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**Take Home Fleet Vehicles:
A Fiscally Responsible Policy in Uncertain Economic Times**

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ABSTRACT

The practice of issuing a take home vehicle (THV) program is not a new concept by any means, but one that has come under more scrutiny over the past five years. Law enforcement administrators have recognized that such a program does have intrinsic benefits for the employee and the organization. Such programs provide an agency with the flexibility and ability to reduce overall vehicle costs, extend the usable life expectancy of the vehicle, enhance community policing, increase recruiting and retention, and the ability to deploy large sums of officers and equipment in times of crisis (Rigg, 2007). After weighing the pros and cons, public officials should consider issue the use of a THV as a standardized standard policy for their sworn personnel.

After reviewing the data collected from journals, magazine and newspaper articles, governmental documents, Internet databases, commissioned studies, and professional lectures, it will be clear that a THV program is an effective and efficient choice that provides numerous benefits. The implementation of a THV program is not only a sound financial decision but one that will provide an agency with an assortment of options to combat existing and future problems. The use of such a policy is a logical and practical decision when considering the state of today's economy. Administrators throughout the United States have realized that new and innovative ideas are needed to recruit, retain, and develop highly functional and productive officers. In addition to retention, agencies are continually looking for ways to reduce costs with the current down turn in the economy. The cost of fleet turn over and viable employees exiting the public safety marketplace can have devastating effects on an agency's budget.

However, a THV program has the ability to counter many of these concerns and provide

viable solutions that have been embraced in the past and present and should be embraced in the future.

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INTRODUCTION

Law enforcement administrators are continually tasked with analyzing the most effective methods to utilize equipment while reducing overall operating costs. This can be a near impossible task with the economic barriers that exist in today's society. The rising cost of fleet vehicle maintenance can quickly deplete an agency's operational funds. In addition, police and sheriff departments have found that recruiting and retention of qualified personnel is nearly impossible. Potential candidates and existing employees are continually opting for jobs with flexible schedules and higher salaries. Further, the events of September 11, 2001 brought to light a very sobering fact: most police agencies do not have the capability to deploy large amounts of equipment and officers when a critical incident occurs. These challenges all have a common and practical solution, which is the issuance of fleet vehicles to sworn personnel. This research project will explore the benefits and feasibility of a take home vehicle program for law enforcement agencies.

The issuance of fleet vehicles to sworn personnel is an effective way to reduce overall maintenance costs, extend the life of police vehicles, and provide an incentive to retain tenured employees. The overall cost associated with vehicle maintenance continues to rise as agencies extend their service life due to economic restraints. However, many law enforcement agencies have recognized that issuing a fleet vehicle to a single officer provides results in a better maintained vehicle and lower overall maintenance costing (Nash, 1995). This is a result of the officer feeling a sense of pride and ownership for the vehicle. Further, this type of program provides organizations with the ability to effectively plan and deploy large sums of officers into the field at short

notice without ad hoc planning. Finally, in times of economic strife, crimes in residential and business districts often rise. The increased presence of law enforcement vehicles throughout a city and the command presence they provide can have a direct effect on the reduction of criminal activities and the costs they generate.

Police administrators have recognized that the issuance of fleet vehicles to sworn personnel is an effective way to reduce overall vehicle maintenance cost and longevity. According to LeSage (2005), officers feel compelled to keep the vehicle cleaner and in a high state of operational order, which is not the norm with pool cars. This equates into a well-maintained vehicle, which, in turn, equates to lower service costs. Unfortunately, law enforcement agencies do not have the perks of the private sector. However, a tangible item such as a fleet vehicle is an easy way to help the officer feel a sense of ownership in the organization. This feeling of ownership can help secure an employee who may have considered leaving the organization for other options. Finally, the one piece of equipment that administrators have recognized that they must have to effectively deploy personnel into the field during times of crisis are fleet vehicles. Law enforcement agencies should issue fleet vehicles to sworn personnel as a standardized policy.

POSITION

The cost of implementing and managing an entire fleet of police vehicles can be an in-depth and costly process. However, the use of the THV program can provide a significant cost reduction in several key areas, thus reducing the overall implementation and operational costs over the short and long term (Lauria, 2007). Further, the operational costs of a patrol car begin to decline and a savings is immediately

recognized during the second year of operation (Mann & Goodman, 2004). This savings continues and can become exponential in relation to the number of years that the THV is in service. Overall, this equates to higher savings on the vehicle's fuel and maintenance costs the longer the vehicle stays in the operational fleet. In short, pool vehicles can have enormous maintenance bills due to their time on the road and the way they are often mistreated (Repecki, 2010).

In addition to operational costs, the safety equipment needed to completely build out a patrol vehicle is a major expense that cannot be overlooked. A pool vehicle normally has a usable life of 24 to 48 months before being decommissioned and stripped. When this occurs, an additional expenditure is incurred, which is often not considered. This cost is frequently cited as one of the reasons for not implementing or starting such a program, but this is somewhat shortsighted. When analyzing the end depreciation value of such equipment, it becomes evident that the entire worth is often not obtained and a loss is ultimately recognized.

In recent years, there has been a trend with the auto manufacturer's changing vehicle models on a regular basis. This is due in part to technology and the demand for new and innovative cars, trucks, and sport utility vehicles. This trend has had a direct effect on the police vehicle and seems to have become more prevalent as automakers enter and exit the police market on a continual basis.

The most recent vehicle is the Ford's Crown Victoria, which has been Ford's flagship police vehicle for more than 20 years (Elbow, 2010). Those departments using the Crown Victoria as pool cars are likely to be left with equipment that still has a usable life but cannot be utilized in other models. This is due in part to the changes that

come with new police vehicle models, which have altered interiors, body frames, and rooflines. Often, these changes will not accommodate preexisting equipment that still holds an appreciable value. Unfortunately, these agencies will find themselves in situation where new equipment must be purchased, while looking for alternative ways of pulling funds out of existing equipment that still holds equity.

This becomes more compelling when considering that the average pool vehicle is operated for only 24 to 48 months and the average labor, equipment, and striping cost can exceed \$3,000-\$7,000 per vehicle (Lauria, 2007). A THV stays in the fleet an average of 60 to 96 months, and it is clear that the pool vehicle will incur greater costing on equipment and labor due to the shorter life expectancy. This cost savings can be as great as a 4:1 ratio.

In addition to equipment savings, the THV has another specific cost cutting tool that is not often explored. This is the ability to reduce the overall time lost or non-productive time that is accrued by officers when changing shifts or responding to callouts. When moving from a personal vehicle to patrol vehicle, officers were found to spend an average of 28 minutes to equip, set up, and perform the necessary checks to place the squad car in an operational mode. Further, when the preparatory time was added to the time needed at the end of a shift to shut down the vehicle, the total time lost increased to 36 minutes per shift (Lauria, 2007). Employees who worked a five-day week would have accrued three full hours of nonproductive time. This was time that was lost and could not be recuperated for calls or operations, and, even though it is necessary, it is considered a financial loss.

For an officer who works an average of 248 days a year, the monetary loss would equate to 18.6 days a year or roughly 3.75 weeks per year. In addition, when officers were forced to move from their normal pool car to alternate one, it took an average of 25 minutes to change vehicles, again increasing overall nonproductive time. The majority of studies involving THVs indicated that the loss of time and productivity for preparation and shut down of a pool car was one of the top financial burdens of the program and one that could be easily eliminated (Legendre, 2008; Stillwater, 1999; Yates, 1992).

Officers issued THVs eliminated this nonproductive time and increased their overall productivity. This increase in productivity was directly linked to their response times, reduction in crime statistics, and customer satisfaction (Lauria, 2007). Nonproductive time should be considered an unacceptable practice and one that could be corrected with a THV program.

Administrators in the public sector should not lose sight of the fact that their counterparts in the private sector are more than willing to recruit or steal skilled employees with better benefit packages, which is not available in the law enforcement field. In addition, and possibly more devastating, is the fact that other law enforcement agencies are more than willing to actively use the incentives they offer to lure tenured officers to their departments. This is clearly evident in the large hiring bonuses that have been and are still being offered in today's marketplace. Dallas Police Department is one of the most prevalent, recently offering a "signing bonus" of \$10,000 for newly hired officers, whether tenured or fresh recruits (Moore, 2007).

According to one study, the rate of turnover for line officers was 14%, and the average time spent at an agency before transitioning out of the department was approximately 2.75 years (Orrick, 2002). These figures were shocking when considering the amount of time and money required to recruit, hire, and train an officer. Local, county, and state agencies must remain proactive in seeking out retention techniques as turnover increases throughout law enforcement community.

At the forefront of retention must be governmental agency's ability to find that special something or a hook to keep employees content, while avoiding the financial pitfalls that often are encountered. The goal is to keep the employee from reconsidering their choice in law enforcement or the agency that they originally chose. Unfortunately, financial and benefit packages in the private sector often far outweigh those offered by law enforcement administrators (Orrick, 2002).

The hook, rub, or challenge for all public officials is how to provide incentives to retain trained, skilled, and productive employees in the midst of financial struggles. Added into the retention and recruiting problem is the question of the X and Millennial Generations philosophical view of the workplace. These new generations come to the table with better technical and educational skills than those in the past (Wuestewald, 2006). Even more difficult is that they do not have a traditional view of staying in one place for an extended period of time (Hall, 2010). The IACP found that nearly half of Generation X & Y police recruits were planning on leaving their host agency 36 months after graduation (as cited in Orrick, 2002). This may be due in part to a sense of entitlement, which is not validated quickly enough in the law enforcement field. According to Hall (2010), "They want immediate gratification," which is not always an

option in police work. It also may be symptomatic of society's values, which focuses more on technology and less on manual labor.

Agencies must find proactive ways to recruit and retain qualified employees. One very effective way to empower and entice an employee to hire on or remain with an agency is by providing a tangible item that they can see and feel (Nash, 1995). The THV will instill a sense of empowerment, ownership, accountability and increases an agencies ability to retain the employee (Galloway, n.d.). The THV is considered to be a substantial benefit when salaries are stagnant and insurance premiums continue to rise. This affords an agency with lesser benefit packages the ability to competitively recruit and retain skilled officers (Legendre, 2008). In essence, the THV is an incentive that can close the benefits' gap and keep an officer from moving to another agency or out of the law enforcement field (Gedalius & Salinero, 2008).

The City of Thibodaux realized the value of the THV program as a tool for recruiting. In 2008, the department took the dramatic step of purchasing low mileage used patrol vehicles in an effort to compete for skilled employees with surrounding agencies and those in the private sector (Legendre, 2008). The purchase comes at a time in law enforcement when budget cut backs are abounding, but police are still asked to hire and train competent officers.

The need to be effective at recruiting and retaining employees cannot be overstated. At the same time, the value of a THV should not be underestimated. In a study by the Tacoma Police Department, 61% officers spent 50% or more of their day working from their squad car (Lauria, 2007). Officers spend a sizeable amount of their day working from the vehicle and because of this fact, they view their patrol vehicle as

their office. The vehicle becomes something they can take pride in and want to care for it in an appropriately manner (Legendre, 2008). This has been validated in the way the vehicles have been cared for and maintained, which also translated into a reduction in overall maintenance and damage costs (Lester, 1999). The conclusion is that law enforcement officers find value in the THV, a tangible item that allows them to have a sense of ownership, accountability, and pride.

It is unfortunate that many agencies often fail to consider the large amount of time and costs involved in recruiting and retaining qualified employees. When exploring the process, it becomes very clear that it is a large financial burden and extremely time consuming. The overall process takes on a life of its own, which includes recruitment, standardized tests, orals boards, pieces of equipment, overtime, and training costs (Orrick, 2002). Depending upon the agency process of hiring, training, and equipping, a new recruit can easily exceed tens of thousands of dollars.

When a tenured officer does make the decision to leave an agency, he or she takes with them a host of benefits. These include the formal education, training, and practical knowledge, which have all been paid for by the current employer. The financial costs of a losing an employee who is tenured in 2002 would could cost more than \$50,000 (Orrick, 2002). This figure should be considered a lower projected amount due to the increase in salaries, equipment, and training over the past eight years. However, it is still an eye-opening fact that there are substantial costs related to losing an employee.

In addition, this figure does not take into account the time and cost necessary to for a new recruit to gain the knowledge and technical skills to become proficient in his

job duties. Law enforcement is by no means a black and white business, and it takes several years for an officer to gain the knowledge to become proficient at his role. Only by field experience and additional training will an officer begin to excel and become effective (Orrick, 2002). The financial costs are clearly seen, but at the same time, there may be a tendency to lose sight of the experience that has left the agency.

Supervisors realize that with the departure of experience, there may be a decrease in productivity, increase in complaints, and potential for lawsuits as recruits learn their trade (Orrick, 2002). This process becomes even more cumbersome if a recruit fails to complete the academy or field training and administrators are required to start the process over again. When considering the all different personalities in today's workforce along with the costs associated with hiring or losing an officer, it is clear to see that a tangible item, such as a THV, can be a key for hiring and retention. It would be a mistake to underestimate the intrinsic value of a THV, a fringe benefit, which has ability to attract and keep skilled employees (Legendre, 2008).

The philosophy of crime prevention has always advocated a high police presence or at least the appearance or façade of a presence. There is not a more flexible and diverse piece of equipment for proving immediate command presence and crime reduction throughout a jurisdiction than the police vehicle (Schmechel, 2004). In one sense, the police vehicle is much like any other branded product, such as Coke or Tide, and invokes an immediate response. This response, in turn, can provide the desired effect, which is deterrence (Ernstes, 2008).

When an officer parks her THV in conspicuous place at their residence, an enhanced sense of safety and security is felt in the surrounding neighborhoods

(Salisbury, 2007). According to the Hampton Police Department, “83.3 percent” of citizens “felt more secure with a patrol car in their neighborhood”, which equated to a higher level of customer satisfaction (Nash, 1995, p. 3). In addition, a reduction of more than 3% in crime statistics has been recognized in neighborhoods where the vehicles have been parked (Mann & Goodman, 2004). One of the reasons for this is that there is not a clear indication whether or not the officer actually lives at the residence or if he or she might be there on business. This translates into a phenomenon known as the “bill board” effect (Lester, 1999). This concept continues when the officer drives his vehicle around the community when off duty. There is no way to measure how many crimes were prevented by the patrol vehicle, but there is a clear indication that the presence of a squad car is a clear deterrent. The department and community both realize a benefit when the officer parks or uses the THV in an off duty status.

Finally, law enforcement agencies are continually inundated with non-emergency complaints requiring an officer’s time and attention. The time spent on these types of calls could be utilized more effectively in areas with high volumes of traffic complaints, accidents, and reckless drivers (Stillwater, 1999). However, the presence of additional police vehicles in neighborhoods, retail, and manufacturing areas can reduce many of these types of complaints and allow the redirection of officers to calls of higher priority or areas that have experienced greater problems (Gedalius & Salinero, 2008).

On September 11, 2001, the New York Police and Fire Departments’ resources were heavily taxed when the World Trade Center Towers fell. This event brought to light the needed ability to rapidly deploy into an area of extreme crisis and maintain the location for an extended period. However, there are also other incidents that

departments must address on a regular basis that do not rise to the level of 9-11. These types of incidents can be contained in a smaller area geographic area, such as a barricade person, or a larger area, such as a search for missing or abducted child. In either case, the public expects and, at times, demands that fully equipped and capable officers respond ready to handle the crisis.

Officers are often called upon during inopportune hours to respond to a variety of criminal offenses, hostile situations, and disasters, both manmade and natural (Rigg, 2007). These types of incidents can vary from a minor crisis with a small geographically area to large one major one affecting an entire county. When called upon to respond, there is a variety of equipment that can be required to effectively complete the assignment. Unfortunately, officers who do not possess a take home vehicle must respond to the station, acquire a vehicle and the needed equipment, and then move to the scene. This delay in time can affect the overall effectiveness of how a critical incident is handled.

In addition, is not uncommon for an officer to arrive at a scene and not have all the tools necessary to handle the assigned tasks (Rigg, 2007). These items can range from additional emergency equipment for scene management to personal items, such as water and food stores, hot and cold weather equipment, medications and others, which may be needed for extended periods. The absence of these items may require additional officers to re-supply their peers in the field, which, in turn, taxes resources (manpower) and limits the scope of what can be accomplished.

Law enforcement administrators should consider that the THV affords the police professional the opportunity to organize, carry, and deploy with all the equipment he or

she may need in a time of crisis. This flexibility of an officer to respond to an area during a callout in an effortless and efficient manner is a test of a department's operational readiness (Thomas & Lundborn, 2007).

In addition to callouts, consideration must be given to the flexibility and cost cutting advantages available when reporting to or leaving work. In one study, officers continually responded to calls for aid and assistance while off duty at cost to their city or department. This equated to an officer working an additional half of a day at no cost to their department (Mann & Goodman, 2004). This additional response not only provided free productive time with no costs, it also allowed on supervisors to reallocate on duty personnel more efficiently, thus reducing overall costing. The THV is a key factor to a quick and effective response during times of crisis and also provides the ability to redirect resources when available.

COUNTER POSITION

In the public sector today, funds are scarce, and cuts are being made in every possible way. Layoffs and furloughs are occurring on a regular basis, and most employees are ecstatic to just be employed. These are facts and not myths, so the philosophy of issuing THV's is neither fiscally responsible nor feasible in today's economy. The capital, equipment, fuel, maintenance, and damage costs associated with the issuance of a THV to an individual officer or employee could be considered a luxury and not a necessity (Zatkulak, 2010). Many public officials believe that issuing personal equipment could lead to abuses and lack of accountability by officers. They also recognize that the initial outlaying of funds for such a program is a vast undertaking and further believe it is unreasonable with the current economy (Elmqvist, 2009).

There is also no disputing that the implementation of such a program would cost a substantial amount, which many local governments cannot afford at this time (Yates, 1992). An agency can spend more than \$40,000 on a single fully equipped police vehicle and costs can greatly increase if the officer requires a specialized vehicle (Elmqvist, 2009). The initial capital cost to implement a THV program can easily range from 500,000 to several millions of dollars, but this is dependant upon the agency's size and the implementation process. The financial implication alone of a THV program can have far reaching implications for all departments within a governmental agency.

In addition, as the economy continues to show signs of instability, there is the continued fear that fuel prices will not decline but instead continue to rise. A THV program clearly places more vehicles on the road with added fuel costs. According to the Fort Pierce Police Department, the average fuel costing associated with such a program averages "\$60,000" per year, which they consider substantial (Howk, 2007, p. 1).

This has prompted local governments to reconsider the need for or the implementation of a THV program (Heide, 2008). Some officials would argue that the increased police presence is more than worth the increased expense, while others believe the cost far outweighs the benefit (Ernsetes, 2008). Many agencies have followed this same line of thinking and recognized that in order to balance budgets and avoid layoffs, major cuts must be made (Elmqvist, 2009). Larger jurisdictions have found that they can easily cut their budgets by a million dollars or more by eliminating not only the maintenance costs but also the fuel costs of the THV program ("Fewer

Take-Home”, 2002). If the trend of fuel increases continues, the THV program could become an even bigger financial burden.

In addition to capital and fuels costs, there is the question of accountability by those who possess a THV. Improper use and abuse of equipment can lead to high liability costs, criminal offenses, and embarrassment. Instances of officers being arrested for a DWI while operating a THV or allowing access to equipment inside the vehicle are rare, but they do still occur and are a concern (Burch, 2008). This is a valid concern of accountability that has direct ties to financial responsibility and public image.

Agencies across the United States are all faced with the same pecuniary problems and concerns with the uncertainty of today’s economy. However, many have still found the use of a take home car program beneficial. This is due in part to lower maintenance costs and innovative ideas on gas conservation. Even though the program can be somewhat costly in terms of initial start up costs, the overall cost savings and impact on a community far outweigh the initial outlay. This is according to numerous studies by local, county and state police agencies (Heide, 2008; Nash, 1995).

The normal wear and tear on a pool vehicle is not experienced with a take home vehicle. This is due to the number of hours it is in operation during a normal work week. Fleet vehicles can be in operation for 24-hours during a 7-day period without a break. This is not the case with the take home vehicle, which is only used a fraction of time compared to pool cars. The lower amount of hours in use translates into overall lower maintenance costs and fuel costs (Salisbury, 2007).

In addition, officers who are assigned a personal vehicle tend to treat it with more respect than a pool car. This is due to a sense of ownership and the fact that the

vehicle is viewed as their office. Further, the officer becomes more responsible with the vehicle and does not have a tendency to abuse or misuse the squad (Lester, 1999).

Unfortunately, the increased amount of servicing requires additional maintenance costs and also puts a strain on the other pool cars (LaSage, 2005). Those cars that would normally be driven two shifts are not put into service for a third shift so service of other vehicles can take place. This has a domino effect on the overall mileage and translates into service costs and down time for an agency. The theory that a take home vehicle program will increase overall maintenance has been proven incorrect (Lauria, 2007; Lester, 1999; Mann & Goodman, 2004).

The TVP instead provides a solid foundation that will supply a well maintained and functional fleet at an overall lower operational cost (Lester, 1999). According to a study by the Manatee County Sheriff's Office, fuel and maintenance for a THV generated "a 27.8% reduction" in overall cost (Salisbury, 2007, p. 23). This figure did not include the additional cost savings for total time lost due repairs or down time (time lost) for deputies and officers during shift change. This time lost averaged 5.6 days per employee and equated into a high level of inefficiency (Salisbury, 2007).

Probably the most compelling costing study conducted with regard to take home vehicle was the City of Tacoma, Washington. The study took eight years, and throughout the study, cost saving and reductions were recognized in several defined categories with the take home vehicle program (Lauria, 2007). The data collected revealed a significant operational cost reduction, which was 30% lower per mile based upon the comparison with pool vehicles (Salisbury, 2007). Another specific fact that was revealed was the life expectancy of a THV in comparison to a pool vehicle. The

difference was a 33% to 52% increase in the life span of the THV in comparison to the pool vehicle (Lauria, 2007).

The City of St. Petersburg's data revealed similar findings with the comparison of pool vehicles and THV. They found that the life expectancy of the THV increased dramatically in relation to their pool vehicles (Galloway Township, 2010). The most revealing fact in THV studies was the financial cost of damage caused by accidents and misuse of pool vehicle (Lauria, 2007). The cost to repair damage to pool vehicles can be six times greater than the costs associated with the damage on THVs. The study found that there was a 510% increase in costs for accidents involving pool cars during the eight-year study (Mann & Goodman, 2004). These figures are a clear indication that THVs were not abused or misused, and the officers were responsible with the equipment.

There should be fiscal responsibility on all parties who are involved in the budget processes for a governmental entity. However, simply dismissing a program such as take home vehicles is inconceivable. The facts reveal that a THV program has the ability to be self-sustaining (Lauria, 2007). In the beginning, there will be a price to be paid, but the cost benefits begin to be recognized in the second year of operation.

Further, by the fourth year of operation, the cost to maintain THV drops dramatically (Yates, 1992). This may be due to the fact that pool vehicles require a much more aggressive maintenance plan to ensure they are roadworthy (LaSage, 2005). The overall cost per mileage (maintenance and fuel) and accidental damage decreases while the years of service greatly increases. Even though it is clear that the

initial cost to implement a THV program can be sizeable, the overall cost analysis indicates that it is fiscally responsible (Lauria, 2007).

The increased cost of fuel in recent years has prompted many public officials to call for the reduction or elimination of take home fleet vehicles. One of the most prevalent facts is that when using pool cars, the fuel and maintenance costs will increase as the hours on the vehicle increase. However, increased fuel costs have prompted the resurgence of old philosophies as well as new and innovative ideas to keep fuel costs down. These have included, but are not limited to the decreasing number of miles that the vehicle can be driven while off duty, using a no idle policy, setting specific amounts of time that the vehicle must be turned off during a shift, and asking officers to walk a beat for a portion of a shift (Heide, 2008). Further, some administrators are requiring officers to pay a monthly fuel surcharge if they exceed the allotted miles allowed while driving outside of their jurisdictions or during off duty hours (Ernstes, 2008). Others have implemented policies that require the officer to pay a set amount per month to help offset the cost of fuel for mileage driven while off duty (Rigg, 2007). These policies and alternatives do have some merit and forethought. However, the financial analysis in the former paragraphs indicates that the cost per mile (fuel and maintenance) clearly decreases during the second year of operations for THVs.

There will always be a fear by the public that government employees will abuse the power or equipment provided to them. There is a valid concern that many officers who live outside of their jurisdictions will not be capable of responding to callouts in timely manner. Further, those officers who do not reside near where they work are

benefiting from take home cars and fuel provided by tax dollars, while citizens are short changed (Rigg, 2007).

This is a valid concern, but it does seem to have merit when analyzing the use of a THV. The data collected and correlated during numerous studies indicated the exact opposite is true (Lauria, 2007; Nash, 1995; Orrick, 2002; IACP, 2007). There are those who believe that the overall operational, maintenance, and damage costs will increase due to overuse and abuse by the employee. However, the collection of data, including operational guidelines for a variety of agencies, indicated this theory to be a falsehood (Yates, 1992; Lauria, 2007; Orrick, 2002; Lester, 1999; Legendre, 2008). Officers are held to a higher standard when a THV program is used, with most departments requiring additional logs on mileage, hours of use, and fuel consumption. Further, the officer is more likely to act responsible with his vehicle because, ultimately, he is the only one who operates it (Rigg, 2007). The data collected clearly showed a decrease in damage to THVs in relation to pool cars, which again supports the fact that an officer will be more accountable than those who operate a pool vehicle on a regular basis (Schmechel, 2004).

Administrators will have the ability to track mileage, fuel, and maintenance costs with detailed vehicle and radio logs. In addition, many agencies have found that the use of global positioning systems provide a check system to guarantee that any allegation of indiscretion can be easily confirmed or quashed. The use of policies, logs, and electronic devices all provide a security blanket that helps ensure that officers will not abuse or misuse the equipment they are issued. However, quite possibly the most prevalent fact regarding accountability is that a vehicle is assigned to an officer.

There are numerous ways that employees can and should be held accountable for all aspects of their job. In essence, every department should have a check and balance system that monitors the use of an issued vehicle, which is no different than the policies currently in place for pool vehicles. Officers will be held to a higher standard when issued their own vehicle because they are ultimately responsible for anything which might occur ("Fewer Take-Home," 2002).

CONCLUSION

The implementation of a THV program has many benefits and is fiscally responsible policy, even in today's uncertain economic state. It is understandable that the initial capital expense for a THV program can be overwhelming when first encountered. However, by analyzing the overall data, it is clear that a cost reduction is recognized in fuel, preventative and critical maintenance, accidental damage, and equipment packages with this program. These cost savings are recognized beginning in the second year of the vehicle's operation and continues on average 5 to 8 years (Lauria, 2007; LeSage, 2005; Yates, 1992). The theory that a misuse and abuse of equipment will increase with THV program is incorrect. The empirical data clearly shows that through detail logs, accountability actually creates a reduction in the occurrences of abuse (Lauria, 2007; Nash, 1995; Orrick, 2002; IACP, 2007). Further, repair and accidental damage costs drop substantially and expand the usable life of the vehicle.

The public sector is faced with hard financial realities in today's economy and cost cutting has become a necessity in all areas. The hiring and retention of employees has become competitive with the public sector stealing skilled officers with better salary

and benefit packages. The cost to rehire, train, develop, and retain a skilled employee is an expensive endeavor. As demonstrated by Table I (Appendix A), the cost associated with replacing an existing employee can easily surpass \$81,000 prior to the officer becoming an independent and functional employee. This figure does not take into account the benefits that will be paid to the employee, including medical, vacation, holiday, and retirement.

The likelihood of retaining an officer or attracting a hiring pool with a higher level of credentials is possible with a THV and, in turn, lessens the opportunity to incur such high costs. The costing to outfit and provide a serviceable THV is projected at \$52,050 (Rockwall PD Budget), which is 36% less than the cost to rehire and retrain the employee who has left the agency. Finally, looking outside of the monetary issue, one must also consider the experience that leaves with the departing employee. Law enforcement administrators have long recognized that even after the hiring and training process, which can last as long as 12 months, the new officer will typically not become acclimated and productive in his or her position for another 12 to 24 months. The recruiting and rehiring process requires substantial costs and time. Losing a single employee may not have major monetary ramifications for an agency, but losing multiple officers, whether in the training process or being lured to public and private agencies, can directly affect a department's budget. The use of a THV program as a hiring and retention tool is a one way to mitigate such costing.

Further, agencies struggle to find ways to respond to a variety of incidents that require the deployment of large numbers of personnel and equipment effectively. An agency must address each of these concerns in a logical and timely manner. The

implementation of a THV program can provide a valid, single solution for each of these concerns.

Finally, outside of the black and white of the financial analysis, the THV program provides a sense of ownership, accountability, and pride, and it can increase the overall productivity and morale of an agency. The THV program is a sound choice for agencies of all sizes that are looking for options to help provide a stop gap on overall operationally costs while offering a viable solution to remain competitive in the today's market place.

REFERENCES

- Burch, J. (2008, August). Dilemma of officers who abuse equipment. *Law and Order*, 56(8), 56-57, 59-62, 65.
- City of Stillwater, Oklahoma Police Department. (1999, February 22). Police unit take home program. Retrieved from <http://www.stillwater.org/cc022299/c9944.htm>
- Elbow, S. (2010, January 14). Cops shop for new cars after ford stops making crown victoria. *The Caps Times*. Retrieved from http://host.madison.com/ct/news/local/crime_and_courts/article_9ee9196a-008b11df-8a7e-001cc4c03286.htm
- Elmquist, S. (2009, January 22). Take-home police cars a pricey policy. *News and Record*. Retrieved from http://www.news-record.com/content/2009/01/21/article/take_home_police_cars_a_pricey_policy
- Ernstes, E. (2008, July 11). Elkhart re-examining use of police take home cars [news story]. South Bend, IN: WSBT. Retrieved from <http://www.wsbt.com/home/video/24525929.html>
- Fewer take-home vehicle for Denver officer. (2002, May 22). *Police Magazine*. Retrieved from <http://www.policemag.com/Channel/Patrol/News/2002/05/22/Fewer-Take-Home-Vehicles-for-Denver-Officers.aspx>
- Galloway Township Police Department. (2010). *The "Lexington plan": Our take home police vehicle policy*. Retrieved from <http://www.gtpd.org/lexington.html>
- Gedalius, E., & Salinero, M. (2008, July 16). Gas prices unlikely to affect squad car take home policies [Web log message]. Retrieved May 2, 2009, from <http://forums.leoaffairs.com/viewtopic.php?f=92&t=71748>

- Hall, L. (2010, February 10). International policing. Lecture presented for the Leadership Command College – Module II of the Law Enforcement Management Institute of Texas, Texas Woman's University, Denton, TX.
- Heide, R. (2008, July 21). City addresses economic hardships. *Valley Courier*. Retrieved from http://www.alamosanews.com/v2_main_page.php
- Howk, A. (2007, October 7). Fort Pierce may charge some police officers for take-home vehicles. *TCPalm*. Retrieved from <http://www.tcpalm.com/news/2007/oct/07/30police-parking-fee-would-save-18k/>
- International Association of Chiefs of Police. (2007, February). *Take-home cruisers: Issues for consideration* (Research Center Directorate). Retrieved from <http://www.theiacp.org/LinkClick.aspx?fileticket=7Qli4IXtalk%3d&tabid=87>
- Lauria, D.T. (2007, October). Cost-benefit analysis of Tacoma's assigned vehicle program. *Police Quarterly*. doi: 10.1177/1098611105283126
- Legendre, R. (2008, July 12). Cars designed to lure police recruits. *Daily Comet*. Retrieved from <http://www.dailycomet.com/article/20080712/ARTICLES/807120303>
- LeSage, J. (2005, April 21). Cutting car costs. *Police Magazine*. Retrieved from <http://www.policemag.com/Channel/Vehicles/Articles/2005/04/Cutting-Car-Costs.aspx>
- Lester, D. (1999, February 22). *Police Unit Take Home Program*. Stillwater Police Department. Retrieved from <http://www.stillwater.org/cc022299/c9944.htm>

- Mann, B., & Goodman, D. (2004, May) Take home cars. *Police Fleet Manager*. Retrieved from <http://www.hendonpub.com/resources/articlearchive/details.aspx?ID=220>
- Moore, D. (2007, March 1). Dallas police hiring at a record pace. *Dallas Business Journal*. Retrieved from <http://dallas.bizjournals.com/dallas/stories/2007/02/26/daily43.html>
- Nash, B. (1995, December 14). Take home cars: An overview. Fraternal Order of Police. Retrieved from <http://www.fop.net/programs/research/takehomecars.pdf>
- Orrick, W.D. (2002, October 1). Calculating the Cost of Police Turnover. Retrieved from <http://www.13wmaz.com/news/graphics/Calculating%20the%20cost%20of%20officer%20turnover.pdf>
- Repecki, T. (2010, September 18). Study: police vehicle take home policy cheaper than pool cars. *Cape-Coral-Daily-Breeze*. <http://www.cape-coral-daily-breeze.com/page/content.detail/id/519369.html?nav=5011>
- Rigg, J. (2007, June 30). New Albany police's take-home car policy loosened. *News and Tribune.com*. Retrieved from <http://newsandtribune.com/floydcounty/x519367074/New-Albany-polices-take-home-car-policy-loosened>
- Salisbury, T. (2007, November 30). Assigned Vehicle Costs. Manatee County Sheriff's Office. Retrieved from <http://www.manateesheriff.com/pdf/budget/AssignedVsPooledvehicles.pdf>

Schmechel, J.D. (May, 2004). Take Home Squad Car Program. *Police Fleet Magazine*.

Retrieved from <http://www.hendonpubl.com/resources/article/details.aspx?ID=219>

Thomas, J. & Lundborn, J. (2007, July 7). Operational Readiness Effort.

Retrieved from <http://www.truropolice.org/Police%20Cruiser%20Assessment.pdf>

Yates, T. (1992). Take home cars: After the first shock there are benefits [Abstract].

Law and Order, 40(5), 88-91.

DiNapoli, T. (2003). Establishing an effective fleet management system. NY State Office

of the Comptroller Web. February 6, 2010, <http://www.osc.state.ny.us/localgov/costsavings/fleet.htm>

policy for police department. *The Fort Bend/Southwest Star*. Retrieved May 2, 2009, from

http://fortbendstar.com/Archives/2009_1q/022509/n_Rosenberg%20council%20approves%20take%20home%20vehicle%20policy%20for%20police%20department.htm

Wuestewald, T. & Steinheider, B. (2006, January). Shared Leadership: Can

Empowerment Work in Police Organizations? *The Police Chief*. Retrieved from http://www.policechiefmagazine.org/magazine/index.cfm?fuseaction=display_arch&article_id=789&issue_id=12006

Zatkulak, K. (Reporter) (2010, December 21). Police take home car controversy. News

Channel 9. [Transcript]. Retrieved from

<http://www.newschannel9.com/news/police-997142-new-fee.html>

APPENDIX A

Table I. Cost Analysis to Rehire and Train

Item, Service or Cost	Cost
Recruiting Costs	\$ 1,000.00
Cost of Written Exam ¹	\$ 690.00
Cost of Physical Assessment (Salary for 10 Officers)	\$ 862.00
HR Specialist Expense (2 HR Employees)	\$ 395.64
Medical Exam	\$ 125.00
Background Cost (Officer's Salary and Expenses)	\$ 1,438.00
Oral Board Cost ²	\$ 1,723.20
Command Staff Board ³	\$ 1,855.00
Psychological Exam	\$ 250.00
Academy Tuition	\$ 1,590.00
Academy Uniforms	\$ 500.00
Police Coordinator for Academy	\$ 1,875.84
Travel Expense Police Academy (24 Weeks)	\$ 2,081.26
Recruit Salary During Academies (24 Weeks)	\$22,684.80
FTO/PTO Salary & Premium Pay	\$20,908.16
In House Academy Cost-PTO Salary & Premium Pay	\$ 2,396.64
In House Academy Cost-Recruit Salary	\$ 1,984.80
Recruit Officer's Salary During PTO Training	\$16,083.20
Equipment Non-Reusable	\$ 3,000.00
Initial Rehire and Training Cost	
Cost Analysis does not include benefits paid at a 40% based upon salary.	<u>\$81,443.54</u>

¹Cost includes test alone and not personnel

²Board consists of 3 line officers, 1 sergeant, 1 lieutenant

³Board consists of 2 chiefs and 3 lieutenants

APPENDIX B

The implementation of a THV program is flexible, viable, and does not have to be tied to a specified time frame or rigid guidelines. The first and most critical step is to analyze existing resources and liabilities and then develop a procedure on the most practical and fiscally responsible method to begin the THV program. The following is an overview and cost analysis of how a program of this nature can be implemented and the cost benefits. This analysis will focus on monetary losses due to poor retention and the cost savings realized with the extended service life of a law enforcement fleet.

The perimeters for this analysis are a mid-sized, modern city police department with an authorized sworn staff of 72 officers. In this department specialized units (K-9, narcotics, criminal investigators, and command staff) are already assigned THVs. In addition, the crime prevention unit and traffic officers have assigned vehicle, but they are not authorized to take them home. The department also has a 6-person crime scene team based in patrol and a 15-member SWAT Team. These officers have a primary role of Patrol Officer and are not issued THVs. However, it should be noted that the SWAT Team has 1 team commander, who holds the rank of lieutenant, 1 team leader who is a Detective Sergeant, and 1 K-9 officer. Each of these officers is issued a THV due to their full time primary position.

The department has one STEP (Selective Traffic Enforcement Program) car, which is owned by the department and not funded with a federal grant. The majority of the fleet is based in the field operation's division, which has access to 22 vehicles for patrol, traffic, and warrants, but excludes all motorcycles. These cars are marked and used for daily operations (Table 1).

Table 1. Police Department Vehicle Designation

Division or Assignment	Vehicle Break Down
Command Staff	5 THVs
2 K-9 Officers	2 THVs
6 Detectives (5 Detectives, 1 Sergeant)	6 THVs
Traffic Unit	2 Traffic Cars, 2 Motorcycles
Patrol Vehicles	19 Patrol Cars
Crime Prevention (5 SROs, 1 Crime Prevention Officer, 1 Sergeant)	6 Patrol Cars, 1 Expedition
Warrant Division	1 Patrol Car
Public Safety Officer	1 Ford F-250 Truck
STEP Vehicle	1 Patrol Car
Total Vehicles Fleet and THVs	42 Vehicles

There are 5 vehicles for detectives, 2 for the K-9 Unit, 5 for crime prevention, 3 for narcotics and 5 for command staff members.

A department with these demographics could implement a THV program over a 5-year time frame while providing an overall cost reduction. The cost reduction will be discussed later in this analysis. In this instance the THV program would be based upon an officer achieving 5-years of seniority and living within the county where the department is based. These perimeters would not be applicable for crime prevention, warrants, and the detective's bureau, because they are assigned a THV when they assume one of these positions. Crime prevention and warrant officers are not allowed to take their vehicles home, because they are not on an "on-call" status. However, these vehicles would still be available for immediate assignment under a THV program.

An analysis of the department's field operation division (Patrol and Traffic) shows that there are currently 38 patrol officers, 6 sergeants, and 1 lieutenant, which equates to a total of 45 officers. As stated before the lieutenant who is the patrol division and SWAT commander, 4 traffic officers, and 2 K-9 officers all have THVs, which brings the number of those without vehicles down to 38 officers.

These remaining 38 officers are broken down as follows, 20 who live in the county where the department is located and 8 that have enough seniority to meet the initial requirements of the THV program. The remaining 8 officers, 4 of whom are sergeants, would each be eligible for the issuance a THV.

The fleet has a total of 22 vehicles, but assignment of the traffic vehicles lowers this number to 18 vehicles (2 of which are assigned specifically to the sergeants). Assignment of the 2 supervisor vehicles to the 2 most senior sergeants would lower the available fleet to 16 vehicles. In turn, this would lower the number of officers who would be eligible to receive a THV to 6 officers (2 of whom are sergeants and 4 line officers).

The field operation's division (patrol) on average has 7 officers (1 sergeant, 6 officers) on the street for each shift and during times where there are overlapping shifts (evening and deep nights) this number rises to approximately 14-16 officers (1 supervisor for every 5-6 officers) at any one time. History has shown that on average there are 2 vehicles or approximately 10% fleet out of service due to minor or major maintenance problems, motor vehicle accidents, or other circumstances (recalls, training, special assignment, etc.).

The 16 vehicles left for the field operation's division daily activities, would be reduced to 14 when taking into consideration the 10% that are out of service on a regular basis. One could argue that the THVs would be in the mix and are not being accounted for in the total number of available vehicles. However, it cannot be assumed that any one number of THVs would be on each shift thus offsetting the overall need for pool or fleet vehicles.

The sergeants (4 officers) are assigned off setting shifts and in turn would allow for vehicle sharing if necessary. This is assuming that additional vehicles were not purchased and instead existing vehicles were issued. For the purpose of this cost analysis additional vehicles would be purchased for those who did not have them in lieu of issuing out the existing fleet. Assuming each sergeant has their own vehicle, this does reduce the need for 1 or 2 vehicles on a shift, because, as stated before, the sergeants all work opposing shifts, which guarantees at least one THV on a watch.

A total of 6 new vehicles would be needed to complete the initial THV implementation with a goal of complete implementation over a 5-year period. These vehicles would have to be complete new builds with all new equipment, which does raise the overall initial startup cost. It should be noted that this department has a very young patrol staff, and this is the reason a 5-year time frame was chose. It could still be very functional with an older staff, but if the goal is to motivate, attract, and retain, the program might have to be alter and sped up.

The initial cost for a THV in this program would be \$48,995 per patrol car, which would include the vehicle, all emergency equipment (lighting systems, power systems, weapon systems, containment unit, computer system, radar, safety equipment package-truck area, push bumper, installation, graphics, and any incidentals) and extended or additional warranties (Table 2). The total cost to provide the existing 6 officers with patrol vehicles would be \$293,970, and should have an extended service life, which will be explored shortly.

Table 2. Cost Analysis of THV Implementation Per Vehicle 2011 (Does not Include Maintenance/Damage Estimates)

Vehicle (2011 Crown Victoria)	\$ 22,225
Radio System (Vendor-Macom 400 Megahertz)	\$ 3,000
Lighting Package (Whelen, Top, Middle, and Lower Lighting)	\$ 4,300
Console (Varies)	\$ 610
Containment Unit	\$ 885
Radar (Stalker or Custom)	\$ 1,500
Computer/MDT (Tough Book)	\$ 5,000
Computer Mount	\$ 500
Shotgun & Rack (Wilson Combat/Scattergun Tech)	\$ 1,100
Safety Equipment (Assorted Vendors)	\$ 1,000
Video System (Mobile Vision)	\$ 3,200
Graphic Package (Local Vendors)	\$ 450
Installation Cost (Pursuit Safety)	\$ 1,600
Tear Down Cost (Pursuit Safety)	\$ 1,000
Miscellaneous Cost	\$ 425
Total Cost	\$ 48,995

Ford Crown Victoria comes standard with spare tire and jack.

The research data also indicates that on average maintenance costs for each pool vehicle will be three times greater for the pool car as compared to the THV. This increase in overall cost has been shown to increase for the pool vehicle as it becomes older, especially as it moves into the third year of service. According to one vendor surveyed, he rarely sees those vehicles, which are assigned to a single officer, but does see the pool or fleet vehicle 5 times more often and typically with more substantial problems.

The cost savings for a THV on downtime, maintenance, and accident damage are clearly defined in the LWP and will not be analyzed any further in this cost analysis. However, based upon the research data we can project the life expectancy and cost estimate for a fully equipped THV and an approximate total cost savings when compared to a pool or fleet vehicle. The analysis will be based upon different equipment rotational options and the vehicle's service lifespan.

The most prevalent THV cost that continues to occur is replacement of the vehicle itself. The equipment can far exceed the cost of the vehicle, but it is often used at least twice times with fleet or pool vehicles, thus offsetting a portion of the costing. Based upon the research data a THV will have an average life expectancy of 5 to 8 years, whereas the pool vehicle will only last 1.8 to 3 years. Using this data it can be assumed that on average a pool vehicle will have to be replaced 2 to 2.5 times prior to the THV goes out of service.

In addition to a shorter vehicle life span, the pool vehicle will also incur additional tear down and refit costs with each rotation and replacement of damage, worn, or failing equipment. We will assume that the equipment in the pool vehicle will be used at least twice, but this often not the case due to the additional wear and tear on it.

The initial cost analysis will focus on a THV program with a rotational schedule every 5-years with the vehicle being a complete new build with a cost of \$48,995. A turnover rate of every 2-years will be used along with a modified equipment replacement schedule. The modified schedule does not include replace of equipment that has a longer service life (shotgun, computer, radar, video system, etc.), which will lower the overall replacement cost of the pool vehicle. However, it should be noted that additional costs could be recognized if the equipment is approaching the end of its warranty or if it is already out of warrant. The most logical option would be immediate replacement of outdated and out of warranty equipment, which would eliminate large repair bills and additional tear down and installation costs

Using the perimeters set above the initial costing of a THV would be \$48,995 with a life expectancy of 5 years. A pool vehicle program with a 2-year life span would cost a total of \$75,695 with a cost increase of \$26,700 over the THV. This increase indicates that the THV has an approximate cost savings of 35% over the course of 4 years. If the THV's life span extends to 8 years the additional costs for a pool vehicle is \$94,095 or cost savings of 65% if using the THV program. If one were

to assume that all the equipment in the pool vehicle was replaced due to wear and tear, the cost savings grow to 75% or \$146,985 (full replacement costs over the course of 8-years) (Tables 3, 4, 5, 6, 7, 8).

Assuming that a total of 6 vehicles would be necessary for the initial implementation of the THV program and using the cost analysis in the previous paragraph the department would recognize a total cost savings of \$160,200 for a 5-year THV rotation and \$881,910 for an 8-year THV rotation. These savings are based upon a modified equipment replacement and not a fully equipment replacement cycle. If due to wear and tear all equipment had to be replaced in the pool vehicle every 2-years the cost saving for the 5-year THV rotation is 66% or \$97,990 and 75% or \$146,985 for the 8-year THV rotation.

Table 4.

10 Year Cost Analysis for Take Home Vehicles														
Rotation 5 Years (Mileage not a Factor)														
Category of Cost	2010					2015	5				2020	Total Cost	Total Cost	Total Cost
						Years	Years				10 Years	@ 10	@ 15	@ 20
Vehicle	\$ 22,225					\$ 22,225					\$ 22,225	\$ 44,450	\$ 66,675	\$ 66,675
Radio System	\$ 3,000					\$ 3,000					\$ 3,000	\$ 3,000	\$ 9,000	\$ 9,000
Lighting Package	\$ 4,300					\$ 4,300					\$ 4,300	\$ 8,600	\$ 12,900	\$ 12,900
Console	\$ 610					\$ 610					\$ 610	\$ 1,220	\$ 1,830	\$ 1,830
Containment Unit	\$ 885					\$ 885					\$ 885	\$ 1,770	\$ 2,655	\$ 2,655
Radar	\$ 1,500					\$ 1,500					\$ 1,500	\$ 3,000	\$ 4,500	\$ 4,500
Computer/MDT	\$ 5,000										\$ 5,000	\$ 5,000	\$ 10,000	\$ 10,000
Computer Mount	\$ 500					\$ 500					\$ 500	\$ 1,000	\$ 1,500	\$ 1,500
Shotgun & Rack	\$ 1,100										\$ 1,100	\$ 1,100	\$ 2,200	\$ 3,300
Safety Equipment	\$ 1,000					\$ 1,000					\$ 1,000	\$ 2,000	\$ 3,000	\$ 3,000
Video System	\$ 3,200					\$ 3,200					\$ 3,200	\$ 6,400	\$ 9,600	\$ 9,600
Graphic Package	\$ 450					\$ 450					\$ 450	\$ 900	\$ 1,350	\$ 1,350
Installation Cost	\$ 1,600					\$ 1,600					\$ 1,600	\$ 3,200	\$ 3,200	\$ 3,200
Tear Down Cost	\$ 1,000					\$ 1,000					\$ 1,000	\$ 2,000	\$ 3,000	\$ 3,000
Misc Cost	\$ 425					\$ 425					\$ 425	\$ 850	\$ 1,275	\$ 1,275
Total Cost Per Year	\$ 48,995					\$42,895					\$48,995	\$ 91,890	\$ 140,885	\$ 140,885

Figures do not include a cost increase over the time frame indicated

Equipment has a projected user life of 10 years

Equipment warranty expires after 3 to 5 year period

Table 5.

10 Year Cost Analysis for Take Home Vehicles														
Rotation 8 Years (Mileage not a Factor)														
Category of Cost	2010	2011	2012	2013	2014	2015	2016	2017	2018	8	2019	2020	Total Cost	Total Cost @
						5 Years			Years				@ 10 Years	20 Years
Vehicle	\$ 22,225								\$ 22,225				\$ 44,450	\$ 66,675
Radio System	\$ 3,000								\$ 3,000				\$ 3,000	\$ 9,000
Lighting Package	\$ 4,300								\$ 4,300				\$ 8,600	\$ 12,900
Console	\$ 610								\$ 610				\$ 1,220	\$ 1,830
Containment Unit	\$ 885								\$ 885				\$ 1,770	\$ 2,655
Radar	\$ 1,500								\$ 1,500				\$ 3,000	\$ 4,500
Computer/MDT	\$ 5,000								\$ 5,000				\$ 10,000	\$ 5,000
Computer Mount	\$ 500								\$ 500				\$ 1,000	\$ 1,500
Shotgun & Rack	\$ 1,100								\$ 1,100				\$ 2,200	\$ 3,300
Safety Equipment	\$ 1,000								\$ 1,000				\$ 2,000	\$ 3,000
Video System	\$ 3,200								\$ 3,200				\$ 6,400	\$ 9,600
Graphic Package	\$ 450								\$ 450				\$ 900	\$ 1,350
Installation Cost	\$ 1,600								\$ 1,600				\$ 3,200	\$ 3,200
Tear Down Cost	\$ 1,000								\$ 1,000				\$ 2,000	\$ 3,000
Misc Cost	\$ 425								\$ 425				\$ 850	\$ 1,275
Total Cost Per Year	\$ 48,995								\$ 48,995				\$ 97,990	\$ 146,985

Table 6.

10 Year Cost Analysis for Take Home Vehicles												
2 Year Rotation with Modified Equipment Costs												
Category of Cost	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020 Excluded	Total Cost @ 10 Years
Vehicle	\$ 22,225		\$ 22,225		\$ 22,225		\$ 22,225		\$ 22,225		\$ 22,225	\$ 111,125
Radio System	\$ 3,000				\$ 3,000				\$ 3,000			\$ 9,000
Lighting Package	\$ 4,300				\$ 4,300				\$ 4,300			\$ 12,900
Console	\$ 610				\$ 610				\$ 610			\$ 1,830
Containment Unit	\$ 885				\$ 885				\$ 885			\$ 2,655
Radar	\$ 1,500				\$ 1,500				\$ 1,500			\$ 4,500
Computer/MDT	\$ 5,000										\$ 5,000	\$ 5,000
Computer Mount	\$ 500				\$ 500				\$ 500			\$ 1,500
Shotgun & Rack	\$ 1,100										\$ 1,100	\$ 1,100
Safety Equipment	\$ 1,000		\$ 1,000		\$ 1,000		\$ 1,000		\$ 1,000		\$ 1,000	\$ 5,000
Video System	\$ 3,200				\$ 3,200				\$ 3,200			\$ 9,600
Graphic Package	\$ 450		\$ 450		\$ 450		\$ 450		\$ 450		\$ 450	\$ 2,250
Installation Cost	\$ 1,600		\$ 1,600		\$ 1,600		\$ 1,600		\$ 1,600		\$ 1,600	\$ 8,000
Tear Down Cost	\$ 1,000		\$ 1,000		\$ 1,000		\$ 1,000		\$ 1,000		\$ 1,000	\$ 5,000
Misc Cost	\$ 425		\$ 425		\$ 425		\$ 425		\$ 425		\$ 425	\$ 2,125
Total Cost Per Year	\$ 48,995		\$ 26,700		\$ 40,695		\$ 26,700		\$ 42,895		\$ 26,700	\$ 181,585

Table 7.

Cost Analysis with Full Reoccurring Costs										
Rotation Every 2 Years (50,000-80,000 Miles)										
Category of Cost	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total Cost @ 10 Years
Vehicle	\$ 22,225		\$ 22,225		\$ 22,225		\$ 22,225		\$ 22,225	\$ 111,125
Radio System	\$ 3,000		\$ 3,000		\$ 3,000		\$ 3,000		\$ 3,000	\$ 15,000
Lighting Package	\$ 4,300		\$ 4,300		\$ 4,300		\$ 4,300		\$ 4,300	\$ 20,500
Console	\$ 610		\$ 610		\$ 610		\$ 610		\$ 610	\$ 3,050
Containment Unit	\$ 885		\$ 885		\$ 885		\$ 885		\$ 885	\$ 4,425
Radar	\$ 1,500		\$ 1,500		\$ 1,500		\$ 1,500		\$ 1,500	\$ 7,500
Computer/MDT	\$ 5,000		\$ 5,000		\$ 5,000		\$ 5,000		\$ 5,000	\$ 25,000
Computer Mount	\$ 500		\$ 500		\$ 500		\$ 500		\$ 500	\$ 2,500
Shotgun & Rack	\$ 1,100		\$ 1,100		\$ 1,100		\$ 1,100		\$ 1,100	\$ 5,500
Safety Equipment	\$ 1,000		\$ 1,000		\$ 1,000		\$ 1,000		\$ 1,000	\$ 5,000
Video System	\$ 3,200		\$ 3,200		\$ 3,200		\$ 3,200		\$ 3,200	\$ 16,000
Graphic Package	\$ 450		\$ 450		\$ 450		\$ 450		\$ 450	\$ 4,750
Installation Cost	\$ 1,600		\$ 1,600		\$ 1,600		\$ 1,600		\$ 1,600	\$ 8,000
Tear Down Cost	\$ 1,000		\$ 1,000		\$ 1,000		\$ 1,000		\$ 1,000	\$ 5,000
Misc Cost	\$ 425		\$ 425		\$ 425		\$ 425		\$ 425	\$ 2,125
Total Cost Per Year	\$ 48,995		\$ 48,995		\$ 48,995		\$ 48,995		\$ 48,995	\$ 244,975

Table 8.

Cost Analysis with Modified Reoccurring Costs										
Assuming a Rotation Every 2 Years (50,000-80,000 Miles)										
Category of Cost	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total Cost @ 10 Years
Vehicle	\$ 22,225		\$ 22,225		\$ 22,225		\$ 22,225		\$ 22,225	\$ 111,125
Radio System	\$ 3,000		\$ 3,000		\$ 3,000		\$ 3,000		\$ 3,000	\$ 15,000
Lighting Package	\$ 4,300		\$ 4,300		\$ 4,300		\$ 4,300		\$ 4,300	\$ 20,500
Console	\$ 610		\$ 610		\$ 610		\$ 610		\$ 610	\$ 3,050
Containment Unit	\$ 885		\$ 885		\$ 885		\$ 885		\$ 885	\$ 4,425
Radar	\$ 1,500		\$ 1,500		\$ 1,500		\$ 1,500		\$ 1,500	\$ 7,500
Computer/MDT	\$ 5,000									\$ 5,000
Computer Mount	\$ 500		\$ 500		\$ 500		\$ 500		\$ 500	\$ 2,500
Shotgun & Rack	\$ 1,100									\$ 1,100
Safety Equipment	\$ 1,000		\$ 1,000		\$ 1,000		\$ 1,000		\$ 1,000	\$ 5,000
Video System	\$ 3,200		\$ 3,200		\$ 3,200		\$ 3,200		\$ 3,200	\$ 16,000
Graphic Package	\$ 450		\$ 450		\$ 450		\$ 450		\$ 450	\$ 4,750
Installation Cost	\$ 1,600		\$ 1,600		\$ 1,600		\$ 1,600		\$ 1,600	\$ 8,000
Tear Down Cost	\$ 1,000		\$ 1,000		\$ 1,000		\$ 1,000		\$ 1,000	\$ 5,000
Misc Cost	\$ 425		\$ 425		\$ 425		\$ 425		\$ 425	\$ 2,125
Total Cost Per Year	\$ 48,995		\$ 42,895		\$ 42,895		\$ 42,895		\$ 42,895	\$ 220,575

A secondary analysis of a 5-year and 8-year THV rotation and a 3 year pool vehicle rotation reveals similar cost savings, but not as dramatic, because the time frame for the pool car is slightly extended. However, the cost savings are dramatic enough over the long term (8 to 20 years) to warrant the use of the THV program.

Using the THV program for the agency described in the proceeding paragraphs, we can project a cost savings for that agency for the 6 fleet vehicles that are required for initial startup. Again, this agency rotates vehicles out of service every 2-years. If the equipment is serviceable it is reused in the proceeding vehicle. Again using an initial set up cost of \$48,995 the 6 new vehicles for both the THV and pool vehicle would cost \$293,970. The projected life expectancy would be 6-years. This is based upon the current mileage that the agency rotates vehicles from the fleet. The time frame of 6-years is based upon the average number of miles driven by an officer each day, on a 4-day rotation, and takes into considering the average vacation, holiday, and sick time, when the officer's vehicle will not be in use.

The THVs would have not projected replacement costs through the 6-year life cycle and would have a fixed cost of \$293,970. However, the pool vehicles would have a projected cost of \$698,340 using a modified equipment replacement schedule (Table 6). This equates to a 58% reducing in replacement and outfitting costs. The funds saved, \$404,370, could easily be distributed for other equipment or programs. Another option would be to roll the savings into additional THVs to increase the program. In essence, the savings could be used to fund the expansion of the THV program. When taking the amount saved and looking at the cost of a THV, an additional 8 vehicles could be purchased and distributed to the officers.

Retention and Hiring Costs

In addition to the cost savings recognized by the longevity of the THV and its equipment there is a secondary cost that we will analyze. This cost savings finds its roots in retention and hiring costs, along with those costs incurred by employees who fail to stay with the department. This analysis will again focus on the same department and will consider those who have due to varied reasons over a 5-year time frame.

In the past 5-years the agency has had 14 officers leave the department. Further analysis reveals that 4 officers left for jobs in law enforcement, but with a different agency, 7 failed to make it through the training process, 1 retired, 2 probationary officers for performance issues, and 1 was terminated. From this group 4 of the officers should have been retainable, but left for some reason. These were the tenured officers who left for other law enforcement jobs. One might assume that something was missing or lacking for them personally or professionally.

The 4 officers who left for other law enforcement jobs combined with those who failed to graduate the training program constituted an averaged cost of \$81,443.54 each with a total overall cost of \$895,878.94 (Table 3). If considering those who failed to make it through probation this figure increases to \$1,058,766.02. This amount does not include the cost of benefits for the officer or those who participated in the hiring and training process. In addition, there is not a viable way to calculate the value of experience lost for each of these officers, which will never be recovered. The base figure used may appeared skewed because they were hired years ago, but the figure represents the expense to hire and replace them at today's costs. In essence, the costing should be considered correct. Because the officer who retired was not considered retainable the cost to replace him was excluded in this analysis.

Table 9. Cost to Train Non-Certified Officers

Recruiting Costs	\$ 1,000.00
Cost of Written Exam ¹	\$ 690.00
Cost of Physical Assessment (Salary for 10 Officers)	\$ 862.00
HR Specialist Expense (2 HR Employees)	\$ 395.64
Medical Exam	\$ 125.00
Background Cost (Officer's Salary and Expenses)	\$ 1,438.00
Oral Board Cost ²	\$ 1,723.20
Command Staff Board ³	\$ 1,855.00
Psychological Exam	\$ 250.00
Academy Tuition	\$ 1,590.00
Academy Uniforms	\$ 500.00
Police Coordinator for Academy	\$ 1,875.84
Travel Expense Police Academy (24 Weeks)	\$ 2,081.26
Recruit Salary During Academies (24 Weeks)	\$ 22,684.80
FTO/PTO Salary & Premium Pay	\$ 20,908.16
In House Academy Cost-PTO Salary & Premium Pay	\$ 2,396.64
In House Academy Cost-Recruit Salary	\$ 1,984.80
Recruit Officer's Salary During PTO Training	\$ 16,083.20
Equipment Non-Reusable	\$ 3,000.00
Initial Rehire and Training Cost	\$ 81,443.54

Cost Analysis does not include benefits paid at a 40% based upon salary.

Table 10. Officer Attrition Cost Over 5 Year Period

Officer	Tenure	Reason for Departure	Cost Incurred
1	Under 2 Years	Performance	\$81,443.54
2	Under 2 Years	Performance	\$81,443.54
3	Over 5 Years	Other LE Agency	\$81,443.54
4	PTO Program	Performance	\$81,443.54
5	PTO Program	Performance	\$81,443.54
6	PTO Program	Performance	\$81,443.54
7	Under 2 Years	Other LE Agency	\$81,443.54
8	PTO Program	Performance	\$81,443.54
9	Over 5 Years	Other LE Agency	\$81,443.54
10	PTO Program	Performance	\$81,443.54
11	Under 4 Years	Other LE Agency	\$81,443.54
12	PTO Program	Performance	\$81,443.54
13	Over 10 Years	Retirement	\$81,443.54
14	PTO Program	Performance	\$81,443.54
Total Cost			\$1,140,209.56
Adjusted Cost			\$1,058,766.02

³Cost analysis is based upon non-certified officers who were required to attend a TCLEOSE certified academy.

This cost is staggering and the question that must be asked is, "Could the costs have possibly been mitigated if a higher quality pool of candidates had been attracted?" In turn, there should be a greater expectation and thus higher potential for success. There is no specific way to determine if any one officer would have been successful within the training program. However, those with a higher level of education, military experience, and former law enforcement experience tend to excel and succeed at a greater rate than those who do not have any of these credentials. When considering the overall cost of those who failed in the training program, \$570,104.78, can be devastating to a department's budget.

A review of hiring pools for the past 5-years has shown that there has been a decrease of 60% in the number of candidates applying for the position of police officer. Seeking a higher qualify pool of police applicants can be an arduous task, but it is clear that the THV has been identified as an incentive that will attract large scores of candidates with many of them being certified. If a certified officer is selected, not only will it increase the chances of successfully graduating the Police Officer Training (PTO) program, but it does substantial reduce the overall training cost by 35% or \$28,731.90 more than half the cost of a THV (Table 11). Based upon the research data contained in the LWP, the THV is a tangible incentive to attract a certified officer then obviously the overall cost to training would decrease.

If the THV program had been in place and only 50% of those who voluntarily left the agency were retained an immediate cost savings of \$162,997.08 would have been recognized. In turn if all 4 had been retrained the total cost saving to hire, training and equip their replacements would have been \$325,774.16. In addition, if the theory that a THV has the ability to attract a larger hiring pool with better qualified candidates, then it could be assumed that the THV program would have provided a larger cross section of qualified candidates. In turn the larger cross section provides the ability to properly screen, hire and successful train a new officer.

One could assume that a hiring pool with more depth would also have yielded candidates with prior law enforcement experience and/or higher levels of maturity. If the candidates who failed to complete the PTO training program had previous law enforcement experience, a high level of maturity, or real life experience, their chances to successfully complete the PTO program may have increased. Assuming 50% or 3.5 (3 Officers) had passed training program a savings of \$244,330.68 would have immediately recognized and if both had been successful a total saving of \$570,104.92 would have been realized. Assuming a higher pool of pre-law enforcement candidates would have been attracted, a total saving of would have been saved on the cost of an academy, per diem, vehicle usage and pay prior to starting training for one or both officers (Table 11). This does not take into consideration those who were probationary employees and failed to meet expectations and were asked to leave the organization.

Table 11. Cost to Train Certified Officers

Recruiting Costs	\$ 1,000.00
Cost of Written Exam	\$ 690.00
Cost of Physical Assessment (Salary for 10 Officers)	\$ 862.00
HR Specialist Expense (2 HR Employees)	\$ 395.64
Medical Exam	\$ 125.00
Background Cost (Officer's Salary and Expenses)	\$ 1,438.00
Oral Board Cost	\$ 1,723.20
Command Staff Board	\$ 1,855.00
Psychological Exam	\$ 250.00
FTO/PTO Salary & Premium Pay	\$ 20,908.16
In House Academy Cost-PTO Salary & Premium Pay	\$ 2,396.64
In House Academy Cost-Recruit Salary	\$ 1,984.80
Recruit Officer's Salary During PTO Training	\$ 16,083.20
Equipment Non-Reusable	\$ 3,000.00
Initial Rehire and Training Cost	\$ 52,711.64

Cost Analysis does not include benefits paid at a 40% based upon salary.

When considering the cost of training officers that have either failed to complete the training program, failed to meet performance expectations (probation), or left for other law enforcement jobs the total cost is shocking. However, if approached from the aspect that a THV could have attracted and retained qualified candidates, thus reducing the overall monetary loss of \$1,058,766.02 and allowing for these funds to be used in the THV program. Based upon the current cost of a full equipment and functional THV, \$48,995, a total of 21.60 or 21 THVs could have been purchased for the cost lost on training inadequate or unsatisfied officers. As stated previously, there is no certainty that a THV program can guarantee a successful hiring and training program, but it does provide an attractive incentive for potential candidates and has shown to motivate and make officers more productive.

\$1,058,766.02/\$48,995 = 21.60 or would equate to 21 take home vehicles (THV).

Summary

There is no doubt that the THV program is a viable, long term cost effective, and attractive program. The cost saving can be immense over the long term. These savings not only include maintenance, longevity, quality of life, and downtime, but also the reduction of recruiting, hiring, and retention costs. The bottom line is that the program is fiscally sound and function, but there must be a willingness to embrace the initial startup costs in order to recognize the long term benefits, which cannot be denied.