

**The Bill Blackwood
Law Enforcement Management Institute of Texas**

=====

**A Cost Benefit Analysis of Take Home
Police Vehicles Outside the City Jurisdiction**

=====

**An Administrative Research Paper
Submitted in Partial Fulfillment
Of the Requirements for Graduation from the
Leadership Command College**

=====

**by
James Smith, Jr.**

**Arlington Police Department
Arlington, Texas
July 2003**

ABSTRACT

The debate concerning the efficiency of take-home police vehicles versus police cars assigned to a police pool fleet has been debated for several decades. Law enforcement and other governmental entities had tried to determine if take-home vehicles were a cost-effective method to deploy their vehicles. If a benefit was derived from such a program, the concern was if the benefit was geared toward the officers or the agency. Municipal government agencies struggle with the proper use of tax payers money, the perception of citizens seeing police officers driving marked and unmarked units off duty, and the budget restraints of purchasing plus maintaining more police vehicles.

The current cost associated with a fully outfitted 2003 Ford Crown Victoria Police Sedan was \$40,210.30. This price included \$21,067.65 for the vehicle, which is manufactured by specifications from a police package, with over 100 options. The outfitting of the vehicle's interior (cage, siren, and wiring) plus the exterior striping and a light bar cost \$2,967.65. Rounding out the cost of the unit was the police radio, mobile data computer, mobile phone, and automatic vehicle locator system, valued at \$16,175.00.

The research and surveys have shown that police units assigned to individual officers are better maintained by the officer, had a reduced overall operational expense, higher visibility in the community, and provided a more efficient response to call-outs and emergency situations. The summation was the units last longer and provided more of a benefit to the municipal agency than the officers. The most negative aspect of the research indicated the initial start up cost for the program. In addition to that problem, some vehicles were not readily available for routine maintenance, plus the need for additional mechanics to work on the larger police fleet. With proper funding, there has not been any agency, which has gone from take-home assigned units back to a fleet type program. The program pays for itself if given the opportunity.

TABLE OF CONTENTS

Abstract

Introduction	1
Review of Literature	2
Methodology	6
Findings	8
Discussion/Conclusion	12
References	18

INTRODUCTION

In March of 2000, the City of Arlington, Texas experienced a late night tornado, which devastated a large portion of South Arlington. Throughout the following week, police officers from all divisions of the Arlington police department worked twelve-hour shifts to protect the homes and businesses in the damaged area of the city. This one incident drained the staffing levels of police officers, plus caused a shortage of marked and unmarked police units in the city. “What is the difference in cost for police units to be assigned to individual police officers versus the general motor pool? Is there a cost benefit, and if so, for whom?”

“If uniformed patrol officers were assigned take-home marked patrol units, could the police have responded in a timelier manner to this type of incident? Would officers take better care of marked police units if they were assigned to individual officers? Also, would it be more cost effective to assign individual officers a marked police vehicle versus the vehicle being maintained by the general facility services (or fleet maintenance)”.

It is believed research will show police officers take more responsibility and better care of police units assigned to the individual officer. It is believed the hypothesis of this process should reduce the daily mileage of patrol vehicles, extend the years the vehicles are available for service, and lower the overall operating expenses of the vehicles. The research for this project will come from former LEMIT students, periodicals written by various authors, and authors of various books. The research will also conduct a survey of various nationwide police agencies, and numerous agencies around the State of Texas, about the same size as the Arlington Police Department. Preliminary research has already revealed some law enforcement agencies in the northeastern region of the United States use take home police units as a recruiting tool for their departments.

Research will be conducted on every take home car in possession of the police department, and evaluate the necessity and benefit, plus cost of this operation. Also, this research will be compared to the cost/savings consideration if a personal vehicle was used to respond to a given situation.

If the research reveals it is more cost effective for a marked police unit to be assigned to an individual officer than the fleet motor pool that information will be provided to the administrative staff of the police department. Also, an analysis for providing a police unit to everyone needed to respond to a critical or major incident for the police department will be included in the research. The response to a critical incident should include detectives and their supervisors, various levels of administration, along with uniformed patrol officers and their patrol supervisors. The research should be completed by March of 2003.

REVIEW OF LITERATURE

Research concerning the usage of marked take-home police vehicles by local, county, and state law enforcement agencies dating back to the mid 1980's was reviewed for this topic. Similar topics documented by former LEMIT students was reviewed in this research, including written information for Keller Police Department (Texas), Albuquerque Police Department (New Mexico), Fort Worth Police Department (Texas), Travis County Sheriff's Office (Texas), and Dalhart Police Department (Texas). A review of the take-home survey conducted by the Arlington (Texas) Police Department in 1990 was evaluated for this research.

Internet research concerning take-home patrol vehicles as a recruiting incentive was located for the Montgomery County Police Department (Maryland), the Howard County Police Department (Maryland), and the City of Louisville (Kentucky) Police Department. Additional research was obtained from additional sources, including *Law and Order* magazine and abstracts from the National Criminal Justice Reference Service.

Information from the Tampa Florida Police Department included an overview of their take-home car program, including a copy of the policy for their take-home police vehicles. A survey questionnaire was distributed to members of the LEMIT module III class, whose department participated in a take-home patrol vehicle in any method. The survey was an attempt to evaluate if there was an increase or decrease in the morale of police officers assigned to take-home vehicles. The survey tool also questioned the advantages and disadvantages of a take home vehicle.

The research concerning take home police vehicles has been debated over the last several decades by many governmental agencies. The major unit of comparison for take home vehicles has been centered about the “bottom dollar of the program”. How much will a program of this magnitude cost the taxpayers to implement and maintain? “Take-home cars have a moderately high initial cost, but they make law enforcement agencies more efficient and eventually save money.” (Yates, 1992). “Several forms of comparison for fleet vehicles versus take home vehicles included comparing the cost per mile (fuel and maintenance), annual mileage, length of service for the vehicles, and the trade-in value of the unit.” (NCJRS-Albuquerque Police Department). Some agencies consider the perception of the community towards officers driving take-home police vehicles, along with the effect of morale on the police officers operating the vehicles.

In a July 1990 assessment of a take-home patrol car program conducted by the administrative staff of the Arlington (Texas) Police Department, the following eight points were listed as “anticipated benefits” of take-home cars. The take-home car plan was defined as patrol vehicles assigned to individual officers. The anticipated benefits were:

1. Although capital costs would be higher because more cars would be required, the total costs for the program would be lower because maintenance costs would decline.

2. Cars would be better maintained and last longer in the care of one officer.
3. Crime would decrease in the community because more police cars would be on the street, while officers drove to and from work or utilized the cars for other non-duty uses.
4. Shift changes or officer relief could occur within the beat rather than at a central location, one again increasing visibility, as well as improving coverage of the beat and manpower availability.
5. Citizens would feel safer with the marked police vehicles of off-duty officer parked in residential neighborhoods and apartment complexes.
6. Officer morale would improve because the department would provide their vehicle transportation to and from work, and in some cases for non-work related uses.
7. Officer productivity would improve because officers would be encouraged, and in some cases required, to take police action while traveling off-duty in marked police vehicles.
8. In emergencies, off-duty officers could report directly to the scene instead of a central station to draw vehicles.

The costs associated with implementing the program by the agencies in their survey displayed various differences due to the information tracked by each agency. The same survey cited the following analysis in its summary:

1. The annual per-vehicle operating and maintenance cost of a take-home patrol car program would be lower.
2. The additional vehicles purchased for take-home usage, the total cost would be significantly higher.

3. Take home vehicles would cause an increase in the number of additional mechanics and require an expansion in the maintenance facilities to maintain the larger police fleet.
4. Agencies who had adopted the take-home program reported a number of desirable benefits, such as heightened feelings of safety by citizens, increased officer productivity, and better officer morale.

Another item, which was not considered in the past Arlington PD survey, that could save the taxpayers some additional revenue, was could the city trade in the take-home vehicles with fewer miles, thus increasing the trade-in value of the vehicle?

Law enforcement agencies across the country vary in the methodology used to determine the distance officers are allowed to drive their assigned take-home vehicles. Many county agencies, along with some municipal agencies, allow officers to reside anywhere within their county. Some municipal agencies allow officers to drive into adjacent counties, while other agencies require officers to reside within the city limits to participate in a take-home vehicle program. The focus of this research will be to determine if officers are allowed to drive take-home vehicles outside the city limits, what distance is reasonable for this practice.

The overall cost of outfitting the patrol division of the Arlington Police Department could be accomplished by calculating the cost of one unit. The individual police unit should then be multiplied by the size of two-thirds of the Patrol Division, which would cover the remaining two patrol shifts. Including the specialized officer assigned take-home units into the formula; this would calculate the overall cost of officers who would be assigned take-home police units. The next step should be to decide whether to outfit the program at once, occurring one initial financial affect on the cities budget, or phase the process in over a two or three year period. Both methods would be effective, efficient, and the research will determine if the program is feasible for our agency.

METHODOLOGY

What is the difference in cost for police units to be assigned to individual police officers versus the general motor pool? Is there a cost benefit, and if so, for whom? If uniformed patrol officers were assigned take-home marked patrol units, could the police respond in a timelier manner to major or critical incidents? Another focus of this research will be to determine if officers are allowed to drive take-home vehicles outside the city limits, what distance is reasonable for this practice? Would officers take better care of marked police units if they were assigned to individual officers? Of the current take home units in possession of the police department, is there a necessity or benefit to the officer or department? What is the overall cost of this operation, take-home versus fleet patrol units? Would it be more beneficial and cost effective if a personal vehicle were used to respond to a given situation?

It is believed take home vehicles will save governmental entities substantial money in the long run, when comparing fleet vehicles to take home vehicles. The comparison in saving includes comparing the cost per mile (fuel and maintenance), annual mileage, length of service for the vehicles, and the trade-in value of the unit. The benefit of a take-home patrol unit benefits both the governmental agency and the individual operating the vehicle; however, it is believed the greater financial benefit goes to the governmental agency.

The research should show uniformed patrol officers' assigned take-home marked patrol units, could respond to major or critical police incidents in a timelier manner. If officers are allowed to drive take-home vehicles outside the city limits, it is believed research will show a distance of fifteen to twenty-five miles outside the city limits is a reasonable distance for this practice, as compared to other agencies. It is believed individual officers take better care of marked police units personally assigned to them, with the officer establishing a sense of pride and ownership in their individual units.

The current take-home units in possession of the police department are a necessity due to the faster response needed by the units on a standby status or being called back to duty. It is believed the current benefit in this situation favors the department over the officer, by allowing officers to respond to a location in a timelier fashion. The process of a fast response in the field relieves some officers on location during a call, allowing them to call in their reports or return to patrol duties in less time.

The overall cost of converting a fleet patrol system into take-home patrol units is a major obstacle of every agency considering this type of program. Some governmental agencies have overcome this obstacle using various methods, including crime control taxes, making a massive fleet purchase by an increase in the budget at one time, or phasing in the take-home units over several years. It is believed it would be more beneficial and cost effective if a personal vehicle were used to respond to a given situation; however, several problems are perceived with this practice. It is not believed the personal auto insurance company of an employee would cover a personal vehicle conducting work related business. It is not believed "risk management" (or agencies insurance carrier) would cover a personal vehicle damaged in responding to a work related call-out for service, resulting in serious damage to the vehicle. It is not believed an officer responding from their residence in a personal vehicle would have the equipment necessary to perform their job without going to the agency to pick up a company vehicle or additional investigative materials (i.e., cameras, measuring and diagram equipment, other recording devices, etc.). It is believed the proper method for officers using their personal vehicles to respond to a call-out incident should receive financial reimbursement in the form of their overtime salary plus vehicle mileage from the time they were notified to respond to an incident. This would cover the compensation, but not the usage of the vehicle.

The method of inquiry on this topic was derived from information obtained from similar topics documented by former LEMIT students; the review of the take-home survey conducted by

the Arlington (Texas) Police Department in 1990; Internet research concerning take-home patrol vehicles as a recruiting incentive; plus research obtained from additional sources, including *Law and Order* magazine and abstracts from the National Criminal Justice Reference Service.

Telephone surveys were conducted with several agencies concerning the benefits of take-home versus fleet vehicles. Data information concerning the operational cost and fleet size associated with the Arlington Police Department was collected from the department's fleet manger, and fleet service technician with the City of Arlington. The measurement instrument in this situation was a questionnaire distributed the LEMIT students in a module II class in February of 2003. The size of the survey sample was focused on the agencies in the State of Texas; however, telephone inquiries were made of other agencies throughout the nation, who participated in a similar type of program.

The response rate to the instrument was 84%, with eleven of thirteen surveys being returned for analysis. The information obtained from the surveys will be analyzed by averaging the responses to given questions in the survey for comparison.

FINDINGS

Of the agencies who returned the surveys, 82% were from municipal law enforcement agencies, with 9% being from a state agency and 9% from an independent school district police department. The average length of time the agencies had participated in a take-home car program averaged 11.8 years, with the shortest time being three years and the longest time be twenty years.

Sixty-three percent of the agencies stated all officers on their department were issued take-home vehicles. Twenty seven percent of the agencies stated take-home units were provided to patrol supervisors, detectives, and critical response or swat teams. Administrative personnel and crime scene technicians were also assigned take-home vehicles.

The responses that addressed the agency's policy concerning officers permitted to drive their take-home units (by policy) were: off duty 45% yes and 55% no; in plain clothes 72% yes and 18% no, and outside of their jurisdiction 72% yes and 18% no. Of the units allowed to be driven outside the jurisdiction (in miles), the shortest distance was 2 miles, the longest distance was 35 miles, with an average distance of 17 miles. Several agencies measured the distance allowed to be driven off duty from the police department to the officer's residence. The longest allowable distance 35 miles, the shortest distance was 20 miles, with an average of 28 miles.

Twenty seven percent of the agencies reported a private garage under contract was responsible for the maintenance on their units, while seventy-two percent stated the municipal garage made their repairs. The average overall mileage for retiring a patrol unit ranged from a low of 70,000 miles or three years to a high of 105,000 miles or seven years. The average distance and time was 90,000 miles and five years. One agency had just converted to a lease program and the take-home units are rotated out of patrol every two years and replaced with another new car.

Determining when an officer received a take-home patrol unit varied by the agency. Thirty six percent of the agencies provided a unit upon completion from their probationary period and the same percentage stated upon completion of the FTO (field training officer) program. Nine percent of the respondents each stated (1) after academy graduation, (2) upon promotion to sergeant or detective, and (3) after promotion to a special teams unit, such as SWAT, crime scene, hostage negotiations.

Agencies were asked to provide "the top three benefits your agency has realized by officer taking home their vehicles?" Their responses three responses were:

- Units last much longer and better care of the units, with a reduced operating and maintenance cost – 90%
- Higher visibility in the community, 81%

- Better and quicker response for officer call-out or emergencies – 63%

The additional benefits were easier accountability for damages, listed as a recruiting benefit, vehicle assigned new with one operator, and the officer's salary began once they left their residence, logging in over the radio.

Agencies responding to the top three negative impacts of officer taking home their units yielded the following responses:

- Not readily available for scheduled or routine maintenance- 27%
- Reduction in fleet or causing officers to occasionally double up in a unit – 27%
- No negative impact to the agency – 27%

The additional negative impact statements by the participants of the survey included; criminal mischief to units, possessiveness of units by officers, the initial start-up cost of the program, higher maintenance upkeep by fleet service due to more vehicles, plain-clothes officers buying alcohol in their patrol units, and accident liability.

When the participants were asked for an overview of the take-home car program for their agency, all of the comments were positive in nature. A couple of agencies stated they were reducing their take-home fleet from every officer to selected and supervisory personnel due to budget restraints, but they still viewed the program as very successful in their community. Some statements were “a better sense of pride for the officers; great program; the units last much longer with much less maintenance cost; and the initial cost of the extra patrol units was negated by the cost savings of each officer having his/her own vehicle.”

Turning the focus of the research to what might work for the Arlington Police Department; the following information was obtained from the agency. The department currently has 563 sworn officers, in which 380 officers are assigned to the patrol division. The patrol officers drive 152 fully marked police units. There are three canine officers, seven officers in the special operations unit, and two marked vehicles assigned to the gang unit, which are not in the

above total. The additional units bring the total marked police fleet to 164 fully marked police units. The vehicles assigned to the canine and special operations officers are driven by one officer, which can be taken home if they reside in the city limits. The supervisor of the Crime Scene Investigation Unit also drives a take-home vehicle; however, his vehicle is a Ford Taurus instead of Crown Victoria. The fleet service division for the City of Arlington maintains all vehicles.

The replacement value for a fully marked and equipped police sedan, a 2003 Ford Crown Victoria, is valued at \$40,210.30 (see attachment – A, for an itemized replacement cost). The current practice of fleet services is to replace a vehicle after 115,000 miles, regardless of the vehicle's age. Thirty-four police units are due to be replaced this year. The average ages of the vehicle's due to be replaced are between six and eight years old. The average salvage value of the replaced police units ranges from \$1,200 to \$2,300. The cost to replace the 34 police vehicles is \$1,367,150.20. The maintenance on a new vehicle is covered the first three years or 36,000 miles under a factory warranty.

It is difficult to calculate the cost of maintaining the units in the current police fleet because the fleet services division does not purchase a predetermined number of vehicles each year. However, the purchasing technician for the City of Arlington's Fleet Service, David Gallander, stated the city purchases approximately "thirty (30) police units per year on the average." Making a logical assumption that since the units are driven on three eight-hour shifts, there should be enough units to staff one shift. Fleet services anticipated ten units are nearly ready to be replaced because of their mileage (six year and older vehicles), and then that number of units can be added to the replacements units for the remainder of the year.

Fleet services for the city currently spends \$1,206,309 on the replacement of thirty police patrol units. Spending the same amount the current year would allow the purchase of thirty units designated for the patrol division to replace ten fleet units and assign twenty units to designated

personnel in patrol. The fleet services technician stated the units for the Arlington Police Fleet are not a standard police package unit. "Our units are custom ordered because there are over 100 specifications you can request even on the police packages", according to Mr. Gallander.

According to the Blue Book value concerning prices and reviews, the current salvage value of a 1997 Ford Crown Victoria (6 year old vehicle) should be in the range of \$7,175 to \$8,575, with an average mileage of 72,000 miles. A five-year-old Ford Crown Victoria (1998) should have an average resale value of \$8,350 to \$9,900 along with an average mileage of 60,000 miles.

DISCUSSION/CONCLUSIONS

What is the difference in cost for police units to be assigned to individual police officers versus the general motor pool? Is there a cost benefit, and if so, for whom? If uniformed patrol officers were assigned take-home marked patrol units, could the police respond in a timelier manner to major or critical incidents? Another focus of this research will be to determine if officers are allowed to drive take-home vehicles outside the city limits, what distance is reasonable for this practice? Would officers take better care of marked police units if they were assigned to individual officers? Of the current take home units in possession of the police department, is there a necessity or benefit to the officer or department? What is the overall cost of this operation, take-home versus fleet patrol units? Would it be more beneficial and cost effective if a personal vehicle were used to respond to a given situation?

Take-home vehicles will save governmental entities substantial money, when comparing fleet vehicles to take home vehicles. The comparison in saving should include comparing the cost per mile (fuel and maintenance), annual mileage, length of service for the vehicles, and the trade-in value of the unit. The benefit in a take-home patrol unit benefits both the governmental agency and the individual operating the vehicle; however, the greater financial benefit goes to the governmental agency.

The surveys have shown patrol units assigned to an individual officer are better maintained by the officer in charge of the vehicle. The average mileage, fuel cost, and maintenance were much lower than patrol vehicles assigned to the patrol's police fleet. The research revealed there would be a cost savings benefit to the City of Arlington in several areas. The areas for the city to save money were:

1. The police department's fleet maintenance budget would save on maintenance cost because the vehicles would remain under the factory warranty for the three years, 36,000 miles warranty. The maintenance cost began to dramatically increase in the sixth year of operating a fleet vehicle. The annual maintenance cost of a vehicle less than six years of age was less than \$3,500; however, many of these units have approximately 100,000 plus miles, thus lessening the trade-in or auction value to about \$1,200. The trading of a vehicle beginning its sixth year will increase the trade-in or auction value of the unit due to its lower mileage, fewer mechanical repairs, and better overall condition. Fleet services would maintain the unit for one year (fifth year until traded at an auction).
2. The police department's fleet maintenance budget would save on maintenance cost by not paying fleet service's a rate of \$58.00 for a mechanic's labor rate. A five minute repair for the replacement of two windshield wipers for police unit # 784 was \$30.00. The charge was \$12.60 for the two windshield wipers and \$17.40 for them to be installed on the unit. The rate of \$17.40 was a twenty minute charge to correct a five minute repair. The same set of windshield wipers cost \$2.47 each at Wal-Mart, with a .30 sales tax, for a total of \$5.24. With a take home unit, the city could have saved this expense by allowing the officers to make minor repairs themselves.

Also, since the City of Arlington fleet services pay their mechanics an hourly rate, plus their benefit package, it's unclear why a \$58.00 per hour labor charge is added to the repairs completed by the city shop.

The benefits to the officer would be:

- The savings of fuel and mileage on their personal vehicle concerning the daily commute from their residence to and from work.
- The ability to fully load their unit with equipment need to perform their jobs on a daily basis, without loading and unloading a car each.
- The knowledge of becoming familiar with the buttons, switches, and handling of one patrol unit, which would increase their safety.

According to the research, officers allowed take-home vehicles were more readily available for call-outs in emergency situations and had faster response times than going to the department to retrieve a vehicle.

According to the survey results, the average distance an officer was allowed to drive their take home vehicle outside the jurisdiction was 17 miles, with the longest distance being 35 miles. If the Arlington Police Department incorporates a take-home patrol unit program and allows them to be driven outside the jurisdiction, then it is recommended the distance allowed outside the city limits is a twenty (20) mile radius. The rationale for this distance was:

- Patrol units received an average of a 21 miles per gallon (17 city and 25 highway), which would allow for one gallon of gas, each direction, or two gallons per day.
- The "residence" requirement for APD-G.O.505a-5.M. stated "a member shall reside within thirty minutes travel of any duty station maintained by the law enforcement agency. New members shall reside within thirty minutes of any duty

station within one year of their appointment.” A twenty mile radius would allow the officers to reside outside the city, but still comply with this policy.

- The current radio communications upgrades for officers on our department would allow our officers to contact the law enforcement agencies surrounding our department in case of an emergency, while traveling to and from work. All agencies surrounding Arlington currently have their police radio channels programmed into our communication system.

The surveys and research showed officers take better care of marked police units assigned to individual officers. One survey stated officers had a higher “sense of pride” in being assigned one unit. Another comment stated “there is an informal competition between officers to see who keep their units the cleanest and shiniest.” Of the current take home units in possession of the police department, the true necessity goes to special operations units and canine units. These units respond to call-out situations several times a week. The next take-home unit should belong to the homicide and crimes against persons units. Although the fleet manager didn’t indicate this unit had a take-home vehicle, the likelihood of someone being called to a specific incident occurs on a weekly basis. Police operational supervisors should also be high on the priority list. Next on the list should be the crime-scene supervisor, who is currently assigned a Ford Taurus as a take-home unit.

The overall cost of take-home versus fleet patrol units would depend on how quickly the department wanted to purchase a take-home fleet. Since the replacement value for a fully marked and equipped police sedan, a 2003 Ford Crown Victoria, is valued at \$40,210.30, the cost of the vehicle could be multiplied by the number of officers who would participate in the take home car plan. The average amount of mileage for comparison of take-home units assigned to one officer from the APD was 7,890 miles, using \$624 in fuel and \$458 on maintenance, for one year. The fuel and maintenance total was \$1,082 per year.

The research and surveys supported the hypothesis that take home vehicles save governmental entities substantial money, when comparing fleet vehicles to take home vehicles. The saving includes the cost per mile (fuel and maintenance), annual mileage, length of service for the vehicles, and the trade-in value of the unit.

The limitations that hindered the study were the willingness of some agencies to provide information concerning their take-home vehicle program. Although the agencies which completed a survey responded in a timely manner, many larger agencies did not return inquiries made into their program. Along with that problem, the fleet services facility was hesitant to provide some information about charges for repairs to police vehicles. That problem was overcome by isolating the contact person responsible for purchasing the vehicles and meeting with him in person; since this information could not be obtained from fleet manager assigned to the police department.

It was not determined if it would be more beneficial and cost effective if a personal vehicle were used to respond to a given situation. Determining if the City of Arlington risk management would assume responsibility for damages to the personal vehicle of someone responding to the scene of a critical incident was not addressed because this was the first time anyone has asked that question. With more time, the legal staff should be able to provide a response to that question.

One additional alternative to assigning the take-home police units to all officers on the patrol division would be to assign the units to all supervisors on the patrol division. Currently the Assistant Chiefs to Lieutenants have assigned take-home units. Adding the patrol sergeants to the formula would add forty-two (42) additional supervisors on the street to assist with the geographic policing concept embraced by the City of Arlington. This action would also increase the incentive for promotions and working in the patrol division. The units could be rotated into the patrol fleet after 18 months, which would allow the mileage to accumulate on the cars.

This study is relevant to law enforcement agencies because the agencies that are willing to spend money up front in this type of program, will save more money over the years in maintenance fees. Adding \$1,800 to the purchase price of a new unit could extend the factory warranty of a police unit to a five year/75,000 mile warranty. This practice would mean the automotive dealerships would be responsible for maintaining all of the mechanical components of the police fleet 83% of the life of the unit. That time would cover five out of six years the car was in service. By adopting a take-home vehicle plan for police officers assigned to the patrol division, the City of Arlington would save money on the police fleet, enhance the response and availability of officers during emergencies, and provide higher visibility and service to its citizens of the community.

REFERENCES

Doug Shaeffer, Take Home Cars: A Program Evaluation, Oklahoma City Police Department, (1989).

Thomas Williams, Keller Police Dept. A Study of the Cost Effectiveness and Policy Guidelines of Take home Patrol Cars, LEMIT, June 1990.

Yates, Tom. "It Ain't the Years, It's the Miles". Law and Order. 1992.

- - - . "Take Home Cars: After the First Shock There Are Benefits." Law and Order. 1992.

City of Arlington, Texas. "Cost-Benefit Analysis Take-Home Patrol Car Program." Arlington, Texas, 1990. (Typewritten).

City of Arlington, Texas. General Orders Manual, 1999.

City of Arlington, Texas. Purchasing Technician, David Gallander, 2003.

REPLACEMENT VALUE FOR AN EQUIPPED POLICE PACKAGE SEDAN, EFFECTIVE 1/9/03**2003 CROWN VICTORIA WITH PUSH BUMPERS INSTALLED****UP-FITTING BY FLEET SERVICES**

SETINA PARTITION	
LABOR TO INSTALL PARTITION (2HRS @58/HR)	
SHOTGUN LOCK	
LABOR TO INSTALL SHOTGUN LOCK (0.5 HR@58/HR)	
EXTERIOR MARKINGS	
FULL LENGTH STRIPE 12ys@\$4.33 yr	\$51.96
4 inch "Arlington" 2 @ \$6.60 each	\$13.20
4 inch "Police" 2 @\$3.00 each	\$6.00
4 inch Unit Number 3 digits x 2 sides @\$1.50 each	\$9.00
2-3/4 inch "police" 1 @ 1.50 each	\$1.50
2-3/4 inch Unit Number 3 digits @ \$0.80 each	\$2.40
5 inch LETTER (N,E,S,W) 2 @ 1.20 each	\$2.40
911 Decal 2 @ \$3.15 each	\$6.30
POLICE SIZE ARLINGTON LOGO 2 @ \$6.50 EACH	\$13.00

SUB-TOTAL (Exterior Markings)

LABOR TO INSTALL EXTERIOR MARKINGS (1.5 HR @ \$58/HR)

CODE 3, MODEL 360 LIGHTBAR

FEDERAL SIGNAL MODEL SS-2000-SM SIREN CONTROL BOX

FEDERAL SIGNAL 100 WATT SIREN SPEAKE WITH BRAKET

LABOR TO INSTALL LIGHTBAR & SIREN (4 HRS @ \$58/HR)

MISCELLANEOUS WIRE, CONNECTORS & SUPPLIES

TOTAL UP-FITTING COST AT FLEET SERVICES**COMMUNICATIONS UP-FITTING**

RADIO COMMUNICATIONS EQUIPMENT
 COMPUTER COMMUNICATION EQUIPMENT
 WIRELSS LAN EQUIPMENT
 COMPUTER SOFTWARE
 MOBILE TELEPHONE
 AUTOMATIC VEHILCE LOCATOR (see note)
 RADIO AND COMPUTER MOUNTING BRACKETS
 LABOR TO INSTALL COMMUNICATION EQUIPMENT

TOTAL COMMUNICATION UP-FITTING COST**TOTAL REPLACEMENT COST**

Note: The automatic vehicle locator (AVL) system has not yet been approved, anticipate in fiscal year 2003-04

Maintenance & Fuel Cost

from May 02 to April 03
on Police Crown Victoria's

Vehicle Year	Age in years	Unit #	Under Warranty	Mileage	Miles during the year	Fuel Cost	Maint. Cost	Total
1995	8	268	no	97,777	19449	\$2,337	\$7,815	\$10,152
1995	8	295	no	110,188	17714	\$1,919	\$10,865	\$12,784
1996	7	395	no	117,465	31356	\$3,308	\$6,935	\$10,243
1997	6	475	no	110,434	34729	\$3,725	\$3,583	\$7,308
1999	4	693	no	23,418	11319	\$880	\$500	\$1,380
2001	2	780	yes	7,732	4650	\$436	\$250	\$686
2001	2	781	yes	9,223	6195	\$549	\$806	\$1,355
2001	2	784	yes	10,800	7886	\$629	\$275	\$904
2001	2	785	yes	30,403	24774	\$2,411	\$232	\$2,643
2003	new 01/03	998	yes	5,659	5659	\$641	\$109	\$750
TOTAL							\$16,835	\$31,373

Green Vehicle assigned to patrol duties - driven 24 / 7

Yellow Vehicle assigned to a patrol lieutenant - take home unit - driven one shift

Blue Vehicle assigned to patrol sergeant's - driven 24 / 7