Research Article

County Government Fleet Purchasing Practices: Financial Efficiency vs. Need Assertion

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An abundant amount of local government services are implemented through the use of automobiles each year. These costs include initial purchase, use, repair, and replacement. Traditional budgeting research is broad and does not isolate fleet costs or the influential actors in the process. This study examines the finance practices and need assertion associated with vehicle purchases and acquisition. Findings indicate most county governments in North and South Carolina choose to purchase vehicles on a cash basis, especially if there is a low resale value for surplus automobiles. In addition, county staff are very influential in additional vehicle purchases, especially if the sheriff can convince the county manager that additional automobiles of a particular make can enhance service delivery.

Keywords: Local Government Finance, Public Finance, Fleet Purchasing

Fleet expenses, whether through purchase, routine maintenance, or even repair are considerable for all levels of government annually. Considering the number of services disseminated through the use of automobiles, solid waste transport trucks, dump trucks, utility vehicles as well as the traditional fire, police and rescue vehicles, it is not surprising that many local governments are strategic in both determining the time of vehicle replacement as well as payment method. Since so many services are delivered on wheels, or even with tracks, payment disbursement can take place either through traditional operating budget requirements or even debt service. For smaller governments, this process is not as practical due to available funds, with replacements occurring only when there is a situation of exceptional need.

The traditional budgetary and cash management literature primarily focus on the basic aspects of costs inclusive of personnel and traditional supplies. Fleet financing is a critical element in not only budget formulation, but also in general public finance. Costs associated with initial purchase and operation can have an impact on not just the purchasing department, but can impact the revenue requests of several departments and in some cases, the entire government unit. Thus far, there has been very little literature discussing this topic.

This exploratory study examines the various methods associated with the financing of fleets among local governments in North and South Carolina in conjunction with appeasing service provider demands. Although there are numerous types of vehicles used to distribute services, the focus of this article is primarily automobiles and half-ton pickup trucks, including of SUVs and emergency medical services (EMS) vehicles. A primary model was constructed to determine the type of financing used by local governments for vehicle purchase, with additional models which tests need assertion by public officials. Preliminary findings indicate that staff with direct purchasing responsibilities have much influence in both financing methods as well as the number of vehicles purchased.

This study advances the literature in several ways. First, it provides an illustration of the finance practices associated with fleet purchases along with the type of benchmarks used to facilitate replacement decisions. Second, the study definitely advances the traditional budgeting literature by testing for the influence of various actors on actual purchasing decisions. Among the actors in

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the process, the 'gatekeeper' role of the manager and the finance officer are emphasized as they balance the need assertions of elected officials and staff while maintaining fiscal stability.
The paper is organized as follows: the next section examines the literature surrounding models and methods for fleet replacement in addition to some of the pivotal actors in the budget decision making process. In the following section, a data and methods section provides a breakdown of the variables used for measurement followed by models testing for fleet financing methods and the number of vehicles purchased at a given time. Finally, there will be a findings section with discussion.

Background

Previous Literature

The literature on government fleet purchasing methods is quite limited. Upon initial investigation, most studies focused on alternative models of determining optimal machine replacement with varying levels of demand, costs, numbers and types of machines purchased (Chen, 1998; Hopp, Zydiak, & Jones, 1993; Jones, Zydiak, & Hopp, 1991; Tang & Tang, 1993). More recent studies have added the elements associated with firm budget constraints along with the question of whether it is best to purchase or even lease (Hartman, 2000; Hartman & Lohmann, 1997; Karabakal, Bean, & Lohmann, 2000). None of the above studies were applied to a local government environment where the demand and service levels vary considerably, nor were they inclusive of numerous actors all vying for fleet replacement dollars with subjective interpretation of need. Moreover, many local government policies involving fleet replacement have basic numerical or even categorical values which determine replacement, and are based on type of use in service delivery. The policies all have some degree of basic life cycle costing indicators such as the optimal number of miles, type of service performed, reliability, maintenance costs, varying levels of fixed costs and safety issues (City of Gillette, Wyoming, 2011; Messera, 2007; Michel, Bell, Bronson, Owens, and Roylance, 2000).

Ammon (2003) has been the only source to point out the three primary fleet financing methods used by local governments: cash, reserve funds, and debt financing. Many governments still purchase vehicles with cash, usually from unreserved fund balance monies. Purchasing vehicles with cash is advantageous for smaller governments with limited cash reserves, since the interest associated with borrowing is negated; however, the unexpected costs associated with a sudden purchase can offset efforts at maintaining expenditure smoothing trends, not to mention possible conflict due to the competition for funds from other areas.

A second financing method consists of earmarked revenue use, more commonly known as the vehicle replacement fund. With this application, local governments set aside a portion of undesignated revenue in a reserve fund to be used exclusively for fleet purchases. In some cases, all expenditures take place through the fund with annual replenishment while other uses consist of the fund acting as a buffer or as an internal 'line of credit' in case expenditures exceed expectations.

The third method is through borrowing. Methods associated with this strategy include bond issuance, bank financing, or even leasing (Ammon, 2003). For larger governments, this may be a preferred method due to the large amount of vehicles in or out of service, the ability to have a sustained line of credit, and more control over large budget fluctuations with the elimination of outright purchases. The major drawback to this option is continual payment along with the associated interest payments, especially if the local government has a low or no bond rating.

Applicable Theory

Traditional finance theory usually is not inclusive of specific equipment used in the distribution of services. However, these same services are part of departments and in some cases, specific programs. Thus, the bureaucratic expansion model provides much of the explanation for these finance decisions and practices (Craswell, 1975; Downs, 1967; Wildavsky, 1984). In this model, bureaucrats are continuing trying to increase departmental, agency, or even program budgets by imploring politicians to increase funding for their areas due to continual or expanding service demand. The dire consequences for insufficient funding are at times invoked, especially by emergency services personnel. Police and fire officials within municipal governments and sheriff departments at the county level frequently warn of substantial increases in crime and potential loss of life in the event of revenue losses. For example, a sheriff in Illinois recently cited budget cuts that could have been used for personnel as the reason for a jailbreak. According to the sheriff, the inmates recognized fatigue in officers that were working extra shifts due to a lack of personnel (Associated Press, 2015). The more traditional departments such as social services, environmental services, and planning departments, can substantiate requests due to service demands that result from changing demographics.

Budget Actors

There are several actors in the budget formulation and implementation process which can influence the purchase of various assets, including county fleet purchases. First, there is the elected body, which is the elected commission or council. In nearly every case, commissioners make the final decision concerning budget ratification. Previous studies have found that commissioners see themselves as very involved in the budget process and that service provision for the county as a whole has the highest priority versus individual departments or programs (Modlin, 2008). In rare cases, some elected bodies will actually examine individual account codes to determine if there has been excessive spending (Modlin and Stewart, 2014).

County officials elected to other offices have varying levels of influence on expenditures. For an elected Register of Deeds or a district attorney, county funding is usually routine and without much conflict; whereas, county sheriff departments utilize a substantial amount of equipment and provide many services which require transportation. During budget hearings, a sheriff can cite increased call volume, inmate transportation, detention center staffing, warrant distributions, increased levels of equipment usage, and technological changes as reasons to increase departmental budgets inclusive of additional vehicles. Preferences can also be based on quality and performance. In contrast, the finance officer, elected trustee or treasurer has the responsibility to ensure that the primary government unit has sufficient funds for many types of service provision while simultaneously maintaining substantial cash reserves.

County administrative staff usually bear the responsibility of providing aninitial version of the budget. The budget administrator or analyst (for larger counties that have these positions) get budget requests from department heads and other elected officials and present the requests to the finance officer who, if well experienced in the job or has intimate knowledge of the entire government unit, will prepare an initial version of the budget usually with the endorsement of the manager. Basically, the finance officer and the manager act as gatekeepers for local governments, trying to provide the best service provision as possible without overspending (Morgan, Robinson, Strachota, & Hough, 2015). At the state level, Goodman (2008) found that legislative and executive budget analysts have this role as well.

Modlin (2011a) found that county commissioners frequently endorse the county manager's proposed budget; this same study found that while county managers often agree with the suggested budget recommendations of department heads, managers also question the origins of revenue for any additional expenses. Obviously, there is inevitable conflict between the manager's budget recommendations and that of other elected officials, particularly the sheriff. Commissioners decide the outcome in these cases (Modlin, 2011a).

This study attempts to examine the various ways of financing vehicles used in county service delivery in North and South Carolina. Unlike other studies, this study actually examines empirical evidence demonstrating payment method as well as need assertion. A primary model will be predicated on a number of financial and institutional factors that may have a relationship with method of payment. An additional behavioral model is also introduced to determine how successful actors are at determining need and how this influence affects the number of purchases and financing.

Data and Methods

Examining fleet financing methods and need assertion required the solicitation of information from county government finance personnel. Surveys were sent to all county finance officers in North and South Carolina. After multiple rounds of dissemination, responses were received from 33% of counties with about the same percentage from each state. All counties in the survey were from professionally administered county governments in which there is the presence of a county manager/administrator. Among the responses, each financial classification of government is represented from those with budgets of less than $25 million to counties with budgets which exceeded $100 million.

The primary dependent variable is the primary payment method counties utilize for fleet, displayed as *PURCHASE*. The variable is coded "3" if the county pays for vehicles through multiple methods. Predictors used to test for purchasing method are both exploratory and from the literature. The presence of a vehicle replacement policy, given as *VRP*, in conjunction with how the need is determined, *NEEDDT*, a vehicle replacement fund, *VRF*, along with a requirement that there is specific cash available, *CASHREQ*, prior to purchase all had expectations of influencing purchasing method. Depending on quality perception, the resale value, *RESALE*, and the presence of a county garage, *GARAGE*, all are influential in both purchasing and activity costing schemes. The presence of a county garage enables counties to set up an internal service fund to account for indirect costs associated with vehicle repair (Modlin, 2011b). Finance officers were also asked about the make preferences for any official – elected or otherwise, *MAKEPREF*, and final decision maker, *PURFINAL*, concerning purchases. The size of the budget was also used as a variable *BUDGET*.

The secondary dependent variable testing the amount of influence in asserting need is *VEHPUR*, which is an ordinal variable based on the number of vehicles purchased at any one time. Finance officers were asked to provide a self-based interpretation of fleet needs by department heads, *FINDEP*, as well as the sheriff, *FINSHERIFF*. Finance officers were also asked to determine how well department heads influenced the manager or administrator concerning fleet needs, *DEPCM*, how well the sheriff asserted needs to the manager, *SHERIFFCM*, and how well the sheriff influenced the county commissioners/council, *SHERIFFCOM*. There was also an examination of make preferences for both the sheriff, *MAKESHERIFF*, and department heads, *MAKEDEP*. All of the information for the variables was obtained through survey data with the exception of budget information which was obtained from the North Carolina State Treasurer's

Table 1. Definitions of Variables for Measurement

Variable	Definition	Measurement
PURCHASE (Dependent)	Number of Fleet Purchasing Methods	3 = Multiple Methods
VEHPUR (Dependent)	Average Number of Vehicles Purchased at Given Time	5 = More than 20
VRP	Dummy Variable for the Presence of a Vehicle Replacement Policy	1 = Policy
VRF	Amount Reserved for a Vehicle Replacement Fund	2 = More than $100,000
PURFINAL	Dummy Variable for the Final Decision on Vehicle Purchases	1 = Commissioners/Council
CASHREQ	The Amount of Cash Required Prior to Purchase	5 = More than $1 million
NEEDDT	How Replacement is Established	3 = In addition to miles and performance
MAKEPREF	Dummy Variable for Official Preference (Elected or Staff)	1 = Yes
BUDGET	Size of Budget	5 = More than $100 million
RESALE	Resale Value	4 = More than 75%
GARAGE	County Has Own Garage	1 = Yes
FINDEP	Finance Officer Rating of Department Head Need	5 = Really Needed
FINSHERIFF	Finance Officer Rating of Sheriff Need	5 = Really Needed
DEPCM	Department Head Influence on County Manager	5 = Very Influential
SHERIFFCM	Sheriff Influence Rating on County Manager	5 = Very Influential
SHERIFFCOM	Sheriff Influence Rating on Commissioners/Council	5 = Very Influential
MAKESHERIFF	Dummy Variable for Sheriff Make Preference	1 = Make Preference
MAKEDEP	Dummy Variable for Department Head Make Preference	1 = Make Preference

Local Government Commission (2012) and the South Carolina State Budget and Control Board (2012). Table 1 provides a list of variables used in the analysis.

The absence in the literature of any form of fleet financing model has provided a prompt for a regression model which encompasses many of the factors associated with fleet financing practices. Based on the survey data as well as the observation of fleet transaction activity, ordered logistic regression models were created to examine these factors for possible relationships. In the first two models, the type of purchase method, whether exclusively by cash or some form of borrowing is influenced by the financial variables in the model and as described in table 1. A second model will test official need assertions and make preferences against the number of fleet purchasing methods.

Table 2. Fleet Purchasing Method by Budget Size

Budget Size	Cash	Bank Borrowing	Debt Service	Combination
$100M+	4	2	0	3
$75M-$100M	4	0	0	3
$50M-$75M	3	0	2	2
$25M-$50M	4	4	0	1
>$25M	8	3	1	4
Total	23	9	3	13

$$PURCHASE = \beta_0 + \beta_1 VRP + \beta_2 VRFP + \beta_3 PURFINAL + \beta_4 CASHREQ + \beta_5 NEEDDT + \beta_6 MAKEPREF + \beta_7 BUDGET + \beta_8 RESALE + \beta_9 GARAGE$$

In the final two models, the predictors associated with need assertions and make preferences will again be used against the actual number of vehicles purchased to determine the effectiveness of official fleet desires. Below is the model which will test these assumptions.

$$VEHPUR = \beta_0 + \beta_1 FINDEP + \beta_2 FINSHERIFF + \beta_3 DEPCM + \beta_4 SHERIFFCM + \beta_5 SHERIFFCOM + \beta_6 MAKESHERIFF + \beta_7 MAKEDEP + \beta_8 PURFINAL + \beta_9 GARAGE$$

The final decision for vehicle purchases was included in the final model for the purposes of including as many actors as possible in the model. The garage variable was included for two reasons. First, many larger counties have a fleet manager along with other personnel with significant responsibilities and input into purchasing decisions. The same can also be said for smaller counties with a county garage for its own fleet. Second, contracting out, especially to a dealer, can have very disparaging costs, thus influencing the number of vehicle purchases by decision makers.

Results and Discussion

Service provision among county governments is fairly comprehensive with varying levels of service. Finance officers were first asked about all fleet purchases despite the type of vehicle. Overall, larger governments were in a much better position to purchase a variety of vehicles for service provision compared to smaller counties. The other interesting finding was the number of SUV purchases. In every budget classification, there were a substantial amount of SUVs purchased, especially among larger governments where the number of responses rivaled that of the traditional automobile. Governments that were not purchasing EMS, fire, or solid waste trucks were more than likely contracting out to a service provider. In the case of fire departments, donations are a primary source of funding. For smaller counties, this is a growing trend with both financial and personnel implications. Although not specifically discussed in this study, many county governments purchase backhoes, excavators, traditional bulldozers, and other heavy construction equipment. This equipment is primarily used for solid waste in landfills but has other uses as well, such as general debris cleanup including abandoned building/home demolition.

Financing methods for traditional automobiles including SUVs takes place in a number of ways, as illustrated in table 2. The majority of counties used a combination of methods which includes

Table 3. Descriptive Statistics

Variable	*N*	Mean	SD	Min.	Max.
VRP	48	.3125	.4684	0	1
VRF	48	.2083	.5819	0	2
PURFINAL	48	.75	.4376	0	1
CASHREQ	48	1.4792	1.8334	0	5
NEEDDT	48	2.0625	.9765	1	3
MAKEPREF	48	.25	.4376	0	1
BUDGET	48	2.5890	1.5477	1	5
RESALE	48	1.1875	.5322	1	5
GARAGE	48	.5625	.5013	0	1
FINDEP	48	3.375	1.1416	1	5
FINSHERIFF	48	3.7708	.9280	1	5
DEPCM	48	3.4583	.9666	1	5
SHERIFFCM	48	3.875	.9368	1	5
SHERIFFCOM	48	3.875	.9368	1	5
MAKESHERIFF	48	.6042	.4942	1	5
MAKEDEP	48	.2917	.4593	1	5

short-term borrowing from a local bank which had the asset capability to handle the capacity. Banks that handle county business provide a wealth of services that reduce float and enable more flexible cash flow (Modlin, 2014; Modlin and Stewart, 2012). Most counties that borrowed financed for three to four years with an interest rate under 3%. Overall, the amount of borrowing was generally between $100,000 and $500,000. However, approximately half of the counties in the study purchased vehicles outright with cash reserves, especially those with smaller budget sizes. This group was also more likely to utilize multiple methods of payment if necessary, as compared to the other groups. Only three counties stated that they used debt service for fleet payment.

The majority of counties in the study stated did not employ a vehicle replacement policy or a vehicle replacement fund (VRF). For the counties that had a vehicle replacement fund, the amount could be as much as $750,000. Interestingly enough, two of these counties had budget sizes of less than $25 million. An on-hand cash requirement was necessary for most counties prior to purchase. Table 3 suggests the average amount was approximately 200,000. Again, two counties in the smallest budget group required an on-hand cash balance of $1 million prior to purchase. Auto purchases were considered capital budget items for the majority of counties in the study.

The findings surrounding need determination produced some of the more interesting results. Of course, mileage was the primary determinant of replacement, followed by quality issues. The findings for this particular category had considerable variation and also somewhat of a state divide. No county in South Carolina provided a mileage number of less than 150,000 miles before replacement would be considered, with two counties requiring 200,000 miles prior to replacement consideration. In North Carolina, respondents which provided a mileage number cited between 125,000 and 150,000 miles, with just one county stating 200,000. In addition to mileage, performance issues surrounding repair were also a major reason for replacement. One county finance officer stated that if the repair costs exceeded 50% of National Automobile Dealers Association (NADA) value of the automobile, then replacement was considered. Resale values were usually up to 25%, with autos designated as surplus disposed of by internet or public auction. Some counties rotate vehicles between departments in order to extend service life. For

Table 4. Logistic Regression Institutional Models

Variable	Purchase Model 1	Vehicle Model 1
VRP	2.0256**	1.1351
	(7.5806)	(3.1114)
VRF	-.7951	1.0312
	(.4515)	(2.8047)
PURFINAL	-.1530	-.3423
	(.8580)	(.7101)
CASHREQ	.0226	-.1087
	(1.0228)	(.8970)
NEEDDT	-.1780	-.8820**
	(1.2291)	(.4140)
MAKEPREF	.4257	-.1527
	(1.5308)	(.8583)
BUDGET	-.1780	1.1308***
	(.8369)	(3.0982)
RESALE	-2.1007*	.5553
	(.1224)	(1.7425)
GARAGE	1.0551	1.1809*
	(2.8722)	(3.2573)
Threshold 1	-.9370	-1.294606
Threshold 2	2.4473	2.247661
Threshold 3		3.812963
Threshold 4		5.140682
N	48	48
Log Likelihood	-35.8588	-49.3431
LR Chi-squared (9)	11.59	40.92***
McFadden's Pseudo-R^2	0.1392	0.2931

Cell entries are unstandardized parameter estimates.
(Numbers in parentheses are odds ratios.)
*** $p \leq .001$; ** $p \leq .05$; * $p \leq .10$ (two-tailed test).

instance, older automobiles within administration may be sent to departments which require less travel in order to get additional service.

Administrators played an important role in purchase decision making. In nearly half of the counties surveyed, there was a combination of elected officials and the county administrator/manager with the manager having primary responsibility in ten counties. For the most part, this took place in larger counties. Finance officers had marginal assessments of sheriff and department head vehicle needs; however, the sheriff had a slightly higher impact on asserting need to both the manager and commissioners (table 3). For make and model preferences, it was fairly minimal for department heads, but county sheriffs were very opinionated. For counties that cited a make and model preference, it was evenly divided between the Dodge Charger and the Ford Interceptor, with other specialized requests including Chevrolet Tahoes.

An ordered logistic regression model was created to test institutional independent variables against purchase methods and the number of vehicles purchased. A link test was performed to ensure that there was no specification error or a nonlinear combination of independent variables. In the first purchase model, the presence of a vehicle replacement policy (VRP)

Table 5. Logistic Regression Behavioral Models

Variable	Purchase Model 2	Vehicle Model 2
FINDEP	-.5937	-.6966*
	(.5523)	(.4983)
FINSHERIFF	.9046*	.2800
	(2.4711)	(1.3231)
DEPCM	.3341	-.1938
	(1.3967)	(.8238)
SHERIFFCM	-1.1156	3.1551**
	(.3277)	(23.4543)
SHERIFFCOM	.4150	-2.8600**
	(1.5143)	(.0573)
MAKESHERIFF	-.6629	2.5294**
	(.5153)	(12.5460)
MAKEDEP	.5377	-1.8261**
	(1.7121)	(.1610)
PURFINAL	.2781	-.9284
	(1.3206)	(.3952)
GARAGE	1.1893*	1.5313**
	(3.2850)	(4.6243)
Threshold 1	.6052848	-2.8194
Threshold 2	3.773672	.1438
Threshold 3		1.1187
Threshold 4		2.2581
N	48	48
Log Likelihood	-38.5205	-58.8957
LR Chi-squared (9)	7.76	25.87**
McFadden's Pseudo-R^2	0.0916	0.1802

Cell entries are unstandardized parameter estimates.
(Numbers in parentheses are odds ratios.)
** $p \leq .05$; * $p \leq .10$ (two-tailed test).

provided the strongest relationship with purchasing method. According to the odds ratio, counties with a vehicle replacement policy were seven times more likely to use multiple methods

of purchasing inclusive of debt service. The vehicle replacement policy represents a more standardized way of purchasing indicating less probability of a request to delay these debited encumbrances. The other significant variable within the model was resale or salvage value. Counties that received low resale value (usually 25% or less) were more likely to use alternative methods of payment.

The vehicle replacement model had additional significant findings. Larger counties were the major beneficiaries. For every unit increase in budget size, counties were three times more likely to purchase anywhere between 1-5 additional vehicles. Additionally, as the number of methods used to establish need (NEEDDT) decreased, the number of vehicle purchases increased, but the residual odds ratio of less than 1 indicates that this relationship has modest implications on actual purchases compared to using additional indicators for replacement. The other surprising finding is how the presence of a county garage led to increased vehicle purchases. The ability of a county to diagnose, repair, and maintain a fleet provided some explanation for increased

purchases. Considering the indicator, the McFadden's Pseudo-R^2 demonstrated an acceptable level of variance between vehicle purchases and the predictors. The model was also significant at the .05 level.

The next two models focus on finance officer interpretation of need and the level of influence of other officials (table 5). In Purchase Model 2, higher levels of agreement with the sheriff concerning assertion of need led to increased methods of financing. In this case, the odds ratio is high enough that it suggests finance officers can play a pivotal role in the initiation of intended vehicle purchases through encumbrances. Again, the presence of a county garage was significant in purchasing methods. This time, the study is attempting to capture the assertions of fleet managers, shop supervisors, and even mechanics.

The opinions and assertions of officials had significant levels of influence on the number of vehicles purchased. The dynamic between the sheriff, the county manager, and the commissioners produced the most interesting findings. If the sheriff was successful at convincing the county manager that vehicles were needed, the odds of obtaining additional vehicles increased 23 times; however, this same assertion did not appear to exist with the commissioners. The findings indicated less budgetary assertion by the sheriff leads to an increase in vehicle purchases. It appears to be more advantageous for department heads not to assert requests concerning vehicle replacement. More vehicles are usually ordered when department heads do not have a preference. Department heads may be the beneficiaries of surplus vehicles in many of these cases. A test of the full model with all 9 predictors against a constant-only model was statistically reliable χ^2 (9, N=48) = 25.87, $p \leq .005$, indicating that the predictors, as a set, reliably distinguish between the different levels of vehicle purchases.

Statistical findings among the models provided some explanation for fleet purchasing methods and need assertions, but there are additional conclusions that can be drawn from more isolated responses. On the positive side, the findings indicated that many counties want to obtain a maximum amount of use within the automobile fleet, especially in South Carolina, where some counties do not consider replacement until the 200,000 mile mark. Even in the above-mentioned NADA response associated with repair cost, an eight–year-old Ford Crown Victoria with 150,000 in good condition would need substantial engine, body, or transmission damage in order to exceed 50% of its NADA value. In addition, counties not only are avoiding debt in purchases, but also attempt to isolate costs with the use of county-owned garages.

Additional Findings

In-depth responses from finance officers provided indication that some officials are not overly concerned about the cost aspect associated with vehicle purchases and maintenance. Responses indicated requests for full-size vehicles such as Chevy Tahoes, usually for sheriff departments. In many of these cases, it is definitely a "want versus need" situation. There have actually been requests to use these same vehicles for K-9 transportation, which severely accelerates the depreciation of a vehicle that is initially priced near $50,000 without extra wiring for law enforcement purposes. Some requests included one-ton chassis pickup trucks. Brand new trucks in this category have a payload capacity in excess of a ton and the dually models can tow in excess of 20,000 lbs., with some manufacturers boasting 30,000 lbs.[1] Very few counties have this kind of need capability on a regular basis. Pickup trucks with a half-ton chassis can satisfy more than 95% of daily service demands. Dump trucks and other heavy use trucks can easily be modified with a compatible receiver combination to satisfy additional demands. However, few

[1] This refers to the 2015 Ram 3500HD.

vehicles can compare to the excessive costs associated with the acquisition of a Hummer-based vehicle. Caution should be exercised when higher levels of government provide such a vehicle to a local government at no cost. The break-even analysis for this vehicle fails very quickly. The gas mileage is usually just as poor as the one-ton pickup (around 10 miles per gallon), not to mention a very limited use capability. Even with frequent use, the gas usage creates a major performance issue in addition to insurance costs and the problem of finding parts, especially for chassis and other drive train related issues.

Conclusion

This exploratory study examined the fleet purchasing practices of county governments in North and South Carolina. In addition to examining method of payment, the study also examined the level of need assertion by county officials. Findings indicated that when counties decided to make a purchase, most chose direct cash payments, especially counties that received low salvage values. More vehicles were usually purchased among counties with additional fiscal capacity and if there was a county garage that could be used for repairs. If mileage was a primary indicator for replacement, only 1-5 vehicles are purchased.

The influence of the actors provided some of the more interesting findings. A significant relationship was found between finance officer's assessment of sheriff needs and multiple financing methods, as well as the presence of a county garage. However, vehicle purchasing activities had mixed results. When the sheriff was successful at communicating needs to the county manager in addition to a make preference, the odds of additional vehicle purchases increased 23 times. Conversely, this number decreased when the sheriff appealed to commissioners. Overall, the sheriff appeared to be much more successful if there was a good working relationship with staff, especially the county manager. While there was a negative relationship between a sheriff's assertion to commissioners and vehicle purchases, commissioners tried to adhere to the requests and more than likely directed the manager to satisfy as many requests as possible. The findings associated with sheriffs can easily influence the department head findings. If county staff are spending additional time with the financing and purchasing of the law enforcement fleet, it becomes very challenging to address additional fleet needs. In this study, the only unilateral finding was that the sheriff's departments had the highest vehicle turnover compared to other departments.

There are also some limitations to the study from both an institutional standpoint as well as from a behavioral standpoint. First, these are professionally administered county governments with county administrators that place some emphasis on spending restrictions. In other forms of governments, such as commission, decision making by elected officials that have parochial responsibilities (such as public works) and do not have any fiscal responsibility, are not prioritized by fund balance requirements and substantial cash reserves. Second, there are many personnel characteristics which influence need assertion. Employee position, tenure, comprehensive knowledge of government needs, and relationships with other officials, especially those involved in the final decision concerning fleet purchases, all have influence in the number of vehicle purchases. Third, the latitude in purchasing decisions also plays a role. For instance, if county ordinances require drug seizure monies to be debited to the general fund, this revenue source can be distributed to several areas; whereas, if the sheriff controls this revenue stream, spending becomes a unilateral decision.

This study has also supported findings from previous research. First, the request for vehicle replacement is not that unusual, but the more specialized request for heavy duty vehicles,

especially SUVs, does add credibility to the bureaucratic expansion model (Craswell, 1975; Downs, 1967; Wildavsky, 1984). These vehicles are larger and more expensive than what would have been purchased twenty years ago. Second, the findings also indicated that finance officer rate of need assertion is lower than the amount of assertiveness placed on commissioners and the manager by the sheriff indicating that these administrators do indeed act as gatekeepers for public finances verifying previous writings (Morgan et al., 2015). The findings also verify the amount of influence the county manager has on overall policy decisions not to mention budget directives (Modlin, 2011b). In this study, county elected bodies turn to the manager to find ways to satisfy requests and simultaneously maintain a sufficient fund balance.

Overall, there are optimal solutions that can sustain many arguments. It is advantageous for county fleets to be representative of the population if possible. For instance, if the average taxpayer operates a vehicle approximately five years old, the fleet should be somewhat representative of that figure as well. To account for many of the life cycle costing issues surrounding the operation of a vehicle for more than 150,000 miles, a policy adoption of engine and transmission replacement at this interval versus total vehicle replacement would provide additional years of usage with a major reduction in direct costs associated with those vehicles. In any case, with the advancement of on-board diagnostics to assist with automotive repair, each county should be receptive to the 200,000 mile standard with finance officers continually examining various fleet costs for improvement.

Disclosure Statement

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Author Biography

Steve Modlin is a teaching assistant professor at East Carolina University. His research interest includes local government budgeting and finance practices.

Appendix

Survey of County Finance Officers

For each question, please mark your response unless otherwise stipulated (questions are related to the most recent purchases of county fleet)

1. Does your county currently have a vehicle replacement policy?

☐ Yes ☐ No

2. How is automobile need primarily determined (Please check the most common response or rank answers)?

☐ Excessive mileage/age (please identify approximate mileage number_____)
☐ Poor performance (Engine, transmission, suspension, gas mileage)
☐ Not enough vehicles for service
☐ Vehicles not large enough/cannot meet certain specifications
☐ Individual just requesting (no legitimate reason).
☐ Other (please specify) _____

3. Are vehicle purchases considered capital project items?

☐ No
☐ Yes, for some departments (please identify) _____
☐ Yes, for all departments

4. When obtaining vehicles, how are they purchased?

☐ Outright on a cash basis
☐ Installment purchases/Funds borrowed from primary bank
☐ Debt Service
☐ Other (please specify) _____

5. Do you have a vehicle replacement fund?

☐ No
☐ Yes, with an amount of less than 100K at the beginning of the fiscal year.
☐ Yes, with an amount between 100-500K at the beginning of the fiscal year.
☐ Yes, with an amount between 500-750K at the beginning of the fiscal year.
☐ Yes, with an amount between 750K-1M at the beginning of the fiscal year.
☐ Yes, with an amount of more than 1M at the beginning of the fiscal year.

6. How much cash do you require to be on hand prior to a purchase?

☐ Less than 100K
☐ 100-500K
☐ 500-750K
☐ 750K-1M
☐ More than 1M

7. Does the make/model make a difference on purchasing requests?
- ☐ Yes—(Please explain)
- ☐ No

8. In general, is there a specific request by department heads for a particular brand and/or model?
- ☐ Yes—(Please identify)
- ☐ No

9. Is there a specific request by the sheriff for a particular brand and/or model?
- ☐ Yes—(Please identify)
- ☐ No

10. On *average*, how many vehicles are usually purchased at one time?
- ☐ 1
- ☐ 1-5
- ☐ 6-10
- ☐ 11-20
- ☐ More than 20

11. On average, how would *you* rate department head vehicle need assertion based on a scale of 1 to 5, with 5 being considered a real need as determined by you.

1☐ 2☐ 3☐ 4☐ 5☐

Not Really Needed At All Really Needed

12. On average, how would *you* rate the sheriff's vehicle need assertion based on a scale of 1 to 5, with 5 being considered a real need as determined by you.

1☐ 2☐ 3☐ 4☐ 5☐

Not Really Needed At All Really Needed

13. On a scale of 1 to 5, with 5 being the highest level of influence, how influential are department heads at convincing the county manager that replacement vehicles are needed?

1☐ 2☐ 3☐ 4☐ 5☐

Not Influential At All Very Influential

14. On a scale of 1 to 5, with 5 being the highest level of influence, how influential is the sheriff at convincing the county manager that replacement vehicles are needed?

1☐ 2☐ 3☐ 4☐ 5☐

Not Influential At All Very Influential

15. On a scale of 1 to 5, with 5 being the highest level of influence, how influential is the sheriff at convincing the commissioners that replacement vehicles are needed?

1☐ 2☐ 3☐ 4☐ 5☐

Not Influential At All Very Influential

16. Who is primarily responsible for final decision(s) on purchases?

☐Finance Officer
☐County Manager/Administrator
☐County Commissioners
☐Advisory Committee/Commission
☐Combination of the above

17. Does your county have its own county garage in which to do repairs?
☐ Yes
☐ No, an independent garage is used
☐ No , a dealer is used
☐ No, other (Please explain) _____

18. How are county vehicles disposed of after use?
☐ Public auction
☐ Public notification, but sold on first-come, first-serve basis
☐ Donations to other governments, nonprofits etc.
☐ Other (Please explain) _____

19. On average, how much of the resale value can you expect to receive?
☐ Up to 25%
☐ 25-50%
☐ 50-75%
☐ More than 75%