keep the independence and objectivity it needs if the fleet manager reports to another department head.

Benefits of centralized fleet management include:

1. The ability to obtain the optimum usage of every vehicle and piece of equipment and thereby reduce the size of the city's fleet. By having full ownership, fleet can decide the best time to surplus a vehicle or piece of equipment either because of its operating cost or its retail value. As the centralized owner, fleet would also be able to determine if a vehicle or piece of equipment could be used by another department versus being sent to surplus.
2. The ability to right-size the fleet. According to *Smart Planning for Communities, Province of BC* (Fraser Basin Council and the Union of BC Municipalities copyright 2012) found at www.toolkit.bc.ca/vehicle-and-fleet-right-sizing, vehicle and fleet right-sizing is a core process that involves analyzing and understanding the collection of tasks that you need your fleet to accomplish. This includes coordination and scheduling considerations. Once you have a picture of the vehicles required to complete those tasks, you can minimize the assets that you do hold, and reduce your capital investment in your fleet, while still completing required tasks.
3. The ability to standardize specifications. This would result in the development of one set of specifications for sedans, one set of specifications for backhoes, etc. It would ensure each set of specifications received the highest level of development expertise. Decisions on equipment acquisition would be made on an objective analysis versus driver/operator preference. Standardizing specifications equates to maintenance and repairs efficiencies.
4. The ability to internalize the current repair cost issues in terms of returns, labor rates and parts mark-up through renting or leasing the vehicles and equipment to the user departments on a fixed rate basis. Detailed costs breakdowns show department managers where their dollars are being spent, and the true cost of owning/operating vehicles and equipment. Lease rates for each respective type of vehicle or piece of equipment could be based on (1) a fixed annual amount, (2) a fixed monthly amount, (3) a fixed hourly rate, (4) a rate per mile or (5) some combination of the above.
5. The ability to alleviate the budget confusion and uncertainty for user departments.
6. The ability to maximize the benefit of a "reserve" fleet, with minimum resources. Fleet would, where appropriate, either develop an internal reserve fleet of sedans, pickups, police cruisers, backhoes, etc., or secure an external rental option depending on which option is more cost efficient. This would reduce/eliminate user departments' lost production time due to equipment failure.
7. The ability for the city to have a centralized focus in pride of ownership of its fleet, thereby keeping it clean, painted and in good operating order.
8. The ability to develop a city-wide fleet replacement fund.

Procure a fleet manager to oversee operations.
A good manager will have the training, skills and know-how to run fleet operations. He/she will be skilled in leadership and management and be a good communicator. Other attributes of a good manager include:

- Ability to analyze staff, organizational structures and business practices, and make changes as needed to obtain greater efficiency and effectiveness.
- Ability to examine/develop programs pertaining to vehicle disposal and replacement, parts management and fuel management. This includes asking:
  - Does the operating department have a continuing need for the vehicle or equipment?
  - Is the fleet effective and right sized?

- Can the vehicle be shared?
- Can a vehicle be reassigned for optimal utilization?
- Can a shared construction equipment motor pool be established?
- Can under-utilized vehicles be deleted from the fleet?
- Will an alternative fuel, hybrid or electric vehicle meet the needs of the operating department?

- Someone who will evaluate green initiatives and be knowledgeable about and open to cost effective innovations and challenges such as:
  - Use of renewable fuels
  - Rising cost of emission control systems
  - Training of technicians to service new technologies
  - Fuel availability
- Be able to manage procurement, inventory control, financial accounting, preventive maintenance, mechanic certification, etc.
- Someone who will consider factors such as fuel economy, life cycle costs and improved productivity, as well as low bid in procurement decisions.

Operate fleet services as an internal service fund and establish a city-wide fleet replacement fund. The replacement fund should be business-oriented — i.e. develop an approach in which an initially capitalized fund would be replenished and expanded through annual amortization of vehicles and equipment. This amortization fund would be managed and paid by fleet, but the cost would be recouped from the user departments through lease and/or rental payments. In many cities, the fleet manager and chief finance officer work co-operatively to manage this fund.

If fleet services will also be maintaining items such as generators or pumps, mowers, etc., associated costs should be designated, tracked, and charged to the appropriate cost center.

GETTING STARTED

So how does a city get started if it's changing from decentralized fleet management to consolidated fleet management? Once the decision has been made to form a department of fleet services, senior leaders (the city manager and/or mayor) should designate the fleet manager, and form a cross-functional team that represents the stakeholders impacted. It's important that this group has the support of the city administration. The team should include representatives from purchasing, financing and key department heads. The purposes of the group are to develop strategies on how to consolidate fleet functions, to pool data, define policies and procedures, develop goals and objectives, etc. This group should (1) discuss the needs of fleet customers; (2) gather data such as a listing of fleet inventory, budget information, staff training and certifications; (3) evaluate and/or develop policies; and (4) establish goals. Then the group working together or the fleet manager working independently should determine replacement priorities. (See example replacement priority list in Exhibit 1 on page 5.)

Exhibit 2 on page 6 demonstrates a model vehicle/equipment replacement plan. The plan in this exhibit was developed by MTAS and is similar to the replacement plan for Polk County, Fla., and to other plans posted on the American Public Works Association (APWA) website. See www.apwa.net.

The hard part is starting funding for the plan. There are basically three ways to start a vehicle replacement fund: from cash, savings, or borrowing.

Cash — If a city has uncommitted cash on hand, it could be used to start a vehicle replacement fund. Otherwise, this method is rarely available, and it is not viable as a sustainable strategy.

Savings — MTAS advocates the establishment of a replacement fund. Departments would make

regular contributions in the form of monthly charges to the fund based on vehicles in department fleets, their cost and expected life. This method reduces volatility and keeps department heads focused on vehicle use levels. The fund will have to be carefully set-up and monitored to ensure that contributions are where they need to be — not too low as to fall short of having money available to follow the replacement plan and not too high as to invite raiding of the fund for other city uses. *Note: the accounting of capital and operating funds will have to be kept separate.*

Debt — Issuing debt for purchase of most city vehicles/equipment is not recommended as a long-term routine strategy. The perception is that it is fiscally irresponsible to use debt to pay for equipment essential for day-to-day operations. Debt issuance has generally been reserved for large, expensive equipment that is expected to last 15-plus years.

How does a city start a vehicle replacement fund — particularly when there is a backlog? The answer may be using a combination of cash on hand and issuing debt.

As noted above, MTAS recommends:

1. An Internal Service Fund from which all maintenance of vehicles and equipment will occur. This fund will track and charge maintenance and repair costs to the appropriate department; and
2. A Vehicle Replacement Capital Projects Fund within the city's general fund to provide a repository for funding of vehicles/equipment. *Note: Enterprise funds should have vehicle replacement capital project funds separate from the city's general fund.*

SUMMARY

In summary, MTAS recommends optimizing municipal fleet operations through:

1. Considering municipal fleet as a large investment that requires excellent management.
2. Using good fleet management software in decision making.
3. Centralizing fleet management.
4. Hiring an experienced fleet manager.
5. Establishing a vehicle replacement plan and fund to buy future vehicles and equipment.
6. Establishing an internal service fund to charge maintenance/repairs back to departments.

For more information or for assistance with implementation of these recommendations, contact MTAS public works and engineering consultants at (865) 974-0411 or (731) 423-3710.

EXHIBIT 1: EXAMPLE LIST OF VEHICLE REPLACEMENT RANK

ASSET #	DEPT.	VEHICLE #	PURCHASE DATE	DESCRIPTION	ODOMETER/HRS.	AMOUNT	CONDITION	LIFE EXP.	REPL. COSTS	REPL. RANK
TF686	FIRE	303	7/7/99	1999 GMC 1 TON	102,377	$21,353.00	FAIR	15	$34,000.00	1
F1189	FIRE	309-ENG3	3/4/98	1998 FREIGHTLINER PUMPER	71,624	$167,981.00	FAIR	15	$410,000.00	2
F1188	FIRE	310-ENG1	3/12/98	1998 FREIGHTLINER PUMPER	90,392	$167,981.00	FAIR	15	$410,000.00	3
P487	POLICE	P23	10/14/92	1993 CHEV CAPRICE	113,024	$12,482.79	POOR	10	$35,000.00	4
F1209	FIRE	302	3/23/99	1999 CHEROKEE SPORT JEEP	73,734	$19,517.80	POOR	10	$30,000.00	5
P861	POLICE	P32	2/21/00	2000 CROWN VIC	131,228	$20,086.43	POOR	10	$35,000.00	6
P1029	POLICE	P36	8/8/03	1997 FORD EXPEDITION	120,960	$9,900.00	FAIR	10	$30,000.00	7
P1005	POLICE	P16	11/20/02	2003 DODGE INTREPID	113,875	$15,336.14	POOR	10	$35,000.00	8
P862	POLICE	P33	2/21/00	2000 CROWN VIC	107,343	$20,083.43	FAIR	10	$35,000.00	9
P1033	POLICE	P34	12/24/03	2004 CHEVROLET IMPALA	112,015	$15,707.75	POOR	10	$35,000.00	10
R1109	REC	230	2/4/03	2003 FORD P/U 4X2	150,343	$14,658.00	POOR	10	$35,000.00	11
P1031	POLICE	P10	12/24/03	2004 CHEVROLET IMPALA	101,841	$15,707.75	FAIR	10	$35,000.00	12
P1004	POLICE	P17	11/20/02	2003 DODGE INTREPID	85,393	$15,336.14	POOR	10	$35,000.00	13
P1035	POLICE	P35	12/24/03	2004 CHEVROLET IMPALA	130,718	$15,707.75	FAIR	10	$35,000.00	14
R1098	REC	253	6/6/02	CUSHMAN INFIELD MACHINE	1,324	$6,500.00	FAIR	10	$10,500.00	15
R778	REC	232	7/14/86	1987 MASCHIO TRACTOR TILLER	665	$992.51	FAIR	25	$2,000.00	16
F1219	FIRE	311	7/1/99	MURRAY MOWER	578	$575.00	FAIR	10	$1,000.00	17
P915	POLICE	P9	12/27/00	2001 CHEVROLET IMPALA	111,146	$18,596.77	GOOD	10	$35,000.00	18

EXHIBIT 2: MTAS SAMPLE VEHCLE REPLACEMENT PLAN

SCOPE

This program provides for the planned replacement of all fuel consuming vehicles and equipment, their attachments and implements. The current fleet's replacement value is approximately $_____ million and covers _____ vehicles.

The Replacement Plan will be administered by the city's (suggested — fleet services manager).
The Replacement Plan will be based on criteria and a point system as defined below.

OBJECTIVES

1. Establish a Replacement Fund to provide funds for vehicle replacement in advance of need.

2. Smooth the outflow of capital funding and the rotation of incoming and outgoing vehicles year to year to prevent spikes in cash and asset flow.

3. Eliminate the requirement to request approval from the governing body for each replacement purchase.

4. Meet the needs of the end user.

5. Provide a central point of control to account for all fleet specifications, acquisition, assignment, utilization, maintenance and repair.

6. Maximize fleet resources by providing timely acquisition and disposal of vehicles and equipment.

7. Right size the fleet. Ensure the city has the optimum number and type of vehicles and equipment and that fleet growth is planned and controlled.

8. Promote standardization. This is needed for promoting cost effective maintenance/repair.

9. Optimize vehicle utilization.

10. Comply with state of Tennessee purchasing laws and financial procedures.

11. Reduce per unit maintenance costs by eliminating old, expensive to maintain vehicles and equipment.

VEHICLE REPLACEMENT CRITERIA

Suggested scoring categories: Age, Mileage, Annual Maintenance Cost and Use.

TABLE 1.

1. Vehicle Age (years)	Points
>15	5
13 – 15	4
10 – 12	3
7 – 9	2
4 – 6	1

TABLE 2.

2. Vehicle Mileage	Points
>100 K	5
70 – 99 K	4
50 – 69 K	3
30 – 49 K	2
<30 K	1

TABLE 3.

3. Annual Maintenance Cost ($)	Points
>$2,000	5
$1,500 – 1,999	4
$1,000 – 1,499	3
$500 – 999	2
<$500	1

TABLE 4.

4. Vehicle Use (Specialty)	Points
Special built/purpose	5
Medium duty	4
Single purpose w/attachments	3
4-wheel drive	2
Standard vehicle	1

APPLICATION OF RANKING CRITERIA

The American Public Works Association (APWA) vehicle replacement guide uses a weighted point system based on age, usage, type of service, maintenance and repair costs and overall condition of the vehicle. The city's ranking system could be used to develop vehicle replacement cost. Tables 5 and 6 provide examples.

Table 5.

Score	Condition	Needed from General Fund	No. Vehicles	Needed from Utility Enterprise Fund	No. Vehicles
< 9 points	Excellent to very good	$25,000	1	$75,000	3
9 – 12 points	Good	$456,855	10	$575,000	6
13 – 19 points	Qualifies for replacement	$1,290,210	18	$450,000	7
> 19 points	Needs immediate replacement	$131,500	2	$0	0
Total		**$1,903,565**	**31**	**$1,100,000**	**16**

The current total replacement cost is $3,003,565.

PLAN IMPLEMENTATION

1. Each year prior to budget preparation, the fleet manager and finance director will hold a meeting with each user department to confirm vehicle replacements for the upcoming budget.

2. When new vehicle/equipment is purchased, a replacement cost will be established based on its economic life.

3. The replacement cost will be applied as an expense against the new vehicle and charged to the department where it is assigned.

4. The replacement expense will be credited to the Replacement Fund.

5. Proceeds from vehicle/equipment sales will be credited to the Replacement Fund to provide a cushion against inflation.

6. Expenditures from the Replacement Fund will be authorized by the finance director.

7. The finance director will prepare and distribute to department heads a report detailing the replacement charge and remaining balance due for each unit. The report will be prepared and distributed on a frequency to be determined by the city.

8. A unit's replacement fee is discontinued when the fund for that specific unit is fully reimbursed.

9. If a vehicle is totaled due to an accident and for the amount not covered by insurance, the accumulated total of replacement fees for that vehicle can be used to help fund the replacement. Any additional funding needed to fully pay the replacement cost must be provided from sources beyond the Replacement Fund.

10. At the end of the vehicle's economic life, funding for its replacement will be provided by the Replacement Fund.

11. Table 6 provides an example of the annual cost needed from the general fund and the utility fund.

Table 6.

	Number in Fleet	Replacement Cost	Annual Cost
General Fund	88	$5,500,000	$605,000
Fire Apparatus	6	$2,400,000	$145,000
Utilities	20	$1,100,000	$100,100
Total	**114**	**$9,000,000**	**$850,100**

12. The replacement plan assumes that an average life span can be established for a group (type) of equipment based on industry standards and analysis. The following life expectancy shown in Table 7 could be used for purposes of planning. Because this listing is an average, some equipment will operate beyond the stated life expectancy and some less.

Table 7.

VEHICLE DESCRIPTION	AGE/MILES
Car	8 years/100 K
Police pursuit car	6 years/100 K
Pickup, SUV, van, 1-ton truck	8 years/100 K
Medium- and heavy-duty trucks, utility trucks, bucket truck, flatbed	10 years/120 K
Front-load refuse truck	8 years/100 K
Track loader, track backhoe, rubber tire loader, curbing machine	10 years
Backhoe/loader combination	10 years
Skid-steer loader	10 years
Forklift	15 years
Grader	10 years
Small engine equipment, tractor, mower, sprayer, leaf loader	10 years
Trailer-mounted compressor	10 years
Trailers, snow plows and salt spreaders	15 years
Fire engine truck	10 – 15 years
Ladder truck	15 – 20 years
Rescue trucks	10 years

THE UNIVERSITY of TENNESSEE

MUNICIPAL TECHNICAL ADVISORY SERVICE

MTAS1739 11/12 • E14-1050-000-026-13