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Activity Based Costing (ABC) for Fleet Operations

By: Prab Rao

Equipment Services Director, City of Minneapolis

Background

In the last decade or so, government fleet operations have been under increasing scrutiny all across North America. The reasons could be many but when elected officials do not comprehend the value added by internal fleet services, outsourcing, managed competition, privatization, rightsizing and host of other reengineering attempts are initiated.

Mention public works and streets, sewer, water, transportation etc. are often at the top of politicians' minds. Fleet operations are perhaps the last thing they remember. Yet, fleet operations, like many other support services, are critical to the success of other front-line operations. Moreover, since most of them own and maintain their cars, they can't understand why fleet operations have to be so complex or expensive. It is up to the manager or the director of the operation to make a case.

Politicians are naturally suspicious of activities that they do not fully comprehend. Thus, in a public enterprise, activities that cannot be explained easily are usually the ones that get cut, outsourced etc. Often, well-run operations are put on the chopping block since no one could explain their effectiveness or the reason for their presence. In such an environment, customer support and buy-in are critical for which, they clearly need to appreciate the value added by internal fleet operations.

At a recent city-wide meeting I attended, the mayor and one council member raised the following issues as examples that needed their attention:

- Traffic lights
- Tennis courts
- Potholes
- Rats in sewer
- Raccoons in sewer
- Street lights

Not a word on fleet operations!

In my 23 years of fleet experience in Canada and the US, I have realized that when my customers understand what they are paying for and are satisfied with the service that I provide they can be my best ambassadors to the politician's court. For this, the cost structure must be transparent to and understood by the customers (and Finance/Budget office).

The most frequent question I have been asked by council members is what it costs to change the oil and filter in a city car. After several unconvincing attempts to explain that we do more than change the oil, I felt that public sector fleets should emulate the private sector and have an oil change charge, after all.

Fleet Manager Responsibilities

As fleet managers, it is up to us to convince our customers, senior administration and politicians that we provide value to the organization. We must show that we care for the organization we serve through superior customer service (this can be a whole topic for discussion). We should show that we are cost-competitive. Most importantly, our customers must understand that we provide good service at a cost that is competitive. We also should keep them informed of the benefits provided by us.

As true internal service providers, we have several advantages:

- We have better understanding of our customer operations
- We have only one customer, the organization we serve
- We provide one stop service for all fleet
- We can better respond to the organization's priorities
- We are not profit motivated
- Security of the fleet and items in them are not a concern for our customers when their units are in our possession
- Our service locations are normally at customer locations thus, convenient
- Our hours of operation are more convenient and flexible to meet our customers' needs
- There is no bidding or other expensive or complex procedures involved
- There is no formal invoicing and payment processing is simpler

How do these compare with some alternatives?

- Managed competition can sometimes lead to tension between fleet operations and its customers in defining what services are included and what are not. Typically, this would be a major source of friction if fleet operations consider an expense as arising out of negligence or damage and the customer does not. A recent example I heard was at large city dealing with the problem of worn brake rotors vs. warped brake rotors. Managed competition may also lead to "maintenance avoidance" by fleet operations since the main goal is to remain within bid amounts. "Profit sharing" with technicians could make this situation worse.
- Outsourcing to a private vendor could also lead to problems. The vendor is more interested in the bottom line. If the contract stipulates a fixed annual amount, some of the negatives found under managed competition would arise. If it's open-ended, then excessive or needless expenses could be incurred.
- Combination operation is where some work is done in-house and some, contracted out. Most fleet operations I know do outsource at least part of the work. Typically, glass, radiator, overhauls, auto-body and the like are

outsourced. But when regular maintenance is outsourced, then the operation loses control over setting priorities.

Despite these advantages, if our costs cannot be justified and/or our service is poor, our survival would be at stake. So, how can fleet operations control their costs and stay in business?

Internal Service Fund Agency

Time and again we have heard fleet management consultants speak about establishing fleet operations as true internal service funds. It means:

- establishing fleet operations as a business entity
- establishing service level agreements with customers
- being competitive with the private sector
- providing superior customer service
- charging customers for the services provided
- ensuring transparency of costing methodology and
- breaking even at the end of the year.

What are some alternatives?

All-inclusive Fleet Rates:

Many organizations have all-inclusive fleet charges. While they reduce the accounting activity, the heavy user, the light user, one who looks after his fleet and one who abuses his, all pay the same rate. There typically is a significant amount of cross subsidization between customers but they all feel they are penalized for someone else's irresponsibility. There is no incentive to be frugal or careful. Worse, fleet operation cannot explain or justify how its costs and charges are established. Complaints mount.

Unique Fleet Rates:

Some have a unique structure. They may charge utilities (enterprise funds) but have a budget line item against which all other customers are served. Here again, the problem is the lack of transparency in the costing structure and lack of accountability on the customer's part. Are the utilities charged too much to subsidize the general fund customers?

No Fleet Rates:

Some have no charges at all. Fleet operations receive funding to supply, maintain and fuel to meet their customer needs. Here again, there is no accountability on behalf of the customer. Since they do not have to budget for and justify their needs, there is no scrutiny. Many units under this arrangement suffer from low utilization. Last year this time, a federal government's unit

managed by GSA made the evening news as one example under NBC's Fleecing of America. A new SUV was hidden behind a building, out of sight, for some three years. It hadn't moved during that period! Some cities and police operations have been accused of having excessive number of vehicles. You all have read such reports.

True-cost Fleet Rates:

Therefore, the preferred method is to establish fleet operations as a true internal service fund. It means establishing fleet supply rates that reflect the total cost of acquiring, licensing and disposing the units, maintenance charged on a pay-as-you-go basis with a clearly defined and justified shop and parts supply rates, and fuel charged on a pay-as-you-use basis that includes all dispensing costs. How does one do that? Through Activity Based Costing.

What is Activity Based Costing (ABC)?

ABC is an accepted methodology to apportion direct and indirect costs and overheads on various activities of a business based on reasonableness. Department stores have various mini-businesses such as men's wear, women's wear, furniture etc. precisely for the reason that they want to track the financial viability and profitability of each business. When Sears decide to reduce the men's wear section and increase the women's wear section, it's through ABC. Evidently, men don't spend enough and are not very profitable for Sears.

In fleet operations, similar divisions can exist. Examples are fleet supply, which is like a leasing business, maintenance, fuel (both dispensed at the sites and through a fuel truck), parts room etc. Even training could be considered a business and separate charges established. A business, by definition, is any activity that can have an income. Thus, overheads are not a business.

Overheads would include admin support, IT, HR, Purchasing and other allocated charges. These should be distributed to each business based on justifiable reasons. Thus, the fleet manager's and administration expenses could be distributed based on reasonable amount of time he or she dedicates to each business. IT charges could be distributed based on the number of computers or terminals each activity has. HR charges could be based on the number of employees in each activity and space based on area occupied by each activity. The table below shows a simple allocation.

Description	Annual cost	Quantity	Fleet Supply	Maintenance	Fuel
Indirect Costs					
Manager	\$100,000		\$40,000	\$40,000	\$20,000
Secretary	\$50,000		\$20,000	\$20,000	\$10,000
IT Charges	\$50,000	50 computers	2 computers \$2,000	43 computers \$43,000	5 computers \$5,000
HR Charges	\$30,000	60 employees	2 employees \$1,000	53 employees \$26,500	5 employees \$2,500
Purchasing	\$20,000	\$10 million purchases	\$4 million \$8,000	\$4 million \$8,000	\$2 million \$4,000
Space	\$500,000		\$10,000	\$470,000	\$20,000
Allocation	\$750,000		\$81,000	\$607,500	\$61,500

Direct Costs					
Fleet Management	\$150,000	2 employees	\$150,000	Nil	Nil
Maintenance					
Salaries	\$4,240,000	53 employees	Nil	\$4,240,000	Nil
Maint. Fleet		5 units		\$25,000	
Fuel	\$280,000	5 employees	Nil	Nil	\$280,000
Total Costs	\$5,422,000		\$231,000	\$4,872,500	\$341,500

Rate Setting

Once the overheads are allocated, rates for each activity could be set thus:

Fleet supply

Fleet supply rate should be set for individual units and include the acquisition cost with all taxes and preparatory work net of anticipated salvage, a cost of capital that includes bonding costs if any and a return to ensure there is enough money to replace the unit at the end of its life, an anticipated life agreed by the user and the overhead allocation based on the acquisition cost.

For those who want finer details, the formula is:

$$R = P \left[i \left(\frac{(1+i)^n - S}{(1+i)^n - 1} \right) + \left(\frac{O}{V} \right) \right]$$

Where,

R = annual rate

P = total acquisition price (including service preparation)

i = interest rate

n = number of years of life

S = salvage percent

O = overheads

V = total value of the fleet

If $P=\$20,000$, $I=5\%$ or 0.05 , $n=8$ years, $S=10\%$ or 0.1 , $O=231,000$, and $V=\$50\text{million}$,

The annual lease rate would then be: \$2,977 (or \$248 a month)

These figures need to be re-established each year.

Shop rate

The shop rate should include only those costs that are associated with the provision of maintenance operations. All work orders should show the time taken by technicians and the invoice must include separate charges for labor, parts, shop supplies and environmental charges. The shop rate is calculated thus:

Number of technicians:	48 (plus four foremen and a supervisor)
Available hours:	$48 \times 2080 = 99,840$
Efficiency =	75%
Effective hours =	$99,840 \times .75 = 74,880$
Shop rate =	$4,872,500 / 74,880 = \$65.07 \text{ per hour}$

Fuel charge

I have seen a number of organizations that dispense fuel at cost of acquisition. It is as though the fuel site infrastructure and its maintenance costs were zero. This plainly is not the case. There is a cost to dispense fuel. If it is delivered to job sites, the costs tend to be significantly more. A simple fuel charge calculation is thus:

Number of gallons dispensed:	4,000,000
Dispensing charge =	$341,500 / 4,000,000 = 8.54 \text{ cents per gallon}$

Service Level Agreements

Once the ABC costs are set, it is important to get the customers, budget office and perhaps senior administration and elected officials to agree to the concept. I have made numerous presentations at both Calgary and at Minneapolis to directors, fleet coordinators, accountants, operations personnel etc. to explain the cost structure, the policies and procedures and asked for their comments to get their buy in. Subsequently, at both places of my employment, I saw a significant reduction in customer complaints and better acceptance of fleet policies.

It is important to keep the customers informed on a regular basis continuously. Monthly meetings with major ones are one example. However, I would

encourage an annual service level agreement (SLA). Shop rates change, allocations may vary. An SLA would be an ideal vehicle to get customers to agree to any changes. Not only does it enhance communications, but also reduces confusion and complaints, particularly when signed by both parties.

One caution, excellent customer service or partnering with customers does not mean that we relinquish all fleet decisions to the customers. We wear two hats: customer service and custodial service. We are typically the stewards of millions of dollars invested by cities and other agencies in fleet. It's our role to ensure that customers do not skimp on needed maintenance.

The details of service level agreements can be whatever is comfortable for the operations. As an example, both at Calgary and Minneapolis, our service level agreements have room for customers to indicate an amount beyond which we have to consult with them before spending their maintenance dollars. Jointly we discuss alternatives to reduce the overall cost to the tax payer and take appropriate action.

Conclusion

Customer service, transparency of costs and ABC can justify continuation of internal fleet operations and diminish political and customer concerns. I have had first hand experience in two major cities how these simple remedies turned the fortunes around. At both locations, outsourcing was a threat. Customer dissatisfaction was a major concern. After implementing the changes, customer approval, measured through annual surveys, went up and internal fleet operations were considered a source of support and not a problem.

Questions?