

Insourcing versus Outsourcing: An Economical Look at Vehicle Maintenance

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Abstract

In this day and age, the idea of a law enforcement agency doing all of the maintenance for its fleet of vehicles in house (i.e. insourced) may have come and gone. With that being said, most (if not all) law enforcement agencies are searching for ways to maintain their fleets to be both effective when it comes to usage and efficient when it comes to cost. Right now the Volusia County Sheriff's Office outsources all of its fleet vehicle maintenance. As the topic of insourcing versus outsourcing was researched, it was learned that the Volusia County Sheriff's Office was the only agency, amongst other comparable agencies, that currently outsources all of its fleet maintenance. Ten (10) agencies responded to a survey focused on the maintenance of their vehicle fleets and all ten (10) said they do a combination of insourcing and outsourcing. By the responses gathered from the respective agencies, insourcing versus outsourcing (or a combination of the two) is something that each agency should research individually as the needs and requirements vary from one law enforcement agency to another.

Introduction

Throughout the United States, it is common for most law enforcement agencies to have a multitude of police vehicles that they use to provide services for the public they serve. Of course, all of these vehicles need to be maintained not only for the purpose of providing law enforcement services, but to ensure the safety of the men and women within those agencies who operate them on a daily basis. With the maintenance of these vehicles comes costs and during these tough economic times, most administrators within these agencies are looking for ways to be more efficient with their budgets. The Volusia County Sheriff's Office is no different.

As of June 2013, the Volusia County Sheriff's Office had more than 600 vehicles (to include specialty vehicles) in its fleet with Volusia County's Fleet Management primarily responsible for maintaining or repairing those vehicles. The purpose of this research paper is to answer the following questions. What is the current cost the Volusia County Sheriff's Office pays to have its vehicles maintained and repaired by its current service provider? Is it better and less expensive to do a combination of insourcing and outsourcing of the maintenance and repair work on the vehicles versus the current system of how the Volusia County Sheriff's Office's fleet is maintained? And, if the data compiled as a result of this research paper shows that the current fleet maintenance system best suits the Volusia County Sheriff's Office's needs, is there a way to make the system both more efficient and cost effective?

Literature Review

A 2012 report conducted on Carroll County (Maryland) Fleet Management for the Carroll County Board of Commissioners recommended that it keep their maintenance in-house. In that report, a cost comparison was completed exploring the cost of privatization with in-house maintenance using data from local maintenance shops and five nearby government jurisdictions. Two of the jurisdictions outsource their vehicle maintenance while the other three use in-house maintenance. The report found that dollars spent per vehicle maintained by Carroll County was thirteen percent lower than that which had been spent by the neighboring county having privatized maintenance for the past twenty years. (Dao, 2012).

Also in the Carroll County report, the Carroll County Commissioners had requested information on what alternatives were available for repair or maintenance of county vehicles. Part of the study focused on areas such as the efficiency of the current Fleet Maintenance and Repair Operations as well as alternatives for the provision of maintenance and repair services. The results of the report showed upon review of the County's current Fleet Maintenance and Repair Operations that Carroll County is operating in a manner commensurate with generally accepted industry norms in terms of vehicle maintenance. The report also showed on the whole, Carroll County in-house Fleet Management operations resulted in a significantly lower net cost per vehicle maintained than that of other counties. (Dao, 2012).

The City of Springfield, IL had a fiscal sustainability study conducted by Maximus Consulting Services where it was recommended that the City of Springfield centralize its four fleets into one and hire a fleet manager. The report showed the four fleets (Fire, Police, Public Works, and City Water, Light & Power) all had specialized vehicles and maintained their own fleets. The consulting service was quoted as saying, "We believe the city needs to evaluate the concept of a central garage to support all city-owned vehicles." (Government Fleet, 2012).

The study discovered several differences in the maintenance facilities such as the fire mechanics were paid far higher salaries than the mechanics in the other city garages. The report also noted the difference in mechanic productivity among the four facilities. For instance, the Public Works mechanics were responsible for 67 items each (to include vehicles and other mechanized apparatus). In contrast to the Public Works mechanics, the Police Department mechanics were each only responsible for 33 items of a similar or equal nature. While the report was clear that the city may not be able to build a centralized garage soon, it could consolidate by using two facilities under one director. The report stated, "There should be one fleet management software application, one director, one parts manager, consolidation of fuel and fluid sites, and common oversight of customer turnaround times and mechanic productivity." (Government Fleet, 2012).

In Pinellas County (Florida), the Pinellas County Board of Commissioners by a memorandum of understanding has approved the county and the Sheriff's department to maintain each other's vehicles. Both of the organizations have repaired and maintained their own vehicles with high levels of satisfaction as documented by the county. Since each organization has expertise in specific areas, there is an opportunity

for greater collaboration while reducing costs. By working together, the Sheriff's department will focus on repairing and maintaining the county's sedans and other cars while the county will focus on repairing and maintaining the Sheriff's department's heavy duty diesel vehicles. The agreement is in effect for three years and should save money. The Sheriff's department paid outside companies \$90 per hour for maintenance work and by working with the county's fleet maintenance, the cost per hour will be reduced to only \$34 per hour. In addition, the parts purchased should be less expensive as prices will move from retail to a cost with no mark up. (Basich, 2011).

The outsourcing of vehicle maintenance and repairs has been a standard practice in some agencies while completing these services in-house is a standard practice for others. As the results indicated in a 2011 survey conducted by Captain Robert Ifft of the Florida Highway Patrol, ninety percent of the agencies he surveyed insourced at least some of their vehicle maintenance while the Florida Highway Patrol outsources all vehicle maintenance work. (Ifft, 2011).

According to the magazine article "Wrenching decisions" published in *The American City & County Magazine*, outsourcing can make a fiscal difference. However, one of the questions that needs to be asked is can outsourcing lead to the transfer of government jobs to the private sector or will it eliminate jobs altogether? Yes, government agencies can save on employee wages, health benefits, retirements as well as building maintenance and safety compliance but at what cost? Other questions arise with outsourcing such as who responds when a fire truck, police car, or other emergency vehicle breaks down at night or on the weekend. The article states that 77 percent of government fleets handle their own maintenance on-site with their own staff (the article did not define if they handled all of their maintenance or did a combination of insourcing and outsourcing). For those government fleets that outsource their vehicle maintenance, 69 percent use independent local garages, 20 percent outsource to vehicle dealerships, and 11 percent use a leasing or contract a maintenance company. Also mentioned is the fact 79 percent base their preventative maintenance operations on mileage while 45 percent use time (i.e. how many hours an engine runs) to measure service intervals. Obviously, there is some overlap between those who base their maintenance on miles versus those who use measured time; however, information on the percentage of those agencies that do a mix of both was not provided. The author goes on to say that government fleets conduct preventative maintenance for their fleet units 6.4 times per year (which was one of the lowest numbers of service intervals obtained during the survey). On the other side of the coin, commercial fleets (i.e. long haul, short haul, and wholesale delivery) conducted preventative maintenance service to their fleets 10.3 times, 9.6 times, and 9.3 times per year respectively. The author also points out that vehicle maintenance technicians are getting harder to find. The cost of keeping current mechanics up to date with all the technology and changes is also an expense to budget for. Chuck Roberts of the National Institute for Automotive Service Excellence in Leesburg, Virginia said, "Truck mechanics represent an aging workforce, and we're not attracting anywhere near the same number of new hires to replace the ones that will retire." (Kilcarr, 2004).

He attributes this to factors such as the job being stereotyped as tough, greasy, dirty work as opposed to a computer-based job. Roberts stated, "The job is much,

much different than it was 15 or even 10 years ago. Today, the computer skills required to be a truck technician actually match the skills the labor force has today. Yet they are choosing to go into computer repair, for example, rather than truck repair, based on outdated images.” (Kilcarr, 2004).

Kilcarr also writes in his article that Ric Hiller, chief of Arlington County, Virginia’s equipment division, is also having trouble finding mechanics. Hiller said, “It’s getting harder to find qualified technicians because the job has become computerized. We’re talking to the local school system to see if we can find a way to grow our own technicians from the local community, getting vocational students into part time jobs while they go to school so we can recruit them when they graduate.” (Kilcarr, 2004).

Hiller also stated, “I’ve doubled my training budget to try and keep our guys current with all the technological changes going on in trucks and heavy equipment today, especially their electrical and computer systems.” (Kilcarr, 2004).

Arlington County outsources specialized or long term repairs to keep maintenance bays available for more immediate repairs. Hiller states, “We need to outsource the maintenance which takes up time and space in our shop. We’ll ship automatic transmissions to the dealer to repair even though we have the diagnostics to analyze the problem, so we can concentrate our resources where they are needed. For instance, if we have a fire truck lock up in fourth gear, we need to get a mechanic to the scene.” (Kilcarr, 2004).

Hiller goes on to say, “We used to rebuild cars here, for example, but we don’t do that anymore because it’s too costly and time consuming. The real determination is efficiency; is it more efficient for us to take the time to do it or to send it out. If you are performing preventive maintenance – your scheduled services and repairs should be equal to or greater than 70 percent of your labor time – then the amount of time needed by your mechanic or those of a private contractor should be the same. Other costs would fluctuate some, i.e. parts, overhead, etc. - but should basically be the same.” (Kilcarr, 2004).

Space Coast Area Transit (SCAT) is a company based out of Brevard County, Florida that provides bus services for that area and totally outsources the maintenance for the 74 buses it operates. SCAT has outsourced to the Miami based Ryder system and has been doing so for almost 20 years. Jim Liesenfelt, the transit director for SCAT, says that not worrying about maintenance allows him to completely focus on other services (such as the routes used to transport the disabled or elderly, the six home pick-up routes for mentally disabled people, etc.) that SCAT provides. Liesenfelt says, “Based on the level of service we get, it is still cheaper to outsource than to do it ourselves.” (Kilcarr, 2004).

Dan Schearer, who is the executive director of transportation for the Scottsdale, Arizona School District is also a supporter of outsourcing. Currently, the city of Scottsdale contracted with Cincinnati-based First Vehicle Services to maintain their 150 school buses as part of a five year maintenance agreement. Schearer states, “As a manager, outsourcing maintenance allows me to construct our fleet budget faster and better. Instead of taking hours or even days to complete vehicle maintenance expenses and parts costs, that all gets put on the outsourcing contract – so I can get that part of the budget done in minutes... From my perspective, the contractor has done everything

we've asked, especially by providing a mechanic to be on-site at all three of our bus parking areas, so if there's a problem when they start up for the day, we can fix it. But if we were really having problems getting service, for example, we have a "30 day out clause" in our contract so we could get out of a bad situation". (Kilcarr, 2004).

Both Schearer and Liesenfelt say that outsourcing only works as a cost saving venture if you work jointly with the maintenance provider and they add that you should treat them as you would your own employees. Liesenfelt is quoted as saying, "We keep that relationship because it's important." (Kilcarr, 2004).

Methods

The reasoning behind this research paper is to determine whether the Volusia County Sheriff's Office should continue with its current practice of how it maintains its fleet vehicles.

First, a ten (10) question survey was developed with the intention of targeting Sheriff's Offices within Florida that are comparable in population to the Volusia County Sheriff's Office (population was chosen as the standard because the number of sworn personnel for most Sheriff's Offices are based on those statistics). The agencies identified as being comparable to the Volusia County Sheriff's Office were:

- Brevard County Sheriff's Office
- Escambia County Sheriff's Office
- Lee County Sheriff's Office
- Marion County Sheriff's Office
- Polk County Sheriff's Office
- Seminole County Sheriff's Office
- Collier County Sheriff's Office
- Lake County Sheriff's Office
- Manatee County Sheriff's Office
- Pasco County Sheriff's Office
- Sarasota County Sheriff's Office
- St. Lucie County Sheriff's Office

Information was gathered on how many vehicles each department had in its fleet as well as who completed the routine maintenance and repairs to their vehicles. Additionally, did those agencies insource or outsource any of their vehicle maintenance or repairs or was it a combination of both? If outsourced, were the vehicles sent to a car dealership or an independent garage? Did any of the agencies conduct their own surveys reference insourcing versus outsourcing and had they implemented any cost saving measures to their agencies' annual vehicle maintenance budget?

It was discovered that question four of the survey sent to the law enforcement agencies contained a weakness in asking for an itemized list of what types of maintenance (including parts and labor) the agency paid for. As a result, none of the agencies completed a response to that question. When contacted by phone, all representatives stated the question was too general in nature and would be very time consuming in order to provide a complete price list as requested.

Secondly, in person interviews were conducted with the service manager of Volusia County Fleet Management, the service manager at Gary Yeoman's Ford, the service manager at Daytona Dodge, and the service manager at Jon Hall Chevrolet.

Those three specific car dealerships were targeted because they are centrally located within Volusia County and those three vehicle manufacturers are what the majority of the Volusia County Sheriff's Office fleet consists of. During these interviews, information was gathered from each service department manager requesting if they now service (or have serviced in the past) any law enforcement vehicles and if so which agencies were provided services. Also, would their service departments be able to service specialty vehicles (i.e. track vehicles, tractor trailers, large mobile generators, ATVs, etc.)? Additionally, would the service department manager provide a list of services offered along with a price list for parts and labor? And finally, did their car dealership have a secured area to stage Sheriff's Office vehicles that have had services completed so that deputies could pick up their serviced vehicles after normal business hours or would special arrangements need to be made?

Results

It is best to start by analyzing how the Volusia County Sheriff's Office currently maintains their fleet of vehicles. In 2012, approximately \$1,254,058.00 was spent to repair and maintain the Sheriff's Office fleet. To get a good prospectus of how the current system works, an interview was conducted with Darren Kennedy, Fleet Services Manager, Volusia County Fleet Management. Kennedy advised of the more than 2,200 vehicles Volusia County Fleet Management repairs and maintains, over 600 of those vehicles belong to the Sheriff's Office. Kennedy said that when it comes to maintaining the fleet for the Volusia County Sheriff's Office, Fleet Management does both, insourcing and outsourcing. The only things outsourced are transmission repairs, body work, overflow work, and Dodge warranty work. The body work is sent to an independent contracted garage while the other repairs are sent to local car dealerships. The labor rates for these repairs are dependent upon current contract pricing. Kennedy also stated that Fleet Management is certified by General Motors and Ford to complete warranty work on those types of vehicles which are in the Volusia County Sheriff's Office fleet. To keep costs down, parts from crashed vehicles, as well as vehicles scheduled to be auctioned, are used when possible. Fleet Management used to maintain a bone yard of vehicles. However, at the direction of Volusia County Risk Management, this practice was discontinued. Kennedy stated that very little up-fitting (installing emergency equipment, cages, window bars, graphics, etc.) is necessary for Sheriff's Office vehicles as they are delivered from the car dealership with those installations completed. The only things installed by Fleet Management are the property numbers, laptop stands, gun racks, and stop stick holders. (D. Kennedy, personal communication, 06/05/13).

Now, with a good understanding of how the Volusia County Sheriff's Office maintains their fleet vehicles, it is prudent to find out how those agencies who responded to the survey handle the business of maintaining their fleets. Twelve (12) surveys were sent out; ten (10) surveys were received for an 83.3% return rate. The agencies who responded and the number of vehicles in their fleet are as follows:

- Brevard County Sheriff's Office (825 vehicles)
- Collier County Sheriff's Office (1060 vehicles)
- Escambia County Sheriff's Office (800 vehicles)
- Lake County Sheriff's Office (550 vehicles)
- Marion County Sheriff's Office (545 vehicles)
- Pasco County Sheriff's Office (851 vehicles)
- Polk County Sheriff's Office (1400 vehicles)
- Sarasota County Sheriff's Office (525 vehicles)
- Seminole County Sheriff's Office (685 vehicles)
- St. Lucie County Sheriff's Office (500 vehicles)

All ten agencies (100%) that responded to the survey indicated they used a combination of both insourcing and outsourcing for the repairs or maintenance of their vehicles. All ten agencies (100%) used corporate dealerships and independent garages for the items they outsourced depending on the type of repair needed. The total costs for these outsourced repairs could not be provided as they ranged from contracted prices to negotiated hourly rates. Nine of the ten agencies (90%) indicated that they complete some up-fitting in their patrol cars and only one agency (Marion County) had completed a similar study on insourcing versus outsourcing. Seven of the ten agencies (70%) indicated that they maintain a bone yard of older and crashed vehicles for spare mechanical or body parts to keep down the cost of repairs.

To get a real understanding as to what the agencies that are comparable to the Volusia County Sheriff's Office are doing when it comes to fleet vehicle maintenance, it is best to present what the representatives of the ten agencies who answered the survey said.

Mike Wimberly, Fleet Manager, Brevard County Sheriff's Office, responded to the survey by saying the Brevard County Sheriff's Office has their own Sheriff's Fleet Facility staffed with mechanics that are employed by the Sheriff's Office. Wimberly indicated that their shop does most maintenance; however, has to outsource bigger repairs (such as engine replacement or transmission work) or repairs that they cannot figure out or have the tools required for the repair work. In addition, auto body work is outsourced. As for who they outsource to, they generally use the local car dealerships (Ford, Chevy, Dodge, etc.) and use a few independent body shops to repair wrecked

cars. In terms of the rates at which repairs are done, Wimberly provided a range of rates for transmission work that went from as low as \$1,600 to as high as \$1,900. Wimberly said that all recalls or warranty work is done by the respective dealers because his shop is not set up to handle warranty claims.

Sean Williams, Fleet Manager, Collier County Sheriff's Office, said in his survey response that his agency does a combination of insourcing and outsourcing when it comes to maintaining the fleet. What they insourced included suspension and brake work, engine repair, and what Williams classified as any other work we can in house. Overflow work, collision repairs, new vehicle up fitting, alignments, exhaust work, oil changes, and tire replacements are all outsourced. As for who is doing the outsourced work, Williams said they have a negotiated rate of \$85.00 per hour with the local dealership (Ford) and that the independent shops vary depending on the work performed. Williams indicated that one of the ways his agency has become more efficient with fleet maintenance is by utilizing their local dealer in terms of overflow.

Anthony Canevari, Fleet Maintenance Manager, Escambia County Sheriff's Office, responded to the survey by saying they perform routine to complex maintenance on all vehicles owned and operated by the Escambia County Sheriff's Office. Canevari did indicate that they do outsource some things like vehicle alignments and speedometer calibration and that outsourced work is done by a combination of independent garages and corporate dealerships (which do the major product warranty repairs). Canevari said that his agency has helped its annual vehicle maintenance budget by reusing usable parts from totaled out vehicles and by operating its own paint and body shop that repairs damages to any of their vehicles that were involved in automobile accidents.

Ray Nichols, Fleet Manager, Lake County Sheriff's Office, answered in the survey that the majority of the work done on the fleet is performed by agency mechanics and as a result they do not bill labor. Nichols also added that there is no up-charge for parts either. Nichols said that his agency does outsource transmission repairs and upholstery work. Due to the geography of Lake County, some oil changes (as well as the accompanying routine inspections) are outsourced to private vendors due to the distance it would take traveling to fleet maintenance. As for the cost of that maintenance, Nichols indicated that it ranges from \$25.00 to \$50.00 depending on vehicle model and oil requirements. When it came to how their fleet was saving money, Nichols said they use high mileage oil filters and synthetic oil. Also, using Motorcraft batteries that have an unlimited 3 year warranty and salvaging parts has helped.

Bobby Jaglal, Fleet Management Supervisor, Marion County Sheriff's Office, advised in the survey that amongst the work they do in house is some preventative maintenance, graphic installation, and prepping new vehicles (i.e. installing cages, gun racks, etc.) with the average hourly rate for their techs to do a job is \$16.24 an hour. Jaglal said when they need to outsource a repair, it is to independent garages whenever possible. Some of the outsourced work includes transmission services, alignments, body work, and repairs to diesel equipment. In the rare instance where something has to go to a dealership, it is usually for something special (i.e. a programming issue). Jaglal was the only one to indicate on the questionnaire that his agency had done a similar study about insourcing versus outsourcing in the past. Jaglal said that it was

much more cost effective to keep what they were already doing in place rather than outsource everything. Other things that were considered during their study was the loss of control over vehicle down times, the cost associated with not having a deputy on the road while his vehicle was being fixed, and the lack of oversight that their agency would have on the quality of the work performed. Jaglal provided a list of ways his agency has saved money which included using a better grade of oil in the vehicles to extend the amount of time between required changes, installing all of the radio and light equipment in their vehicles, having inmates remove old decals and detailing vehicles, and by establishing a bone yard for totaled vehicles from which they salvage parts instead of having to order new ones.

Brian Reilly, Fleet Manager, Pasco County Sheriff's Office, said in his survey that they do pretty much everything in house and that included service at every 5000 miles, tires, wheel alignments, suspension repairs, batteries, and electrical repairs. Things that are outsourced include transmission repair and major motor work which go to a dealership while body repairs are sent to the lowest repair shop bidder. Reilly advised that to help with costs, his agency buys inventory in bulk and salvages old patrol vehicles for parts.

Francis Hart, Fleet Administrator, Polk County Sheriff's Office, answered in his survey that his agency's fleet is maintained by 5 mechanical techs, 2 body shop techs, 1 part time, 1 parts clerk, 1 data entry, and 1 administrative assistant. Hart said that his agency performs routine services to engines and transmissions and does body shop paint and repair (except major frame collision work). Hart stated that the average cost for labor is \$25.00 an hour (the cost of salary & benefits) and that they purchase parts thru various state and national contracts. Hart advised that routine service, brakes, and tire repair or replacement is outsourced when it is more efficient due to location of the equipment and work load at their shop (again, like Lake County, geography plays some role into what is outsourced). Hart said the rate for outsourced work is \$45.00 to \$55.00 for labor and that some work is a flat fee (\$39.95 for an alignment or brake work at \$25.00 per wheel). Hart says that his agency has been able to cut costs by using a new oil filter Micro-Green and do 10,000 mile filter changes and 30,000 mile oil changes. They also use a brake rotor treated by POWER BRAKE with a 100,000 mile warranty. In addition, Hart stocks many of the parts needed at the various vendors, with whom they outsource some routine maintenance, so that they don't pay any markup on parts and they salvage as many useable parts from wrecked vehicles as they can. As with some other agencies surveyed, Polk also does their own up-fitting of new agency vehicles.

David Henrichs, Fleet Administrator, Sarasota County Sheriff's Office, responded to the survey by saying his agency's fleet is maintained by a total of thirteen (13) people (this includes auto techs, radio/emergency equipment installers, a radio repair tech, a parts person, and a few supervisory personnel). The things they insource include their "A" Service (i.e. oil change, tire rotation, brake & safety inspection, etc.). This is done at every 4,000 miles for all patrol and severe duty vehicles. Henrichs said they also insource their "C" Service (which is everything in the "A" Service but also includes a transmission service). This is done at every 48,000 miles for all patrol and severe duty vehicles. Henrichs indicated that their agency's administrative / detective vehicles get

the "A" Service every 5,000 miles and the "C" Service every 60,000 miles. Henrichs advised that the labor rate is \$65.00 an hour and that they get their parts through several different wholesale warehouses. As for where they get their tires from, those are purchased via state contract price or Florida Sheriff's bid pricing. Henrichs indicated that their Impalas (which is what their fleet is primarily made up of) is running Firestones and that they are currently \$90.50 each. Henrichs advised that the outsourced work included vehicle alignments and transmission overhauls. The vehicle alignments are done at a Goodyear or Firestone with an average price of \$43.00 an alignment. As for the transmission repairs (overhauls), that is done at a local independent shop with an approximate cost of \$1,850.00. Henrichs stated that all accident repairs are handled through his County's risk management and the various vendors approved by them. When it came to cost saving measures, Henrichs advised that his shop has been doing all of their General Motors warranty work in-house since 1991 and by doing so, have saved a lot of money as it pertains to vehicle down time. Also in terms of warranty work, his shop gets paid back by General Motors for their parts & labor on the warranty repairs. Henrichs said they also do all of their own installation of emergency equipment and radios. In addition, they do all of their own repairing and tuning of radio equipment only sending radios in for factory repairs if they have major failures.

John Blackwood, Fleet Manager, Seminole County Sheriff's Office, advised in the survey that vehicle maintenance (oil changes, tires, brakes, etc.) were outsourced. Services that are insourced are vehicles out of warranty or those with repairs above \$250.00. Blackwood advised that emergency equipment installation is a 50/50 split of insourcing and outsourcing. Blackwood advised that per his agency's price agreements, labor rates vary from \$70.00 to \$80.00 per hour for mechanical work. Body shop labor rates vary from \$40.00 to \$45.00 per hour. Blackwood said that their vehicles are serviced every 5,000 miles and that consists of an oil change, tire rotation, and safety inspection. The price for the aforementioned service ranges from \$25.00 to \$35.00 depending on the vendor or matching advertised sale price. Blackwood advised that tires (FSA / Goodyear) are purchased on state bid and provided to their major vendors who do tire replacements. Basic parts (brake pads, wipers, etc.) are typically vendor cost plus 10% to 20% dependent on the part or source. Blackwood said that his agency has been able to cut costs by maximizing the warranty from manufacturers. If a repair occurs outside of the warranty period, they ask for any after-warranty assistance and if that is not available, they will try to bring all larger repairs in-house to reduce cost. Along with many of the other agencies who responded to the survey, Blackwood says that they keep older, wrecked spare cars to pull parts from (mechanical or body). In addition, they don't over service a vehicle near the end of its life cycle (i.e. if it is due for a major 90k service they just complete a safety service / oil change instead).

Larry Melton, Shop Foreman / Civilian Supervisor, St. Lucie County Sheriff's Office, stated in the survey that almost all of their agency's vehicle maintenance is done in house and that their labor rates run from \$17.00 to \$22.00 per hour. Service is done on their vehicles every 5,000 miles and that includes an oil change, tire rotation, complete safety check, top off all fluids, and a check of the suspension, steering, and brakes. Melton indicated that what his agency outsources is mostly warranty work, wheel alignments, transmission overhauls, and vehicles that need a complete full body

repaint. Of the work that is outsourced, his agency uses both independent and corporate dealerships and the rate at which work is done is a flat rate of \$50.00 to \$100.00 per hour. In terms of parts, the cost is at list price. In terms of how his department is trying to cut maintenance costs, Melton indicated that they buy back any totaled cars for salvage parts, motors, transmissions, body panels, etc. and only replace tires as needed. Melton recommended calling various vendors because his agency has often been able to get tires at a cost less than government pricing.

Service managers or advisors of three centrally located Volusia County car dealerships, whose vehicle manufacturers are what the majority of the Volusia County Sheriff's Office fleet consists of, were also contacted. They included Chevrolet, Ford, and Dodge. The hours for service at the three dealerships varied slightly where two opened weekdays at 7:00 A.M., one opened at 7:30 A.M. Closing times on weekdays for two were at 6:00 P.M. and one closed at 7:00 P.M. All three of the dealerships opened on Saturdays at 8:00 A.M. however the closing times ranged from 1:00 P.M. To 5:00 P.M. None of the car dealerships service departments were open on Sundays. All three car dealerships also indicated they currently provide maintenance and repair services for law enforcement vehicles; however, the number of agencies serviced varied between dealerships as well as the types of services each dealership could provide for those vehicles.

Angie Pettit, service consultant at Jon Hall Chevrolet, advised their dealership provided maintenance and repair services for the Florida Highway Patrol, City of Ormond Beach, City of Daytona Beach, City of Port Orange, City of South Daytona, and the Volusia County Beach Patrol. However, they currently do not service law enforcement vehicles that are not the main brand of their dealership. They also do not provide service for track vehicles, tractor trailers, large mobile generators, or ATVs. Their labor rate is contracted to government agencies at \$80.00 per hour. If a law enforcement officer needs to pick up their police vehicle after regular business hours when the repairs or services have been completed, special arrangements would be necessary.

Peggy Boyle, assistant service manager at Gary Yeoman's Ford, advised their dealership provided maintenance and repair services for the Florida Highway Patrol, City of Ormond Beach, City of Daytona Beach, City of Port Orange, City of South Daytona, City of Daytona Beach Shores, City of Holly Hill, City of Melbourne, and the Volusia County Beach Patrol. Boyle said they service law enforcement vehicles that are not the main brand of their dealership; however, no agency names were provided. They do not service track vehicles, tractor trailers, or ATVs; however, they do service RVs, generators, and SUVs. Their labor rate is contracted to government agencies at \$65.00 per hour. If a law enforcement officer needs to pick up their police vehicle after regular business hours when the repairs or services have been completed, special arrangements would be necessary.

Nikki Risley, service advisor at Daytona Dodge, advised their dealership provided maintenance and repair services for the Florida Highway Patrol, Volusia County Sheriff's Office, and the Volusia County Beach Patrol. Risley said they currently do not service law enforcement vehicles that are not the main brand of their dealership. They also do not provide service for track vehicles, tractor trailers, large mobile generators, or

ATVs. Their labor rate is contracted to government agencies at \$65.00 per hour. If a law enforcement officer needs to pick up their police vehicle after regular business hours when repairs or services have been completed, special arrangements would be necessary.

Discussion

In reviewing the data collected, every agency that completed and returned a survey indicated that they performed some type of insourcing and outsourcing on the vehicles or equipment they repaired or maintained. While some agencies outsourced very little of their work, others outsourced the majority of their work for a wide variety of reasons ranging from cost effectiveness to geographic locations. This was to be expected given the range of vehicles (the smallest being 500 for the St. Lucie County Sheriff's Office to the largest being 1,400 for the Polk County Sheriff's Office) in each responding agency's fleet. Also, and this was probably the most surprising, all of the responding agencies stated that the Sheriff's Office has its own garage and that the personnel who do any insourced work on their fleet vehicles are actual Sheriff's Office employees (non-sworn). The Volusia County Sheriff's Office outsources the repairs and maintenance of its vehicles and some equipment to Volusia County Fleet Management.

In order to determine if the current fleet maintenance system used by the Volusia County Sheriff's Office best suits its needs, a cost comparison survey was conducted. The top eight repairs or maintenance issues common to the Volusia County Sheriff's Office were examined between Volusia County Fleet Management and the local car dealerships of Jon Hall Chevrolet, Gary Yeoman's Ford, and Daytona Dodge. The results are based on the cost of repairing or maintaining one of the most common vehicles the Volusia County Sheriff's Office has in its fleet today, the Chevrolet Impala.

The cost of a regular oil change (5 quarts of oil and a NAPA oil filter) to include parts and labor for a passenger vehicle, ranged from \$20.25 at a dealership to \$43.53 at Volusia County's Fleet Management.

A set of windshield wiper blades (ANCO) to include parts and labor for a passenger vehicle, ranged from \$15.68 at a dealership to \$25.68 at Volusia County's Fleet Management for vehicles brought in strictly for that reason.

Replacing a headlight bulb (Sylvania) to include parts and labor in a passenger vehicle, ranged from \$23.44 at a dealership to \$41.99 at Volusia County's Fleet Management.

Vehicle battery replacement cost (Interstate) to include parts and labor, ranged from \$172.00 at a dealership to \$90.95 at Volusia County's Fleet Management.

To replace the cooling fan motors and blade replacement on the Impala, which included parts and labor, ranged from \$378.22 at a dealership to \$352.27 at Volusia County's Fleet Management.

Replacing the brake pads and rotors (Performance Friction Severe Duty) on the Impala including parts and labor, ranged from \$592.77 at a dealership to \$416.81 at Volusia County's Fleet Management.

Tire replacement (Goodyear Eagle RSA 16) on a passenger car including the tire, mounting, balancing, valve stem, and labor, ranged from \$193.50 at a dealership to \$99.32 at Volusia County's Fleet Management.

To replace a sealed bearing front hub assembly on the Impala including parts and labor, ranged from \$277.80 at a dealership to \$260.19 at Volusia County's Fleet Management.

Recommendations

The repair and maintenance of fleet vehicles comes with a cost. Administrators of each agency should individually research insourcing versus outsourcing (or a combination of the two) to determine what best meets their needs. As stated in the introduction, the purpose of this research paper is to answer three questions. What is the current cost the Volusia County Sheriff's Office pays to have its vehicles maintained and repaired by its current service provider? Is it better and less expensive to do a combination of insourcing and outsourcing of the maintenance and repair work on the vehicles versus the current system of how the Volusia County Sheriff's Office's fleet is maintained? And, if the data compiled as a result of this research paper shows that the current fleet maintenance system best suits the Volusia County Sheriff's Office's needs, is there a way to make the system both more efficient and cost effective? As stated earlier, in 2012, the cost to maintain and repair the Volusia County Sheriff's Office fleet of vehicles and its equipment was approximately \$1,254,058.00. This repair and maintenance work was outsourced to Volusia County's Fleet Management who, as stated earlier by Fleet Management Supervisor Darren Kennedy, also outsources some of this repair work to outside vendors (car dealerships and contracted independent garages).

All ten Sheriff's Offices that participated in this study used a combination of insourcing and outsourcing to repair and maintain their agency's fleet of vehicles and equipment. All ten Sheriff's Offices indicated they use non-sworn Sheriff's Office personnel to conduct the repairs and maintenance on their vehicles. The Volusia County Sheriff's Office should consider hiring two non-sworn civilian vehicle technicians and assign them to Volusia County's Fleet Management to repair and maintain Sheriff's Office vehicles. By performing basic repairs and maintenance on the Sheriff's Office vehicles (oil changes, battery installation, tire repairs or replacements, installing the laptop computer stands, gun racks, and stop stick holders) a substantial labor cost savings could be realized. This type of partnership would also enable Volusia County's Fleet Management mechanics to perform the more complex repairs that they have been trained and certified to complete. The local car dealerships can continue to be used for transmission repairs or other work that requires outsourcing as well as having an outside vendor continue to complete body repairs for fleet vehicles.

Seven of the ten Sheriff's Offices indicated they maintain a bone yard of older and crashed vehicles for spare mechanical or body parts. The Volusia County Sheriff's Office used to maintain this type of bone yard in the 1980's; however, the practice was discontinued at the direction of Volusia County Risk Management. Perhaps this

practice can be revisited and presented as a cost saving measure. Using non-sworn Sheriff's Office personnel to repair and maintain vehicles as well as keeping a bone yard of older and crashed vehicles for spare parts, were the two most common ways the participants kept down costs for their agencies.

Several of the participating agencies (Collier County, Lake County, Polk County, Seminole County) advised they sometimes outsource oil changes due to the time and distances traveled by the deputies, or by using vendor advertised prices. One agency (Polk County) uses a new oil filter Micro-Green which enables oil changes to be made every 30,000 miles and filter changes every 10,000 miles. The Volusia County Sheriff's Office currently gives deputies the option of using an outside vendor for oil changes; however, this does compromise any oversight the agency has on the quality of work performed. Another area the Volusia County Sheriff's Office should explore is the possibility of using brake rotors treated by POWER BRAKE which has a 100,000 mile warranty as Polk County currently does. Depending on their cost and how often we replace brake rotors (the current cost of one brake rotor is between \$75.00 and \$85.00 each) multiplied by the number of vehicles we have, the amount of money saved over the life of the vehicle could be significant.

Implementing these recommendations requires the understanding that the Volusia County Sheriff's Office only wants to augment what Volusia County's Fleet Management already offers. As we continue to be more fiscally challenged each and every year, the need to find new methods to reduce costs associated with the way we conduct business is critical. We must explore new options that are either available to us or learn from others that face these same challenges. By communicating with other agencies throughout the state, we discover that sometimes there is a better way to economize while still delivering a quality product. Only by working together can we accomplish this goal.

Lieutenant Al Pagliari has been in law enforcement for 35 years. He began his career with the South Miami Police Department in 1978 and joined the Volusia County Sheriff's Office in 1981. While working with the Sheriff's Office, his assignments have included Road Patrol, Community Services, Civil Services, Court Security, Extraditions, the School Resource Unit, Criminal Investigations, the Crime Scene Unit, and the Honor Guard Unit. He has been a supervisor for over 25 years and is currently assigned as an Assistant District Commander with collateral assignments as a member of both the Crime Scene Unit and the Honor Guard Unit. Lieutenant Pagliari has an A.A. degree focused on Criminology from Daytona State College.

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Appendix "A"

Law Enforcement Agency Survey

1. What is your name, official title, and the name of your agency?
2. How many vehicles (anything that falls under your agency's fleet total) are in your agency's fleet?
3. Who does the routine vehicle maintenance and minor repairs to your agency's vehicles?
 - a. Insourced
 - b. Outsourced
 - c. Combination of Both
 - d. Other
4. If insourced, please provide an itemized list of what types of maintenance (with costs of parts and labor rates) that your agency pays for.
5. If you do outsource, who do you outsource to (i.e. corporate dealerships, independent garages, etc.)?
6. If you do a combination of both insourcing and outsourcing, what is insourced and what is outsourced?
7. If you do outsource, what is the labor rate charged and what is the total cost for those services?
8. Has your agency ever completed a study reference insourcing vs. outsourcing maintenance and repairs to your vehicles? If so, what was the result of that study?
9. If your agency is insourcing, what are some cost saving measures you may have implemented to help your agency's annual vehicle maintenance budget?
10. Is there anything I failed to ask that you feel is important and would assist me in this survey?

Appendix "B"

Car Dealership Questions (in person interviews)

1. What is the name of your dealership, your name and official title?
2. What are the days / hours of operation in your service department? Also, is there an after-hours contact that is available should any need arise?
3. Does your dealership's service department maintain (or repair) any law enforcement vehicles in your area? If so, can you provide a list of those agencies you do work for?
4. Does your dealership maintain (or repair) any law enforcement vehicles that are not the main brand of vehicle your dealership sells?
5. Is your service department capable of only servicing Sedans and SUVs or can you also do specialty vehicles (i.e. track vehicles, tractor trailers, large mobile generators, ATVs, etc.)?
6. What is the hourly cost of labor for your service department or do you charge a flat rate depending on the job?
7. Can you provide a price list of all of the services that your service department currently performs?
8. Is there a secured area in your dealership where Deputies can pick up their vehicles after regular business hours when the repairs or service has been completed?

Appendix "C"

Eight common repairs completed by Volusia County's Fleet Management

1. What is the cost of a regular vehicle oil change (5 quarts of oil and a NAPA oil filter)? Parts _____ Labor _____
2. What is the cost for a set of windshield wiper blades (ANCO)?
Parts _____ Labor _____
3. What is the cost for a headlight bulb replacement (Sylvania)?
Parts _____ Labor _____
4. What is the cost for a passenger vehicle battery replacement (Interstate)?
Parts _____ Labor _____
5. What is the cost for a Chevy Impala cooling fan motors and blade replacement?
Left motor _____ Right motor _____
Two plastic blades _____ Labor _____
6. What is the cost to replace brake pads and rotors for a Chevy Impala?
Brake Pads (Front) _____ Brake Pads (Rear) _____
Rotors (Each) _____ Total Labor _____
7. What is the cost for a tire replacement on a passenger car- Goodyear Eagle RSA
Tire (Mounting, balancing, valve stem) _____ Labor _____
8. What is the cost to replace a sealed bearings front hub assembly on a Chevy Impala?
Parts _____ Labor _____