

**WHAT WILL BE THE IMPACT OF TECHNOLOGY ON
MANAGED PURSUITS IN THE YEAR 2002?**

JOURNAL ARTICLE

JOSEPH FARROW
CALIFORNIA HIGHWAY PATROL

COMMAND COLLEGE/EXECUTIVE LEADERSHIP INSTITUTE CLASS XXIV
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This Command College Independent Study Project is a FUTURES study of a particular emerging issue in law enforcement. Its purpose is NOT to predict the future but rather to project a number of possible scenarios for strategic planning consideration.

Defining the future differs from analyzing the past because the future has not yet happened. In this project, useful alternatives have been formulated systematically so that the planner can respond to a range of possible future environments.

Managing the future means influencing the future--creating it, constraining it, adapting to it. A futures study points the way.

The views and conclusions expressed in the Command College project are those of the author and are not necessarily those of the Commission on Peace Officer Standards and Training (POST).

INTRODUCTION

The rising number of police pursuits and their unintended consequences have become issues of national concern. Numerous groups have initiated studies in an attempt to document the risk that pursuits pose to the public, the police, and the suspects themselves. It has even been recommended that all pursuits be banned. The thought of eliminating pursuits creates a dilemma, however, since a no pursuit policy is likely to be seen by the suspect as license and/or encouragement to flee from apprehension. The search for a win-win solution to balancing the often polar ends of public safety and the apprehension of criminals has caused numerous law enforcement officials and advisory groups to rank the topic of pursuits at the top of their lists of important issues to resolve in the near future.

There were 6,437 pursuits involving 1,581 collisions in California during 1996. Sadly, eighteen of these pursuits resulted in fatalities. The implications that these pursuits have for law enforcement leadership is more than obvious. The safety of the public and the apprehension of fleeing felons are both critical needs. As such, the law enforcement community can not afford to take a passive role or to sit back and wait for another discipline to suggest solutions. Law enforcement must instead step forward to address this issue aggressively and find a solution to the problem of pursuits before the threat of their elimination becomes a reality.

Emerging technology can help to reduce both the number of occurrences and the degree of risk involved in high-speed pursuits. Law enforcement is no longer limited to the current technology of spike strips and other mechanical barriers to terminate pursuits. Electronic disabling devices with the potential to reduce the risk to the public, the police, and the suspect in a pursuit are currently under development. Some of these devices are considered hostile, as they damage or threaten to damage some part of the fleeing vehicle. The private sector, however, is introducing non-hostile vehicle systems known as cooperative systems, which may be purchased by the consumer for personal security and vehicle theft prevention. These systems have the on-board capability to communicate with a remote device and can accept a transmitted

command to disable the vehicle. This paper will explore the potential of cooperative systems technology as it relates to managed pursuits.

HISTORY

Seldom does a day pass where we are not reminded of a basic characteristic of human nature. Criminals will try to avoid detection and apprehension. It really doesn't matter what crime has been committed. People simply do not want to be caught. While there are many ways to flee from justice, the automobile or motorcycle are unfortunately the chosen method in a last attempt to avoid apprehension. What common sense the criminal may, or in some cases, may not have is all but forgotten during flight from the law. Many criminals will try to make good their escape at all costs. Few are concerned with the risk and hazards their behavior presents to themselves, let alone to others. This carelessness and the resulting necessary response by law enforcement has become the topic of much debate.

The concept of fight or flight is not a new one. The movie industry does a fabulous job of illustrating how law breakers in the old west attempted to flee justice by stealing a cowboy's horse and riding off into the sunset. They too did not want to be caught, and they too were pursued. With the sheriff's posse directly behind, a wild chase ensued wherein the bad guy was normally apprehended. Many times the pursuit was called off by the sheriff if the riding skills of the bad guy exceeded those of the posse.

Society and technology continued to evolve, and the subject of pursuit soon became not the cowboy on his horse but rather the bank robber in his flivver. Like in the old west, the endings were often the same. Only three things could possibly happen: 1) the bad guy would get away; 2) the bad guy would be apprehended; or 3) the chase or pursuit would end in some type of spectacular crash. Regardless of the end result, a pursuit had been initiated and the movie-goers were entertained by the thrill of the chase. Ironically, viewers were often more captivated by the danger and excitement involved during the chase than they were with the eventual outcome. This response is very different from what we see in real life today.

While some things have changed, the motive and the behavior of the criminal probably has not. One can only assume that most criminals still want to avoid apprehension and that some will do just about anything to make their escape. Unfortunately, the medium of escape has become more powerful. Horses have been replaced by the automobile and motorcycle.

A pursuit is dangerous enough when only the officer and criminal are involved. Add a third element, the innocent bystander, and the potential problems expanded diametrically. Unlike the chases in the past, the long lonely roads and open prairies have been replaced by narrow alleys, poorly maintained roadways, insufficiently lighted highways, and congested or gridlocked freeways. The consequence of a mistake or an error in judgment on the part of any of the players will multiply the significance of the event thousands of times. It is easy to see why the rules and tools of the chase must change dramatically.

The vehicle pursuit, a practice once accepted by both the police and the community, has raised much public concern, scrutiny, and sometimes outcry over the past several years. Strong media response to a pursuit-related traffic collision either sparks or ignites the topic of pursuits, and further divides the supporters and opponents. These incidents will normally receive front-page and prime-time coverage.

Indeed, the decade of the nineties has seen police pursuits spring to the forefront of national consciousness. They are discussed on television and on radio talk shows, written about in magazines, and continue to lead the evening news. There is even a new television program airing nationally entitled The World's Scariest Police Pursuits. While admittedly entertaining, the content of these video tapes is serious business. The discussion of most of the attention just mentioned invariably centers around a specific incident, where tragically, someone has been severely injured or killed in a pursuit-related traffic collision.

At a minimum, the attention highlights the dangers presented to all involved parties, including the bystander. To say that these incidents are filled with emotion is to severely understate reactions to the issue. The secondary victims of these incidents,

the remaining friends, relatives, and community members, are affected on a much deeper, continuing level.

Over the past several years, there have been many attempts to uniformly address the issue of police pursuits. On a national level, legislation entitled The National Police Pursuit Policy Act of 1995 was introduced in the United States Congress. In an attempt at self-regulation, the International Association of Chiefs of Police proposed a model police pursuit policy. The California Commission on Peace Officer Standards and Training (POST) issued a proposed pursuit guideline and commentary. On a state level, the California Peace Officers' Association (CPOA) offered yet another version, as did the American Civil Liberties Union, Foundation of Southern California, in their report entitled, Not Just Isolated Incidents, The Epidemic of Police Pursuits in Southern California.¹ There were many similarities between these proposals, as well as some divergence. Everyone seemed to agree on the need for policies and the need for intensive, on-going training. The need for supervision was also cited as a critical factor.

One of the most important points made in all of these proposals, however, was the need for continuing self-evaluation. This was determined to be critically necessary to enable police departments to make additional improvements in their pursuit policies and to successfully implement the changing strategies identified in those policies. The self-evaluation phase and a commitment to improvement are most important.

Due to the very nature of their business, agencies such as the California Highway Patrol (CHP) have long taken an informal lead role in vehicle pursuit management. The CHP's extensive behind-the-wheel driving program sufficiently prepares the officer for this very low-frequency but very high-risk and dangerous activity. Likewise, the CHP's very meticulous and well developed pursuit policy serves as a model for many police agencies to follow. The pursuit policy is continually taught and discussed on training days and at role-call briefings, and CHP officers are tested on the contents of the policy on a regular basis.

A thorough understanding of the CHP pursuit policy is as critical as an officer's understanding of the CHP shooting policy. Additionally, all Department supervisors receive continued classroom training during mandatory in-service training. They are expected to become actively involved in any pursuits. At a minimum, they are expected to supervise the pursuit via the radio and are held strictly responsible for the final outcome of the pursuit, which will be well documented in an after-action report. The CHP takes the responsibility of pursuit management very seriously and critically analyzes each and every one of their pursuits. Pursuits are taken so seriously that the Assistant Commissioner of field operations receives and reviews the original report from every CHP-involved pursuit.

Still, pursuit driving continues to be identified as an area of great concern to CHP Executive Management, police administrators, and the general public. In almost every aspect, pursuit driving is seemingly compared to an officer's use of deadly force. As such, the CHP and many other law enforcement agencies continue to wrestle with the problem of striking the appropriate balance between controlling criminal behavior and avoiding harm to the general public. To this end, scholars, researchers, politicians, community groups, and even some law enforcement executives have suggested the adoption of a no pursuit policy for all law enforcement agencies.

While this suggestion may solve one problem, the elimination of possible injury or death to the criminal, the officer, or a bystander, it is quite likely to create an additional situation which would be less desirable. When one considers the number of individuals who currently flee from officers knowing full well that the officers will give chase, you can imagine what would happen if the police suddenly banned all pursuits. Once the word got out, how many suspects could we expect *not* to flee? This is a rhetorical question so senseless that it doesn't really deserve an answer.

While one element would ban all pursuits, others agree that it is possible to limit exposure to pursuits by limiting pursuit initiation. Creating a non-infraction pursuit policy is one such idea. In this scenario, a pursuit would not be initiated for less than a misdemeanor violation, based on the belief that the apprehension of a suspect for the

commission of an infraction is not worth the risks involved in a vehicle pursuit. Enacting this type of policy would, in effect, reduce the incidence of police pursuits by approximately 60 percent. Proponents of this argument believe that pursuit-related collisions would decrease in a similar proportion. Unfortunately, what is often forgotten is the fact that while most police pursuits begin as a result of the commission of an infraction such as a traffic violation, they subsequently end in a felony arrest.² Since so many of the pursuits initiated in California occur because of an observed infraction violation, those individuals wanted on prior felony violations would continue to go undetected and thus escape apprehension and prosecution for those crimes. This situation is unacceptable to law enforcement, and it is for this reason that the CHP would oppose any type of policy that would limit an officer's discretion to engage in a pursuit for a minor infraction.³

There is, however, a new and persistent voice beginning to be heard through the expressed concern. Rather than look at the problem simply as to pursue or not to pursue, why not explore a cooperative approach to the halting of fleeing vehicles that will enhance the safety of both officers and the general public? The National Law Enforcement and Corrections Technology Center suggests that, "What is needed is an efficient, non-lethal method for law enforcement to stop fleeing vehicles that minimizes risk, yet provides a high probability of making an arrest and recovering the vehicle."⁴ The exploration of this type of emerging technology is one such approach being considered by agencies such as the CHP. Regardless of the approach taken, what we need are safer alternatives to address the public concern over pursuit-related injuries and deaths and the resultant liability issues for law enforcement agencies across the country. This need has prompted a rethinking of strategies and a search for what is perhaps a better way of conducting business. Put simply, the self-evaluation phase is in progress.

With this being our task, law enforcement is confronted with one simple question, "What will be the impact of cooperative technology on the way vehicle pursuits are managed in the year 2002?" For ease of illustration, pursuit management will be

approached from the perspective of the CHP, a statewide agency which was created in 1929 to ensure safety, security, and service to the public. The approach recommended for the CHP herein could easily be applied by any law enforcement agency wishing to undertake an evaluation of emerging technologies in the area of pursuit management. As there is currently a vast body of technology that might prove useful, it is being recommended that CHP limit their evaluation to those technologies which promise to have the most positive impact on the future of pursuit management for all law enforcement agencies.

FINDINGS

Considerable research has been conducted in seeking resolution to this issue. While there is an abundance of anecdotal information about high-speed police pursuits, there is a limited amount of empirical data. Much of the existing data has been gathered through special purpose, one-time, data collection efforts. In California, all law enforcement agencies are required by state law to report basic pursuit information to the CHP, who has maintained a database of these reports since 1992. The database has offered an opportunity to systematically analyze trends and investigate the issues of concern that arise from these pursuits.⁵

An integral part of this study included the identification of future trends and possible future events anticipated to take place over the next five to ten years. This was accomplished through the review of a variety of printed materials and by conducting personal interviews of subject-matter experts. The Internet also proved to be very useful and enlightening, as it provided a national, and in some instances a global perspective on the issue.

Part of the analysis focused on a recent study which looked at the two CHP Area offices which experienced the largest number of vehicle pursuits during 1995. The CHP Area offices studied, Fresno and Stockton, are located in mid-sized, urban areas, and are physically existing within cities of the same name.⁶ Both areas are in California's Central Valley, which is a region rich in agriculture. Interestingly enough, the CHP

study dispelled some of the myths regarding police pursuits in addition to providing a platform to match available and planned technology.

Subsequent to a review of CHP study materials, a panel of experts was convened and asked to participate in a Nominal Group Technique (NGT) exercise.⁷ This group consisted of experts from various disciplines who have diverse backgrounds and opinions, as well as a desire to openly discuss and debate the issue. This NGT was an additional attempt to identify emerging trends and possible future events which were believed to have the potential to impact the way the CHP will manage vehicle pursuits in the year 2002. As the process solicited information from varying fields of expertise, the outcome was both diverse and enlightening. The panel identified some trends, and there were several events which all participants believed were significant to the discussion. As an example, consensus was reached on the trend that public attention to pursuits will continue to increase, as will the move to place further restrictions on pursuit policies. Fortunately, it was also agreed that the application of military and private industry technology geared toward law enforcement use would also continue and would probably increase. Surprisingly, the panel felt that the general public would continue to take an increasing and more visible role in vehicle pursuit management. Several members felt that positive support from the public would be the key to any immediate successes. The panel also agreed that two significant events, should they take place, would have considerable impact on the way the CHP would manage their pursuits in the future. The panel felt that if an affordable pursuit termination device which was proven to be reliable and effective was introduced to the law enforcement community, the impact of such technology would be tremendous.

On the negative side, the group feared the consequences of a high-speed pursuit which ended in a tragic collision. All panel members agreed that it was not a question of whether this type of incident would occur, but rather a question of when it would occur. It was also agreed that the attention and public reaction to such an event would be quite negative, and that public and political outcry for pursuit policy reform would again surface.

The results of the panel's findings and the research conducted were used as a road map for the development of three fictitious scenarios. The scenarios were designed using the events and trends which led to the creation of the most feared future, the most desired future, and the most likely future. These scenarios represent possible futures which provide the platforms to analyze available data and develop appropriate strategies for the future direction of pursuit management. Optimistically, we can help to create our desired future from these scenarios, lessen the impact of an unfavorable future, or at a minimum, prepare ourselves for the most likely future. Regardless, careful planning and adequate preparation could not only be extremely advantageous, but without question would be the responsible thing to do.

Having examined available literature in the field of pursuit management, looked at the way the CHP currently conducts its pursuits, reviewed emerging technology in the area, and looked at possible futures, the following plan was developed.

PLANNING FOR THE FUTURE - A STRATEGIC PLAN

Funding constraints limit the opportunities law enforcement agencies, including the CHP, have to explore new technologies. It is important for this reason to encourage and maintain good communications among the engineering, research, and law enforcement communities regarding the status of pursuit technologies. If we can articulate our needs, researchers can add perspective through data analysis and engineers can conceptually design a solution. However, although desirable, it is also highly unlikely that a single technology can be universally applied to solve the high-speed pursuit problem.

There are currently a wide variety of ideas in the conceptual stage. Some prototype devices are currently ready for preliminary testing. These devices fall into one of three categories: chemical, mechanical, or electrical. Chemical devices are designed to stop a vehicle through the ingestion of some type of gaseous, liquid, or solid form of chemical through the intake system into the engine. The mechanical method consists of pre-emplaced tire deflation devices or some form of barrier system. Electrical systems, both internal and external, are designed to shut off the fuel supply to

the engine. Because this type of device is normally an after-market product, these systems are commonly referred to as cooperative devices.⁸

When discussing pursuit termination devices, it is important to note that a large number of pursuits end voluntarily and many more end when the fleeing vehicle becomes disabled. It is also interesting to note that there is a relatively low proportion of pursuits in which aircraft are available to assist. Similar to a forcible stop in the Fresno/Stockton study, CHP aircraft only participated in a total of 11 of the 195 pursuits studied.⁹ The limited availability of aircraft is significant in that many planned termination devices rely upon aircraft as the platform to utilize the technology.

Not surprisingly, vehicle theft is a significant law enforcement problem, with nearly 300,000 vehicles stolen in California each year.¹⁰ Stolen vehicles are also over represented in the population of vehicles whose drivers attempt to flee from apprehension. In the CHP study completed in 1995, it was noted that auto theft was the most common felony arrest resulting from a pursuit that started as an infraction.¹¹ In the Fresno/Stockton study, about 25 percent of all pursuits involved a stolen vehicle, with 39 percent of the shorter pursuits involving a stolen vehicle.¹²

The potential exists for the electronic technology originally designed to prevent vehicle theft to yield double benefits by reducing the number of pursuits and by being able to remotely terminate others. Through a partnership with the public, private industry, automobile manufactures, and law enforcement, a partial solution to address the issue of pursuits is realistically on the horizon.

In response to this vision, the NGT group was reconvened and asked to revisit the issue. The group developed six resulting strategies which could be implemented by the CHP or a similar type of agency which are designed to test both the potential and the limitations of a cooperative approach to pursuit termination. The group's focus was on a safe, low-cost, near-term technology that would assist with the problem of police pursuits.

The group recognized that the initial impact of cooperative systems on police pursuits may be minimal, since the devices have not yet substantially penetrated the

market. There is hope that this situation will change by the year 2002. The six strategies are as follows:

- 1) Test available cooperative systems which have the capability to remotely disable a vehicle and assess their technological, institutional, and system security aspects.
- 2) Articulate the features desired by law enforcement in cooperative systems.
- 3) Reassess the state-of-the-art in cooperative technology after furnishing feedback to the industry.
- 4) Identify the types of pursuits where cooperative systems have the most potential.
- 5) Communicate the test results to the public.
- 6) Propose public and private strategies for improving the effectiveness of cooperative systems on a nationwide basis.

IMPLEMENTATION PLAN

INITIAL TESTING: This component would compare current capabilities of existing manufacturer and aftermarket systems. Because of the difficult technological issues associated with this phase, an outside contractor or consultant should be used to evaluate the cooperative systems with CHP or other law enforcement agency assistance (trained drivers and a well regarded closed-circuit track) to assess technical, institutional, and system security issues.¹³ This part of the strategy is intended to generate industry awareness regarding the potential benefits for law enforcement, and possibly to lay a foundation for an assessment of needs.

PURSUIT PROFILES: This component would also be part of the foundation of needs assessment. With CHP or other law enforcement agency assistance, a consultant would use statistical techniques to develop profiles of typical law enforcement pursuits, such as pursuits involving stolen vehicles tend to last ten minutes or more and more often than not involve a collision.¹⁴ These profiles would help to determine which pursuits are likely targets for this type of technology and whether

enhancements would improve the technological effectiveness or range of target situations.

NEEDS ASSESSMENT: After the initial assessment, the agency conducting the evaluation would convene a group of law enforcement representatives to review the results of the initial tests and the pursuit profiling analysis to suggest enhancements to the cooperative system. For maximum benefit, it would be advantageous to include industry representative participation in this process. Since cooperative systems with remote capabilities are mostly in the developmental stages, it is anticipated that information from the needs assessment would be welcomed by industry competitors in their efforts to improve and distinguish their products.

FOLLOW-UP TESTING: The last major component of the strategic plan would be a reapplication of the original test methodology to the final group of cooperative systems. It is anticipated that all vendors would have the opportunity and the desire to add the disabling feature to their systems and perhaps additional enhancements as well. Testing should be conducted by the same consultant who performed the initial test, again, with law enforcement assistance. All test results should be released publicly and consumer representatives should be informed directly. Descriptions of technology and test results should be disseminated to all law enforcement organizations to foster awareness and increased participation.

RECOMMENDATIONS

- 1) The testing and development of any future technology is an expensive undertaking. Therefore, it is recommended that grant funding be pursued to finance the implementation of the six strategies discussed in this paper.
- 2) Communication is very important to the support and success of this project. It is therefore recommended that the testing agency work closely with organizations such as CPOA, California State Sheriffs' Association, California State Chiefs of Police Association, and POST to ensure that the needs and concerns of all law enforcement agencies are addressed during the developmental stages.

- 3) A close working relationship with the developers of pursuit termination devices is critical. This technology simply cannot be developed without law enforcement input. Therefore, it is strongly recommended that the specific needs and concerns of law enforcement be communicated to the industry.
- 4) Every effort should be made to keep the public informed about police pursuits and the necessity to continue them. The public should also be fully informed of the development and progress of future technology. The greater the public's understanding of the technology, the more likely the probability of future public support.
- 5) The involved law enforcement agency should conduct a national and global inquiry to determine what, if any, other studies have been conducted concerning cooperative devices. Depending upon the findings, it may be appropriate to enter into a partnership to combine available resources.
- 6) Legislation should be sought to permit or even mandate the installation of cooperative systems on all motor vehicles beginning with model year 2002.
- 7) Legislation should be pursued to grant law enforcement access to information regarding the installation of cooperative systems, and to authorize the activation of the devices. It is recommended that this information be made part of the vehicle registration information required by the Department of Motor Vehicles.
- 8) Because police pursuits are a national concern, it is recommended that the federal government take an active role in the development and commercialization of cooperative pursuit termination technology.

CONCLUSION

As with any law enforcement technique about which little is known, solutions are often suggested without sufficient information or proper analysis of that information. Armchair philosophy and conventional wisdom can aid in deciding which of several responses to a problem is the best one, but solving the problem of police pursuits requires decision making rather than problem solving skills. Appropriate knowledge must be obtained and processed, however, before proper decisions can be made.¹⁵

Unfortunately, there is no simple solution to this delicate and complex problem. Some will emotionally argue that all police pursuits should be banned or at a minimum be highly regulated. Others will fully support pursuits as a necessary police tactic. Although most police proponents would tend to agree with the latter statement, now is not the time to merely stay with the status quo. With a little over 25 percent of all pursuits ending in collisions and with six- and seven-figure liability judgments being assessed against law enforcement agencies, the need for advanced pursuit technology is undeniable.

Emerging technology can provide law enforcement with effective interdiction capabilities which will stop vehicles, or at a minimum, slow their rate of progression. The sooner this can be done, the sooner the associated risks will also be reduced. If successful in this endeavor, the evaluating law enforcement agency will be able to reduce departmental liability while at the same time help to identify a technology that will benefit many other law enforcement agencies. It is hoped that a viable technology will be ready and in place before a negative shift in public and political support occurs.

It is understandably recognized that it would be a monumental task for one agency to address and evaluate the full spectrum of advancing technologies. While many are very promising, a single agency simply does not have the resources to explore all of the possibilities. Therefore, a concentrated study of the technology determined to be the most appropriate and most likely to yield benefits for all law enforcement agencies is arguably the reasonable approach to take.

In their role as Statewide Vehicle Theft Coordinator, the CHP has learned that stolen vehicles are overly represented in the population of vehicles whose drivers flee from law enforcement. Therefore, the desire to explore the use of available vehicle theft prevention technology would be a wise starting point. If this system can be modified to remotely stop a fleeing vehicle, then the desired outcome is within reach.

While a lot work remains to be accomplished, much progress is currently being made -- so much so that it is easy for one to look toward the year 2002 and visually see the results of our efforts. Excitedly, it is safe to say that the way law enforcement

agencies manage pursuits will change for the better over the next five years. This change will come as a result of innovative technology created through a partnership between researchers, industry experts, private citizens, and the law enforcement community.

Endnotes

¹California Highway Patrol, "The Evaluation of Risk, The Initial Cause vs. The Final Outcome in Police Pursuits," August 1995.

²IBID, 1, page 9.

³IBID, 1, page 3.

⁴National Law Enforcement and Corrections Technology Center, October 1996.

⁵Statewide Pursuit Information Database and Resource System.

⁶California Highway Patrol, Office of Special Projects, Pursuit Profiles, December 1996.

⁷Nominal Group Technique met on May 16-17, 1997, and again on June 4, 1997, at CHP Headquarters, Sacramento. Experts from the Office of Special Projects, the Office of Research and Planning, Information Management Division, and Motor Transport Section participated.

⁸ These definitions are very basic in their description, and the technology used in these systems is much more complex than described here. These definitions are used for illustration only and were obtained from the National Law Enforcement and Corrections Technology Center.

⁹In some parts of the state (e.g., Los Angeles), more law enforcement helicopters are deployed and potentially available to monitor pursuits.

¹⁰California Highway Patrol, Vehicle Theft Information System, (VTIS).

¹¹California Highway Patrol, *supra* note 1.

¹²California Highway Patrol, Pursuit Profiles, *supra* note 7.

¹³CHP Academy training facility located in West Sacramento, California. Several testing areas are available that simulate a city street pattern, allow high-speed testing (curves and straight roadway), and permit testing with adequate run-off areas.

¹⁴Statewide Pursuit Information Database and Resource System.

¹⁵Geoffrey P. Alpert, "Policing Hot Pursuits," *The Journal of Criminal Law and Criminology*, 1989, p-521.