



11-20-2012

Fleet Management Tips for Municipal Decision Makers

Sharon Rollins

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

Follow this and additional works at: http://trace.tennessee.edu/utk_mtaspubs

 Part of the [Public Administration Commons](#)

The MTAS publications provided on this website are archival documents intended for informational purposes only and should not be considered as authoritative. The content contained in these publications may be outdated, and the laws referenced therein may have changed or may not be applicable to your city or circumstances.

For current information, please visit the MTAS website at: mtas.tennessee.edu.

Recommended Citation

Rollins, Sharon, "Fleet Management Tips for Municipal Decision Makers" (2012). *MTAS Publications: Full Publications*.
http://trace.tennessee.edu/utk_mtaspubs/161

This Report is brought to you for free and open access by the Municipal Technical Advisory Service (MTAS) at Trace: Tennessee Research and Creative Exchange. It has been accepted for inclusion in MTAS Publications: Full Publications by an authorized administrator of Trace: Tennessee Research and Creative Exchange. For more information, please contact trace@utk.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."

Photocopying of this publication in small quantities for educational purposes is encouraged. For permission to copy and distribute large quantities, please contact the MTAS Knoxville office at (865) 974-0411.



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:
 - o Does the operating department have a continuing need for the vehicle or equipment?
 - o Is the fleet effective and right sized?



- o Can the vehicle be shared?
- o Can a vehicle be reassigned for optimal utilization?
- o Can a shared construction equipment motor pool be established?
- o Can under-utilized vehicles be deleted from the fleet?
- o 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:
 - o Use of renewable fuels
 - o Rising cost of emission control systems
 - o Training of technicians to service new technologies
 - o 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 VEHICLE 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 **UT**
MUNICIPAL TECHNICAL ADVISORY SERVICE

The University of Tennessee does not discriminate on the basis of race, sex, color, religion, national origin, age, disability, or veteran status in provision of educational programs and services or employment opportunities and benefits. This policy extends to both employment by and admission to the university.

The university does not discriminate on the basis of race, sex, or disability in its education programs and activities pursuant to the requirements of Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act (ADA) of 1990.

Inquiries and charges of violation concerning Title VI, Title IX, Section 504, ADA or the Age Discrimination in Employment Act (ADEA) or any of the other above referenced policies should be directed to the Office of Equity and Diversity (OED), 1840 Melrose Avenue, Knoxville, TN 37996-3560, telephone (865) 974-2498 (V/TTY available) or 974-2440. Requests for accommodation of a disability should be directed to the ADA Coordinator at the UTK Office of Human Resources, 600 Henley Street, Knoxville, TN 37996-4125.