"HOW CAN ANTI-THEFT TECHNOLOGY BE APPLIED TO VEHICLE THEFT DETECTION BY THE YEAR 2000?"

TECHNICAL REPORT

by

SCOTT BERRY

COMMAND COLLEGE CLASS XVIII

PEACE OFFICER STANDARDS AND TRAINING
(POST)

SACRAMENTO, CALIFORNIA

JULY, 1994

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).

ABSTRACT

How can Anti-Theft Technology be applied to Vehicle Theft by the Year 2000?

S. BERRY. Sponsoring Agency: California Commission on Peace Officer Standards and Training. 114 pp. Availability: Commission on Post, Center for Leadership Development, 1601 Alhambra Blvd., Sacramento, California 95816-7053. Single copies free: order number 18-0364. National Institute of Justice/NCJRS Microfiche Program, Box 6000, Rockville, MD 20850. Microfiche fee. Microfiche number NCJ _____.

Abstract

This research project examined the methods that might be used to introduce technology designed to prevent auto thefts and to enable law enforcement agencies to employ that technology in the apprehension of vehicle thieves. The findings indicate that it will be necessary to create a joint effort between law enforcement and private enterprise. The study offers a model that suggests a centralized management structure led by the California Highway Patrol and including representatives from law enforcement, the insurance industry and technology manufacturers.

by

Scott Berry
Command College Class XVIII
Peace Officer Standard and Training (POST)
Sacramento, California
July - 1994

HOW CAN ANTI-THEFT TECHNOLOGY BE APPLIED TO VEHICLE THEFT DETECTION BY THE YEAR 2000?

JOURNAL ARTICLE

by

SCOTT BERRY

COMMAND COLLEGE CLASS XVIII

PEACE OFFICER STANDARDS AND TRAINING
(POST)

SACRAMENTO, CALIFORNIA

JULY, 1994

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).

"How can Anti-Theft Technology be applied to

Vehicle Theft Detection by the year 2000?"

The morning started out like any other morning a quick breakfast with the family and I headed out the door for work. As I walked out of the house I instantly noticed my 1999 Ford Explorer was missing from its normal parking place in front of the garage. I checked with the family to make sure nobody loaned it out and I determined, my vehicle was stolen.

Immediately I pulled out my cellular phone, called the police department and provided the dispatcher the vehicle license number and a general description of my vehicle. She pleasantly took my name and phone number and reassured me that they would get right to work locating my vehicle. I glanced at my watch and it was 8:13 AM. I continued to look around the neighborhood not wanting to believe that my vehicle was stolen from right in front of my house.

I returned to the house to call my insurance agent to advise the company of the theft and while I was on the phone I received a message tone that I had a call coming in. I took the call, and to my surprise, it was the police advising me that they recovered my vehicle, undamaged, and two suspects were apprehended. I looked at my watch and it was now 8:19 AM, just six minutes from the time I originally phoned the police.

The above scenario sounds like something from a science fiction movie but in reality the technology is here today to impact vehicle theft. Vehicle thefts are here to stay unless we do something about it.

Information compiled by the United States Department of Justice reveals that between 1980 and 1990 vehicle thefts increased by 44.5 percent.[1] California Department of Motor Vehicles report over 22.3 million vehicles registered in our state, for the year 1993.[2] California Highway Patrol report that in 1993 personal vehicles and motorcycles totaling over 313,800 were stolen from our roadways.[3] That works out to one (1) out of seventy-two (72) registered vehicles in the State of California was stolen in 1993. In 1991 it was estimated that an average of one (1) out of every one-hundred and seventeen (117) registered motor vehicles was stolen nationwide.[4]

Will the trend in vehicle thefts continue if we do not address the problem now? I think the answer is an obvious **yes!** Thefts and other crimes continue to rise and we now recognize the youth becoming more active in the commission of all types of crimes. Thomas Constantine, Administrator for the United States Drug Enforcement Administration (DEA), addressed the issue of youth involvement in crime in his speech to the general Session of CPOA at their Annual Training Conference on May 11, 1994. "We are in the lull before the Storm in regards to youth committing crimes. Young kids between the ages of 14 and 17 are committing violent crimes and this age group will continue this type of activity as they grow older. Crime will continue to increase."

The violent crime associated with vehicle theft is "carjacking" and it has been prompted by the introduction of new technology improving the ignition systems of vehicles.

How will law enforcement prepare for the future with the increase in vehicle thefts and loss of lives with carjackings? We need to start the preparation now. Preparation means to look to the technology world for assistance and possibly join with them to aggressively meet the future head on.

What is technology doing now to address vehicle theft? Recent technology endeavors to reduce vehicle theft range from simply placing a large locking device "The Club", across the steering wheel, to utilizing electronic tracking gear in locating the vehicle once it is stolen.

Studies have shown that vehicles equipped with transmitting devices are recovered much faster, usually within 24 hours, and general suffer far less damage then is usual in car thefts. Police are about 25 times more likely to make an arrest when they recover a vehicle equipped with a transmitting device concealed in the vehicle.

Presently most transmitting devices work off of a local frequency that is broadcasted from various high buildings and mountain tops in the area where the product is installed. Global Positioning Systems (GPS), utilizing satellites have the capability to monitor movement of all vehicles and assist in locating stolen vehicles, no matter where they travel. There are currently more than 50 manufactures of GPS receivers, with the trend

continuing to be toward smaller, less expensive, and more easily operated devices. It is easily foreseen that these devices will continue to reduce in size, improve on accuracy; and be inexpensive for the consumer in the years to come.

We recognize the need for change and the utilization of technology in addressing the crime of vehicle theft. The question now is: How does law enforcement move from our present state of being, reactionary profession, in regards to vehicle theft and become proactive profession, taking charge and preventing theft and making early apprehension?

TRANSITION MANAGEMENT

How does California law enforcement make the transition from its present state to the future addressing vehicle theft and the impact technology will have on it in the year 2000? A transition plan must be designed for the uniqueness of the law enforcement environment utilizing a recommended strategy developed by law enforcement, headed by the California Highway Patrol, along with identifiable partners involved in the transition. Research has identified key participants for this transition of addressing impact of technology and they are: anti-theft / tracking device companies, motor vehicle industry, insurance companies and other state or local government agencies.

The strategy utilized in the development of this transition plan is as follows:

Law enforcement, (headed by the California Highway Patrol), state government, anti-theft / tracking device companies, motor vehicle industry and insurance companies join in a united effort to address the problem of vehicle theft utilizing the media to alert everyone of the problem and possible solution.

California law enforcement, in most cases, has taken an after-the-fact approach to vehicle theft by responding to calls for help after the crime has occurred. Taking a proactive approach and getting involved with industries and insurance companies to push for development and installation of anti-theft devices in vehicles before the crime occurs is the new aggressive approach law enforcement is striving for.

Joint cooperation with insurance companies, private companies specializing in anti-theft or tracking devices and various state agencies at the start of the transition builds trust from the very beginning. Everyone recognizing the problem and working together towards a possible solution. Responsibilities of all participants are clearly defined and understood. This positive approach presents a indisputable appearance to the media who in turns communicates the same image to the consumer.

The trust, mentioned earlier, is built into the program due to everyone having input into the setup and operation of the program. A united stance with everyone working towards a well defined goal allowing for feedback and input will only strengthen the process.

A Transition management plan consists of three distinct but interdependent parts. First, identifying the persons necessary to make the change and analyzing their current commitment status. Law Enforcement will also determine ways to build or change commitment as needed. It is important to realize that change is risky and risk is threatening no matter how clearly the persons concerned see the need for it. Transition to a new situation requires both initial analysis and on-going assessment.

Second, California law enforcement needs to identify the structure(s) necessary to manage the change effectively. That structure is state wide and led by the California Highway Patrol. Finally, methods and tools that can be employed t support implementation and to minimize the negative impact of change on the organization.

COMMITMENT STRATEGY

A commitment strategy is the next step in the operation when developing your transition management. This procedure involves a series of action steps to obtain support from those key individuals you have identified as being critical to the overall success of the transition. If these key individuals support the plan it is likely to succeed, and they oppose it, it is likely to fail.

Key individuals identified regarding the impact technology will have on the crime of vehicle theft's by the year 2000 include the following:

Police Management / Cal Chief's and Cal Sheriff's

Insurance Companies / National Insurance Crime Bureau

Motor Vehicle Industry

Department of Justice

California Highway Patrol

State Legislators

Line Police Officers / PORAC

Anti-Theft & Tracking Device Companies

Once research has identified these key individuals, it is necessary to determine their commitment of the proposed change. The management team headed by the California Highway Patrol appraises their current position and the desired position needed for the change. If change is needed you plot your strategy to make the change occur.

TRANSITION MANAGEMENT STRUCTURE

To assure success during the transition process usually requires a separate structure and form of management appropriate to its goal.The management structure for the proposed change must be specifically suited for the task at hand. It should be considered temporary, and focus specifically on the transition process.

The management structure for this transition is a combination of A) Project Manager with B) Representatives of constituencies of the key participants.

A lead individual from the California Highway Patrol was selected to be the Project Manager for this transition. The selection process was completed by representatives of the key participants and with the approval of the California Highway Patrol Commissioner. This selection was based on the fact that the Highway Patrol is primary concerned with vehicle movement, including vehicle thefts, and have jurisdiction throughout the state. A member of the California Highway Patrol presently chair the "Vehicle Theft Committee" of the California Peace Officer's Association and network through out the state and country in regards to trends and latest vehicle theft activity.

The project manager will maintain the authority to make decisions and cross organizational barriers, in theory take on the "executive role". "His vision is our vision."

The representatives of constituencies will incorporate members who can effectively address the issues with the clout to mobilize resources and keep the transition process on line with the established time line. They will be given the authority to make the necessary changes or corrections to keep the program on schedule.

The transition team must avoid certain traps and be aware of people's concerns and reaction's during the change process. The team must:

A. Create a clear and inspiring vision that everyone can understand and share. (Be Constant)

B. Be ruthless in your drive to succeed - consistency.

C. Direct and Manage all energy, especially negative energy needs to directed and managed.

D. Provide overkill on information, use every opportunity to repeat the vision. Accurate reporting of information for feedback, openly share all ideas.

E. Teamwork - everywhere and everyone.

IMPLEMENTATION TECHNOLOGIES

Transition management plans must address the technologies and methods which can be employed to support implementation. Resistance to change is to be expected, and several technologies are available to lessen, or at least manage, change generated anxiety. This anxiety can result in behavior that can work against achieving the desired purpose. It is critical that key problems are anticipated, plans must be clear and consistent,communication flows freely, and the entire transition management team shares the same vision for success. As the transition plan proceeds it will address three methods and technologies for activation of the plan.

They are:

1. Responsibility Charting: This provides an explicit display of the actions to be taken, the actors involved in those actions, and level of responsibility for those actions.

2. Shared Information: It is critical that information obtained during the transition process be shared with all members of the transition team.

3. Communicating a Vision: Where there is no vision personnel may have uncertainty and discord among the ranks.

The project leader plays a key role in all three settings as a communicator in making sure that everyone knows their job and is doing it. The leader also shares vital information with all members of the team and works with all in selling the vision not only to team members but to other parties involved in the operation.

TRANSITION MANAGEMENT (IMPLEMENTATION) PLAN

The transition management plan is a time line covering three years from start of transition to up and running under the proposed plan. Once the development of the program and the preparation for change is completed we step into the transition period. Utilizing the representatives of constituencies is an important part of this plan.

During this entire process law enforcement will be utilizing the implementation technologies outlined earlier in this study. Law enforcement will constantly maintain a monitoring program with responsibility charting, sharing information and working towards the shared vision with all of your representatives of constituencies.

CONCLUSION

The purpose of this research project was to examine "Anti-Theft Technology" and its effect on Vehicle Theft by the year 2,000. The technology is out

there and ready for us to utilize it to our advantage. It is now law enforcement's responsibility to implement these objectives and work with the key individuals that have been identified from both the public sector and private sector. Utilization of the National Insurance Crime Bureau, (Insurance Companies), is a vital role needed to insure the success of implementation of this program.

The success of implementation of technology for all of law enforcement in California would not only benefit law enforcement but would also benefit the private sector financially through savings of insurance premiums and increase job for technology research but the peace of mind for our citizens would far out weight the obstacles in our path.

Law enforcement agencies in the State of California has the opportunity to implement the plan outlined in this journal. Start now by developing the program, educate and train key individuals and lets jump into the 21st century being progressive and technological competent.

ENDNOTES:

1. Sourcebook of Criminal Justice Statistics 1991, Table 3.155,, P. 301. Uniform Crime Reports, U.S. Dept. of Justice

2. State of California, Office of Traffic Safety Public Information Program, Operation "Green Speed" - May 1994 Bulletin

3. Department of California Highway Patrol, "California Vehicle Theft and Recovery Data for 1993 - #065-16 Investigative Services Section, Provided - May 1994.

4. "Uniform Crime Reports", U.S. Dept. of Justice, F.B.I. released August 30, 1992, p. 50

BIBLIOGRAPHY

1. SHELDRICK, Michael G., "Automotive Electronics: Smart Car may be Just Down the Smarter Road." ELECTRONIC NEWS, April 6, 1992

2. KITCHEN, Rosemarie, "A definite yes for security products. (Merchandising of anti-theft devices and car security systems)." AFTERMARKET BUSINESS, July 1, 1993

3. DOUGLAS, Michael, "Big brother begins blipping as new vehicle tracking systems covers city." HOUSTON BUSINESS JOURNAL, October 5, 1992

4. ENG, Paul M., "Car 54 - oh, there you are. - (California Highway Patrol's Vision 20000 system's Automatic Vehicle Locator uses Global Positioning Satellite system)." ELECTRONIC NEWS, April 6, 1992

5. BRIDGES, William, "Managing Organizational Transitions," ORGANIZATIONAL DYNAMICS, Summer, 1986, pp. 28-32

6. REED, Richard and BUCKLEY, M. Ronald, "Strategy in Action - Techniques for Implementing Strategy", LONG RANGE PLANNING VOLUME 21, June 1988

7. SWANSON, Karel A., "Managing Change in the Public Sector: an Organization Development Approach", September 1987

8. GAEBLER, Ted, "Bureaucracy's Gotta Go!", THE AMERICAN LEGION MAGAZINE, August 1993

9. BENNIS, Warren, "Change: The New Metaphysics", EXECUTIVE EXCELLENCE MAGAZINE, November 1990

10. ALEXANDER, Larry D., "Successfully Implementing Strategic Decisions", THE JOURNAL OF THE STRATEGIC PLANNING SOCIETY: LONG RANGE PLANNING, PERGAMON JOURNAL LTD, Great Britain Vol. 18, 1985

11. SZILAGYI, Andrew D. Jr. and WALLACE, Marc J. Jr., "ORGANIZATIONAL BEHAVIOR AND PERFORMANCE - 5TH EDITION", Harper Collins Publishers

12. TAFOYA, William L. Ph.D., "The Future of Policing", FBI LAW ENFORCEMENT BULLETIN, January 1990

13. RUOTOLO, Andrew K. Jr., "MDT's Aid Auto Theft Task Force", THE POLICE CHIEF, September 1992

14. NAISBITT, John, "Local Government: The New Capitalist Tool", JOHN NAISBITT'S TREND LETTER, November 1992

15. BURKE, Tod W. and O'REAR, Charles E., "Armed Carjacking: A Violent Problem in Need of a Solution", THE POLICE CHIEF, January 1, 1993

16. THERRIEN, Lois, "To Thwart a Thief: The Latest in Car Protection", BUSINESS WEEK, September 7, 1992

TABLE OF CONTENTS

ILLUSTRATIONS

INTRODUCTION

BACKGROUND

In spite of advanced technology designed such as global positioning satellites to locate stolen cars to deter auto thefts, the statistics continue to rise. Information compiled by the United States Department of Justice reveals that between 1980 and 1990 vehicle thefts increased by 44.5 percent.[1] In one year alone, between 1990 and 1991, the number of vehicle thefts reported in the United States rose by 25,838, or a little over 2%. These offenses comprised 13 percent of all property crimes. It is estimated that an average of one out of every 117 registered motor vehicles was stolen nationwide in 1991[2].

California figures are even higher. There were 22.3 million vehicles registered in California in 1993[3], and 304,083 vehicles were stolen[4]. California statistics show that approximate one out of every 73 registered vehicles in the state is stolen.

Vehicle Theft in the Yuba City Police Department rose 31 percent between 1986 and 1992.[5] The Yuba City Police Department have initiated neighborhood watch programs with emphasis on vehicle theft. Help End Auto Theft, (HEAT), is one of these programs established in hopes of making the public aware of the increase of auto theft within the City. Registering a vehicle for the HEAT

probable cause, if it is observed out on the road at night between the hours of one AM and five AM. It is interesting to know that since the inception of the HEAT Program the Yuba City Police Department has not lost one vehicle that has registered in our Program.[6]

As auto thefts continues to increase automakers have utilized advanced technology to improve the ignition locking systems in an attempt to slow down or discourage would-be car thieves from stealing certain vehicles. This new technology has prompted thieves to resort to the crime of "**carjacking**". Thieves simply commit a strong-arm robbery; taking the car by force from victims in the street while the vehicle is running. This new trend in vehicle thefts has resulted in serious injuries, kidnapping and sometimes death to occupants of the vehicle. Los Angeles County had three fatal carjackings in the month of March 1993. One attack occurred March 30 in which a 29 year old woman with a 12 week-old fetus was stabbed to death in a bank parking lot in the community of Sherman Oaks.[7]

Carjacking has become such a high profile crime that it is being addressed at all levels of government. Former President George Bush addressed carjacking in a speech to Congress, in October of 1992, asking for federal statutes to prosecute criminals who commit such crimes. House Representative Bill # 4542, "Carjacking", cleared the Senate on October 8, 1992 and was signed by then President Bush. The punishment for the federal crime of carjacking is life in prison when the theft results in death.[8]

Carjacking is the new high profile crime regarding vehicle theft. Car burglaries and vehicle thefts in general however, are still the major reason for the high number of crimes involving vehicles. If law enforcement can impact vehicle thefts with new technology they will not only be preventing the loss of vehicles, but will be saving lives.

SCANNING RESULTS

Recent technology developments to reduce vehicle thefts range from simply placing a large brightly-colored locking device "The Club", across the steering wheel, to utilizing electronic tracking gear in locating the vehicle once it is stolen.

"Lojack Corporation" of Dedham, Mass. has marketed over 150,000 homing devices for private vehicles throughout eight states. When a car equipped with a Lojack transmitter is stolen, the transmitter is activated by a police radio. The stolen vehicle then begins emitting a signal to guide specially equipped police vehicles that have sensing devices towards the signal (vehicle) location.

Studies have shown that vehicles equipped with LoJack transmitting devices are recovered much faster, usually within 24 hours, and generally suffer far less damage than is usual in car thefts. Police are about 25 times more likely to make an arrest when they recover a Lojack car, due to their quick response. Additionally, the signals have led Los Angeles Police Officers to 14 separate "Chop Shops" in the last year.[9]

A device similar to Lojack is "Teletrac", which has the capability to call for help the moment the vehicle is stolen. This device is installed almost anywhere inside the vehicle, and remains dormant until someone tries to "hot wire" the vehicle or force the ignition with a dummy key. Once it is activated, it transmits a signal that can be picked up by receiving antennas throughout a geographical area. Once the signal is received the computers can determine the car's location within 150 feet and continue to trace it.[10]

General Motors now equips all of its Chevrolet Camaros, Corvettes and Pontiac Firebirds with "PASS-KEYS", (Personalized Automotive Security System). These vehicles have been prime targets in the past for thieves, in part because they were easy to steal. The PASS-KEYS System works with electronic sensors built into the ignition lock and "reads" an encoded ignition key. If the wrong key is used, or if an attempt is made to start the car without a key, the system disables the engine for a short period of time. Since 1986, when the PASS-Key was first introduced, thefts of Corvettes have declined 45 percent.

Toyota Motor Corporation also utilizes electronics anti-theft measures for their "Lexus" luxury sedan. Their keys are made of unusual nickel-silver alloy and are so precisely made that only the correct keys can open them. Attempts with a wrong key will electronically disable the starter.[11]

What will the future bring with regards to technology that will address vehicle theft? Will law enforcement utilize a Global Positioning System,

(satellites), to monitor movement of all vehicles, and assist in locating a vehicle? There are currently more than 50 manufacturers of GPS receivers, with the trend continuing to be toward smaller, less expensive, and more easily operated devices. While highly accurate, current speculation envisions inexpensive and equally accurate navigational guidance systems for automobiles in the future.[12]

There are numerous devices just breaking into the market regarding the prevention of vehicle theft or locating a vehicle once it is stolen. Such new programs include telephones in vehicles with numbers programmed to dial that will disable the engine once the car comes to a stop. Another device involves a plastic card that must be inserted into the ignition system before the car will start with a key.

These devices and more are just starting to hit the market in 1994. The study concern is what is going to be available to the general public in the year 1999? Will the average citizen be able to afford protection or will this plan work only for the rich? How will law enforcement apply anti-theft technology to vehicle theft detection?

An additional concern for the future would be that once these new devices are out on the market for a period of time, how long will it take before the criminals develop ways to circumvent this new obstacle?

FOCUSING ON THE ISSUE

Utilizing input from command staff of the Yuba City Police Department, Peace Officer Standards and Training personnel, college students, scanning of future file material and research at the Library, this researcher identified numerous sub-issues connected to the main issue. This information plus brainstorming with any interested parties, Captain Richard Doscher, Sergeant Bill Ollar, Traffic Supervisor Corporal John Buckland, Traffic Officer Leslie Deniz, Lieutenant Bruce Muramoto of the West Sacramento Police Department, Lieutenant George Brown of the South Lake Tahoe Police Department and others, contributed to the development of a Futures Wheel. The futures wheel was prepared to assist the researcher in visualizing the issue and various sub-issues relating to how anti-theft technology impact vehicle thefts. (Illustration 1)

Futures Wheel

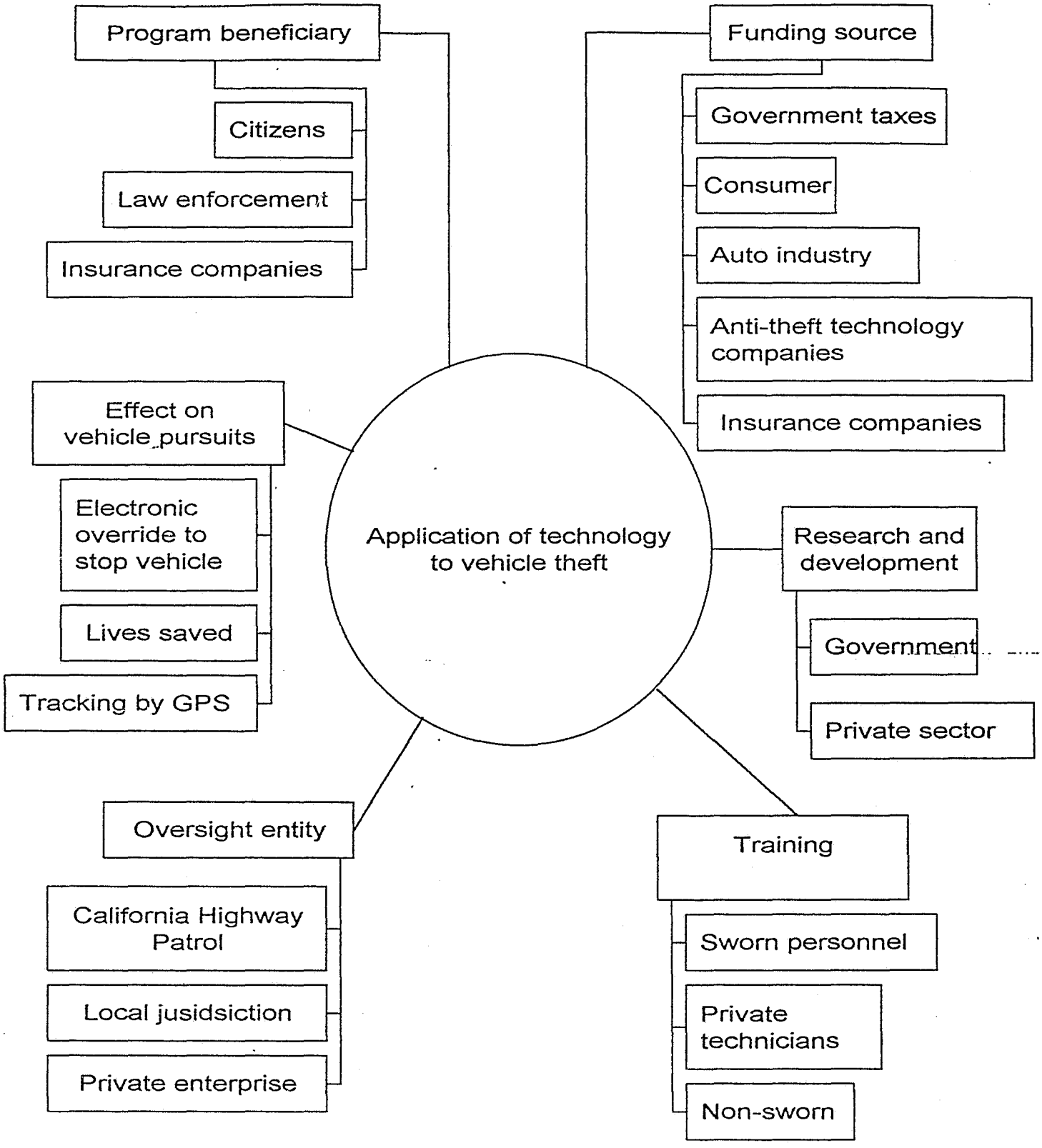


ILLUSTRATION 1

THE ISSUE

The specific issue explored in this independent study will be:

"How can Anti-Theft Technology be applied to Vehicle Theft Detection by the year 2000?

Receiving input from members of the Yuba City Police Department Staff; Captain Richard Doscher, Sergeant Bill Ollar, Traffic Supervisor Corporal John Buckland and fellow colleagues from the Command College Class; Lieutenant Bruce Muramoto of the West Sacramento Police Department and Lieutenant George Brown of the South Lake Tahoe Police Department, three main sub-issues were identified that should be considered with this study.

1. What type of political organization might be required to bring anti-theft technology on line?

Research and input from the panel conclusively identifies that the technology is presently available. The vehicle theft problem was also recognized as clearly a statewide issue rather than a local issue because stolen automobiles generally leave the jurisdiction in which they are stolen and because auto theft occurs in every jurisdiction of the state. Thus, it became apparent that the research would have to determine what type of organization might be required to bring anti-theft technology on line.

2. How might interested groups be used in preparing the way for the application of vehicle theft detection?

The panel recognized that this problem was not a law enforcement problem

alone. Numerous groups such as, insurance companies, specialists in auto-theft technology, motor vehicle industry along with law enforcement appear to have a natural interest in the development of auto theft detection. The question proposed by the panel was how can these various groups be utilized in preparing the way for the application of vehicle theft detection?

3. What funding sources will be available for future technology?

It will cost money and manpower to operate an advanced tracking program as proposed. Will law enforcement provide the money or will the consumer pay for the services? If the consumer pays for the service, is this promoting only an advanced tracking program that the rich can afford? Will law enforcement be able to work with vehicle manufactures, insurance companies and the consumer to make an affordable safe vehicle for all citizens of California?

These issues and many more will be facing us in the future regarding vehicle thefts. What impact will technology play in designing equipment to protect, prevent, or report such violent and costly crimes? This project is designed to look into the future and help prepare law enforcement for the changes that law enforcement may be facing.

OVERVIEW

The research is presented in three primary sections. Section one is a futures study that identifies related trends and possible future events

impacting the issue question. As these trends and events are discussed and analyzed, they will become the foundation for the development of three possible scenarios.

Section two provides a strategic management plan designed with the State of California as a model to illustrate the operation of one scenario. A specific scenario is selected to begin the process of developing a strategic plan to address the scenario. The plan identifies important stakeholders necessary to implement the plan along with analysis and processes necessary to manage the strategy.

Section three provides the transition management plan. This is the place where research and analysis end and practical methods are identified to put a working plan actually in effect. This plan will prepare the state with a blueprint looking toward the future.

FORECASTING THE FUTURE

The Issue was identified and refined after research into the general topic of vehicle theft and its relationship with injuries and deaths that are occurring in the new trend of vehicle theft, carjacking. Information compiled by the United States Department of Justice reveals that between 1980 and 1990 vehicle thefts increased by 44.5 percent and, according to daily radio advertisements, three vehicles are stolen every minute in the United States. Recently, carjackings have brought a new wave of violence to this property crime.

The specific issue being explored in this independent study and utilized in the Nominal Group Technique (NGT) is:

"How can Anti-Theft Technology be applied to
Vehicle Theft Detection by the year 2000?"

The focus of this study is on passenger vehicles, based upon the fact there are major distinctions between passenger and commercial vehicle thefts. The distinctions being commercial vehicle thefts are usually more organized and can include the entire nation. Passenger vehicle thefts normally do not show a set pattern, in regards to the type or model of vehicle stolen, on a nation wide scale. Vehicle thefts are more localized, even when large groups are involved and they are stealing specific type vehicles.

Law Enforcement personnel have used the same strategies for years in their attempt to reduce vehicle thefts, typically working backwards from

recovering the stolen vehicle and then attempting to locate the responsible suspect. Success rate with this methodology has not been effective as desired. Local programs such as HEAT (Help End Auto Theft), and other similar promotions are usually operated by single agencies and have affected only those cars registered in the program. The percentage of such vehicles is so small compared to the entire vehicle population that the overall impact is almost insignificant.

California leads the country in amount of registered vehicles and the number of vehicle thefts. Statewide figures show insurance companies pay out $1.06 for every $1.00 received for vehicle theft coverage, registering a considerable loss each time.

Sub-issues were identified with assistance from members of the Yuba City Police Department, colleagues from Command College and brainstorming with interested parties in the community including Auto Sales Executives and Insurance Agents. **Sub-issues** were identified with the use of a Futures Wheel and include:

1. What type of political organization might be required to bring anti-theft technology on line?
2. How might interested groups be used in preparing the way for the application of vehicle theft detection?
3. What funding sources will be available for future technology?

It is obvious traditional means to combat auto theft have not been working. What is currently being done to address this problem, five years from now or even ten years from now, 2004? The need to identify the trends leading into the 21st Century and implementing new technology is just one step toward a positive impact on vehicle theft. Concentration on prevention or at least reduction of injuries and deaths as a result of carjacking, is a must.

The stakeholders that have a stake in this issue are not only in law enforcement but insurance companies, the court system, the entrepreneur promoting new technology and, most importantly, the citizens of California who are falling victim to this fast rising and sometimes deadly crime of Vehicle Theft.

After identifying the issue and sub-issues a Nominal Group Technique was conducted to identify the trends and events impacting the issues. A group of nine professional members of the community and law enforcement officials assisted in the NGT.

TRENDS AND EVENT IDENTIFICATION (NOMINAL GROUP TECHNIQUE) NGT

The Nominal Group Technique (NGT) was used to identify and select trends and events impacting the issue. A group of nine professional members of the community and law enforcement officials were recruited to act as members of the NGT panel. Selection was based upon knowledge and experience in their field and its relationship with the issue. The panelists were:

Mr. Fred Cotton - Search Group Inc. Sacramento, Calif.

Mr. Carl Adams - Sutter County District Attorney

Mr. Myron Truex - Owner of Motorola Communications

Captain Richard Doscher - Yuba City Police Department

Mr. Carl Miguel - Sutter County Chief Probation Officer

Mr. Gordy Stringfield - Sales Manger for Ford Dealership

Mr. Larry Vieira - Insurance Agent 15 years of experience

Officer Ken Manies - California Highway Patrol Officer

Lieutenant Bruce Muramoto - West Sacramento Police Department

Complete list of panel members and their expertise is included in Appendix A.

Prior to the NGT session, the author contacted and briefed each panelist regarding the NGT process and the issue. Each panelist was given a package containing information about NGTs, the issue; a portion of the introduction paper, and was requested to formulate some trends and events to bring with them to the meeting.

After personal introductions and a brief discussion on the issue and recent

developments, the panel was directed to write down ten trends in relationship with the issues. The panel first identified 81 trends. They were listed on paper and through a silent voting process nine major trends were identified having the greatest impact on the issues question. This process took three votes with numerous trends tying for the tenth spot. It was agreed upon by the group that the panel would stay with the nine voted upon.

The nine major trends identified having the greatest impact were:

T-1 Level of Voice Recognition used in electronic ignition to start and run vehicles.

T-2 Level of citizens arming themselves.

T-3 Number of vehicle locating devices - GPS and Cell Phones

T-4 Degree of incentives offered by Insurance Companies.

T-5 Willingness of Insurance Companies to insure vehicles in high crime districts.

T-6 Level of computer literacy by Gangs or Crooks.

T-7 Number of Keyless locking devices.

T-8 Level of police resources to handle routine thefts as compared to violent crimes.

T-9 Degree of affordability of Alarms and Anti-Theft Devices to consumers.

TREND EVALUATION FORM

NINE MEMBER NGT PANEL

TREND STATEMENT	LEVEL OF THE TREND (TODAY - 100)			
	FIVE YEARS AGO	TODAY	FIVE YEARS FROM NOW	TEN YEARS FROM NOW
T-1 Level of voice recognition used in electronic ignition to start and run vehicles.	.3	100	245	421
T-2 Level of citizens arming themselves.	45	100	258	383
T-3 Number of vehicle locating devices - GPS and Cell Phones	10	100	302	642
T-4 Degree of incentives offered by Insurance Companies.	58	100	230	571
T-5 Willingness of Insurance Companies to insure vehicles in high crime districts.	61	100	271	442
T-6 Level of computer literacy by Gangs and Crooks.	15	100	300	564
T-7 Number of Keyless locking devices.	39	100	346	571
T-8 Level of police resources to handle routine thefts as compared to violent crimes.	70	100	278	467
T-9 Degree of affordability of Alarms and Anti-Theft Devices to consumers.	47	100	338	578

Based on a trend level of 100 equaling "today", panelists estimated the level of each trend five years ago; what the trend level will be five years from now and, what it will be ten years from now. The voting on trend forecasts was done privately and the results were not shared with the panel at that time.

The panel was then asked to list ten events that occur and have a impact on the issues and trends. They first identified 55 events. These events were posted in the room and through silent voting 10 major events were identified. The panel discussed the events for clarification and they were asked to utilize the event evaluation form to project the probability of the event occurring within the next 10 years and its impact on the issue, either positive or negative. They also were asked to identify by year when they thought the event would first occur. The ten events identified having an impact on the issues and trends are:

E-1 New Laws enacted requiring computerized Anti-Theft devices installed on new cars.
E-2 Legislation is passed increasing penalties for general vehicle theft and carjacking.
E-3 Increase in insurance rates for vehicles not equipped with approved anti-theft devices.
E-4 Driver's license contain vehicle identification on license with electronic code. When law enforcement checks DDL status it automatically checks status on car.
E-5 International Law - Consistent approach throughout US / Canada / Mexico
E-6 Due to high losses, Auto Insurance no longer available in California.
E-7 A driver will shoot and kill an armed carjacker with great publicity, (like Bernard Goetz)
E-8 ACLU will sue everyone with tracking technology as invasion of privacy.
E-9 Local departments will no longer provide services for vehicle protection and recovery.
E-10 Vehicle tracking devices cost will plummet.

EVENT EVALUATION FORM

NINE MEMBER NGT PANEL

EVENT STATEMENT	YEARS UNTIL PROBABILITY FIRST EXCEEDS ZERO	PROBABILITY		IMPACT ON THE ISSUE AREA IF THE EVENT OCCURRED	
		FIVE YEARS FROM NOW (0-100)	TEN YEARS FROM NOW (0-100)	POSITIVE (0-10)	NEGATIVE (0-10)
E-1 New laws enacted requiring computerized Anti-theft devices installed on new cars	3.5	51	84	6	.5
E-2 Legislation is passed increasing penalties for general vehicle and carjacking.	2.4	79	98	5.4	1
E-3 Increase in insurance rates for vehicles not equipped with approved anti-theft devices.	3.4	56	83	6	1.4
E-4 Driver's license have car identification on driver's license with electronic code. When Law Enforcement checks DDL status it automatically checks status on car.	6	22	36	4.4	1.4
E-5 International Law - Consistent approach throughout U.S., Canada and Mexico.	10.5	9	35	6.4	1

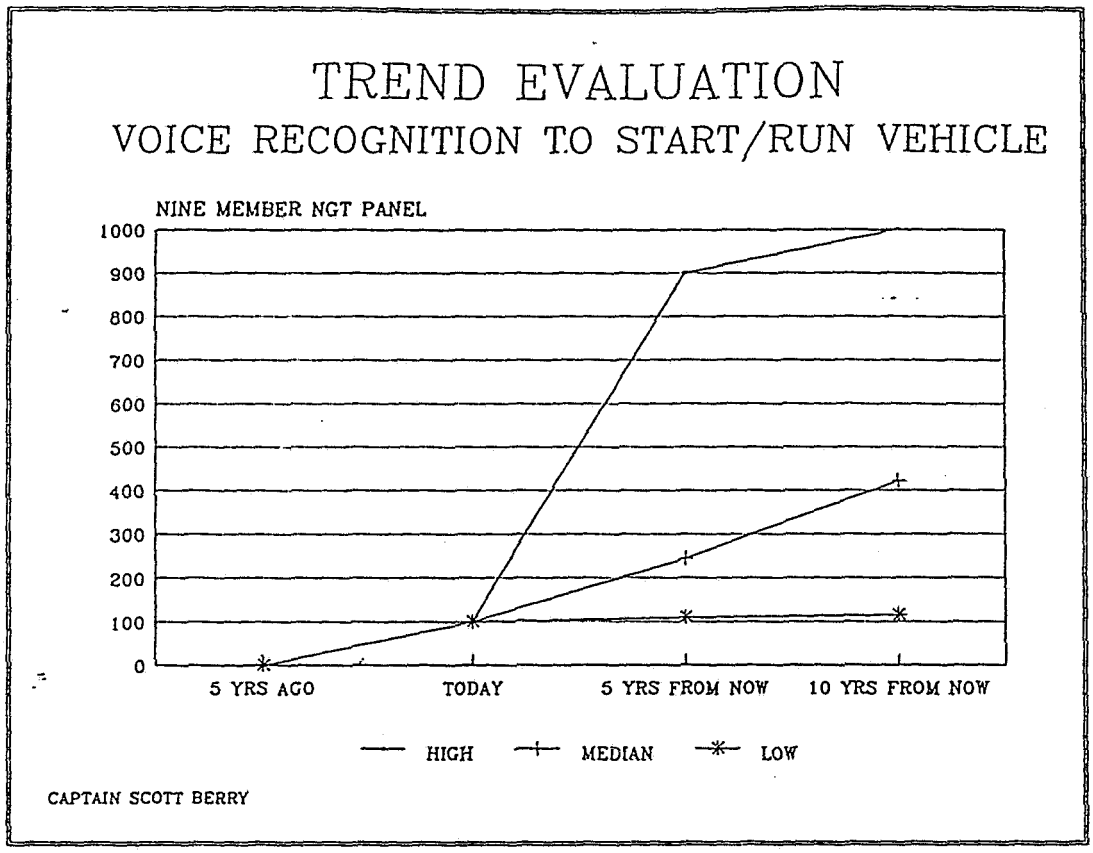
CAPTAIN SCOTT BERRY

EVENT EVALUATION FORM

NINE MEMBER NGT PANEL

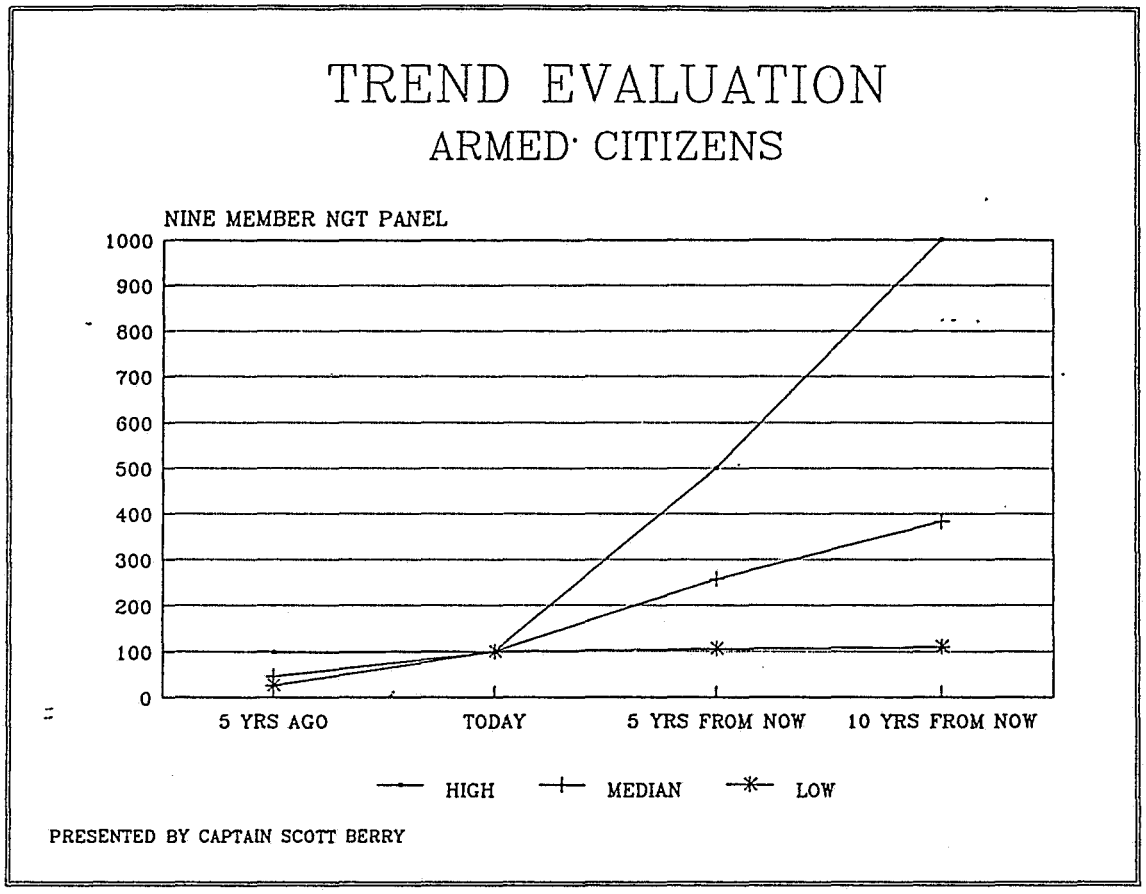
EVENT STATEMENT	YEARS UNTIL PROBABILITY FIRST EXCEEDS ZERO	PROBABILITY		IMPACT ON THE ISSUE AREA IF THE EVENT OCCURRED	
		FIVE YEARS FROM NOW (0-100)	TEN YEARS FROM NOW (0-100)	POSITIVE (0-10)	NEGATIVE (0-10)
E-6 Due to high losses, insurance for automobiles is no longer available in California	38	6	14	.4	7.1
E-7 A driver will shoot and kill an armed carjacker with great publicity, (like Bernard Getz).	1.5	75	97	4.7	2.4
E-8 ACLU will sue everyone with tracking technology as invasion of privacy.	8	36	68	.3	8.4
E-9 Local budgets will become hard pressed to provided services for vehicle protection and recovery.	2	62	82	0	8.8
E-10 Vehicle tracking devices cost will plummet.	5	67	96	9.1	.4

CAPTAIN SCOTT BERRY



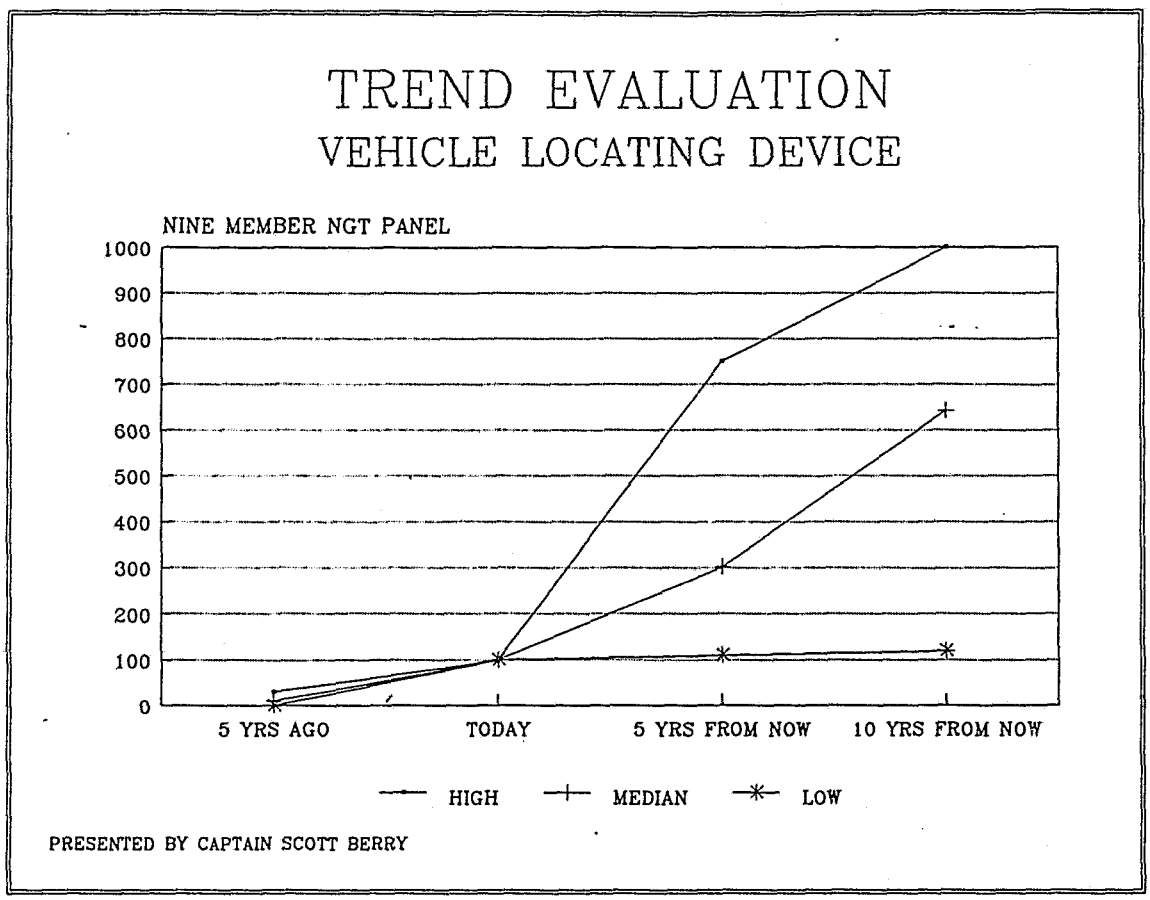
T-1 LEVEL OF VOICE RECOGNITION USED IN ELECTRONIC IGNITIONS TO START AND RUN VEHICLES

Technology is changing rapidly as we approach the 21st century and that is recognized by the panel. Voice recognition will continue in popularity and usage to operate vehicles not only to prevent theft but also available to kill the electronic system when the suspect is trying to flee in a stolen vehicle.



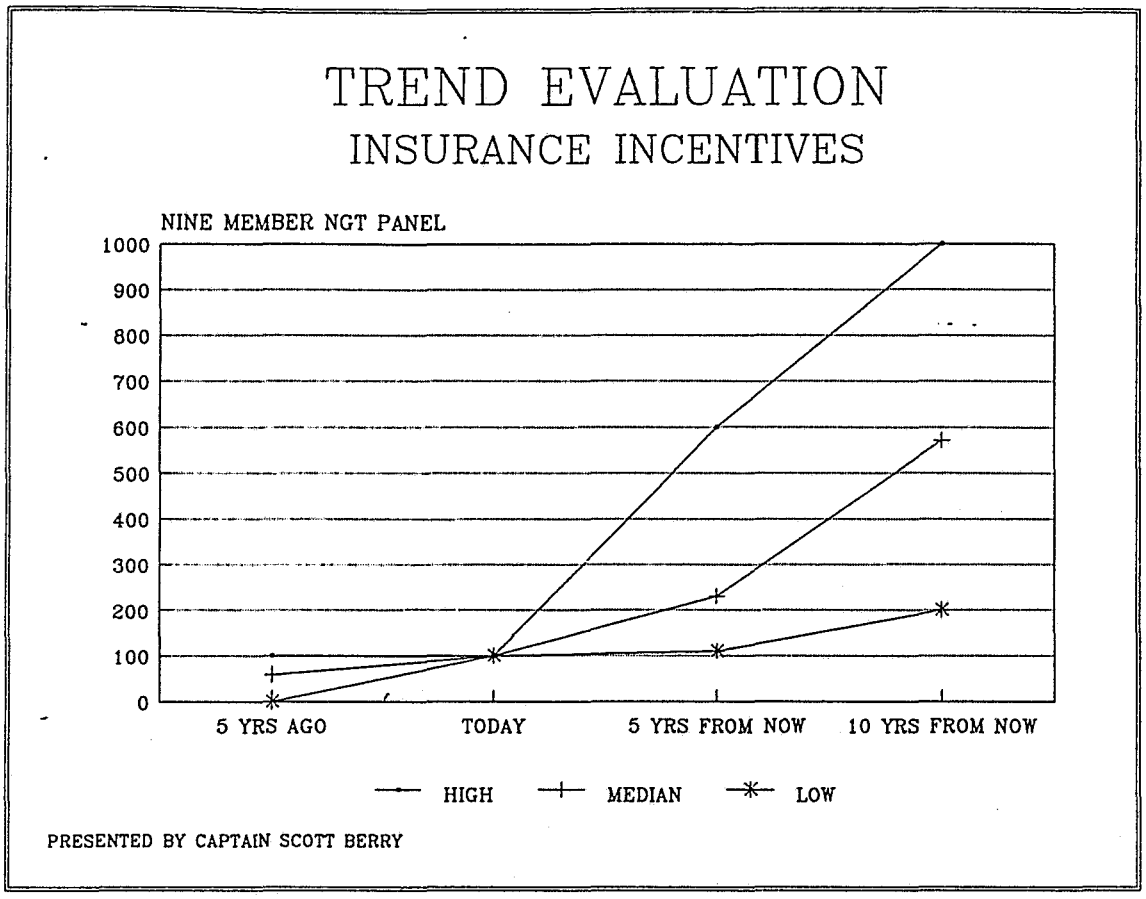
T-2 LEVEL OF CITIZENS ARMING THEMSELVES

Carjacking has everyone cautious and the panel realizes people will start arming themselves to take care of the problem. The panel projects there is a chance that citizens arming themselves may increase by almost 400 percent within the next ten years. Resulting in a call for technology, such as tracking, or legislation to prevent people of getting shot or shooting innocent people.



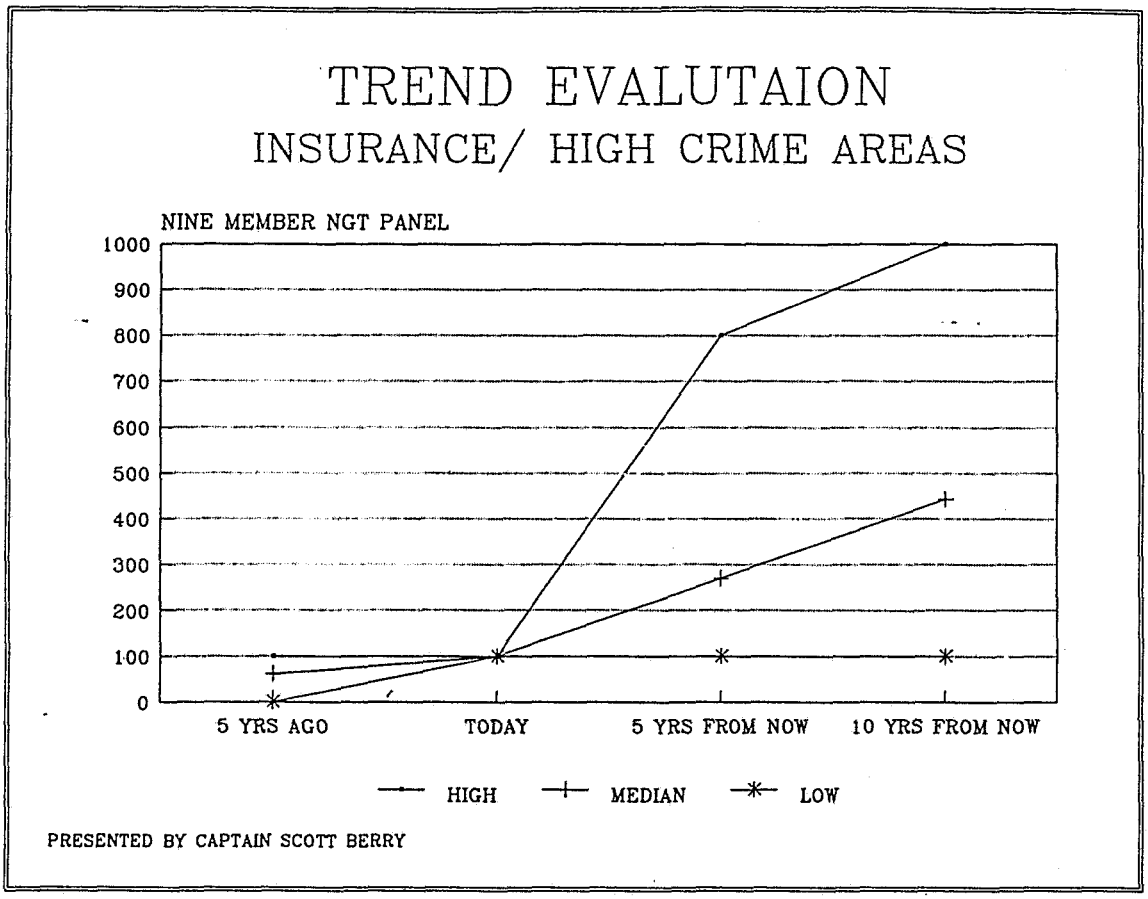
T-3 NUMBER OF VEHICLE LOCATING DEVICES - GLOBAL POSITIONING SATELLITES, (GPS), AND CELL PHONES

Cellular phones are becoming such common occurrence in vehicles and GPS systems are shrinking in size. In addition society is on the edge of exploding in technology in this field. The panel agrees and estimates that civilian use will triple in GPS tracking within the next five years.



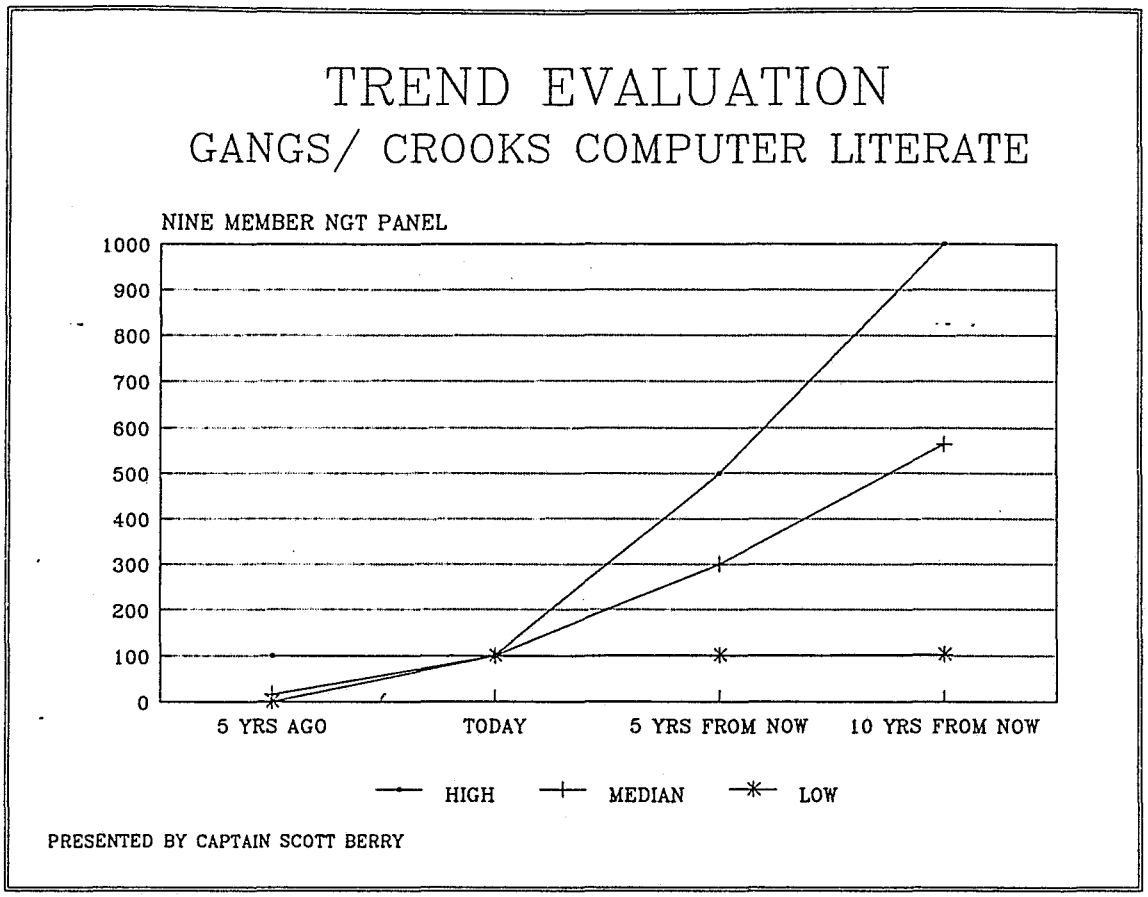
T-4 DEGREE OF INCENTIVES OFFERED BY INSURANCE COMPANIES

Insurance companies are presently losing money on the premiums paid for theft coverage. They will continue to urge customers to utilize the new technology to help locate their car and reduce losses to the company. The panel recognizes with the increase of availability and reduction in price, customers will purchase such items to reduce their own premiums.



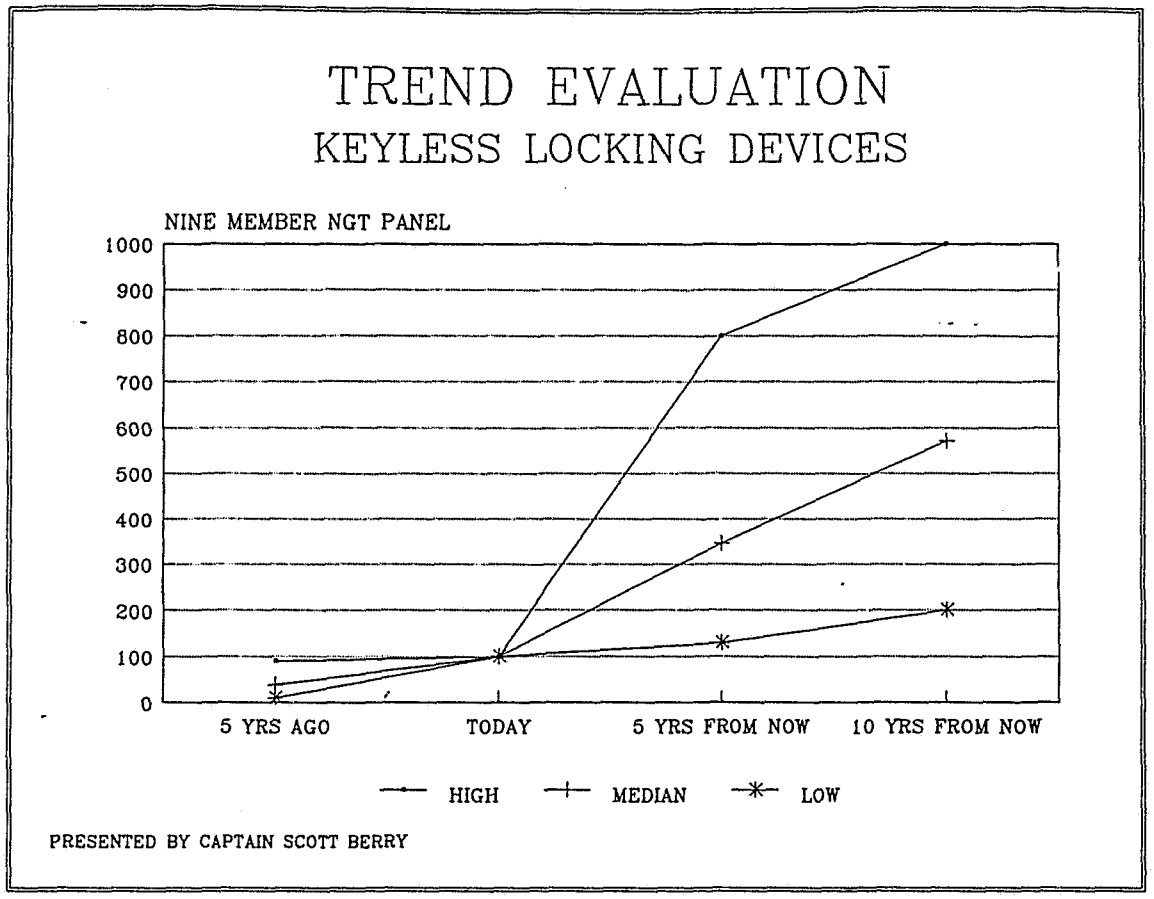
T-5 WILLINGNESS OF INSURANCE COMPANIES TO INSURE VEHICLES IN HIGH CRIME DISTRICTS

The panel believes that insurance companies will soon stop covering vehicles in certain areas and in some cases may require that the vehicle be "garaged" at night in order to be covered in their policy. Right now insurance companies have high risk drivers that can be refused coverage and the panel sees that in the future, based on the location of where you work or live, may prevent you from obtaining coverage.



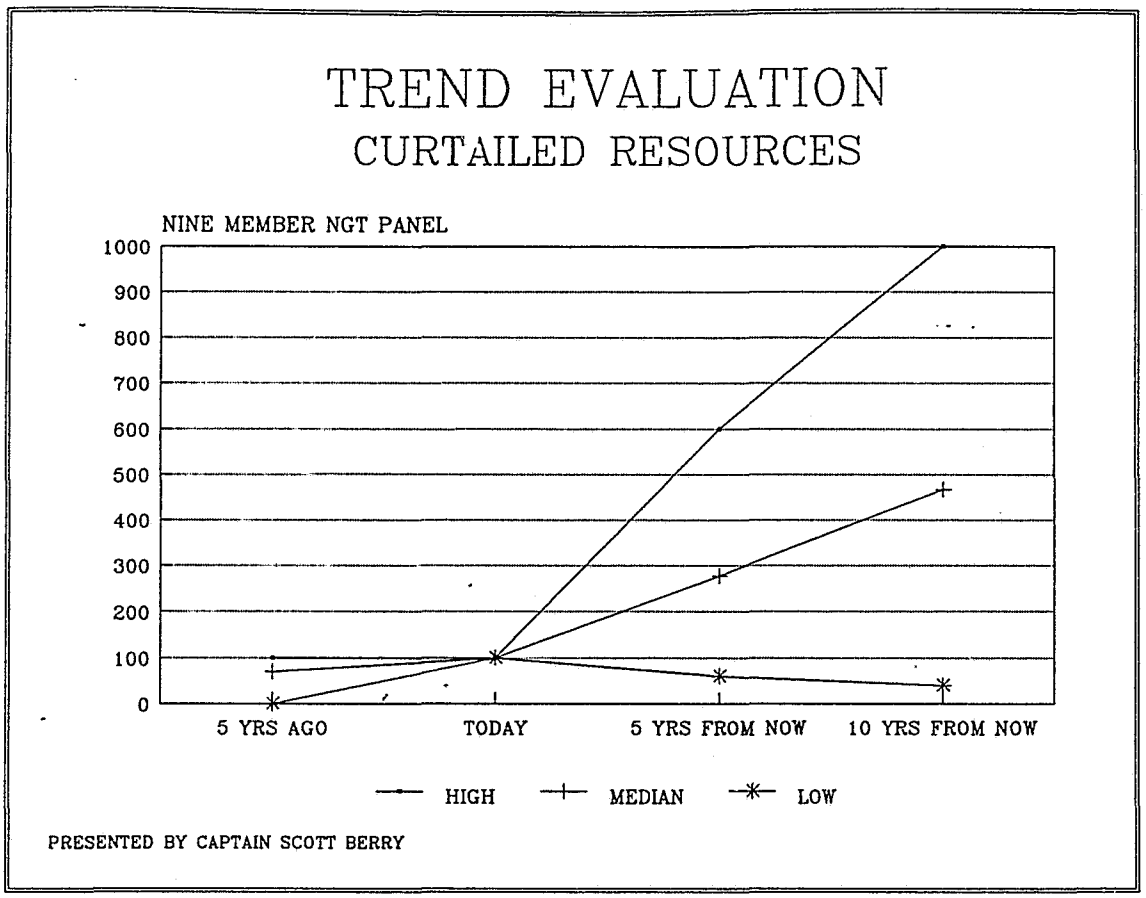
T-6 LEVEL OF COMPUTER LITERACY BY GANGS OR CROOKS

As a matter of evolution gangs will familiarize themselves with computers and devices to override Global Positioning Satellites, or other computer anti-theft prevention measures. Panelist believe there were few suspects in the past that were computer literate but foresee changes in the future as computers are utilized in everyday life.



T-7 NUMBER OF KEYLESS LOCKING DEVICES.

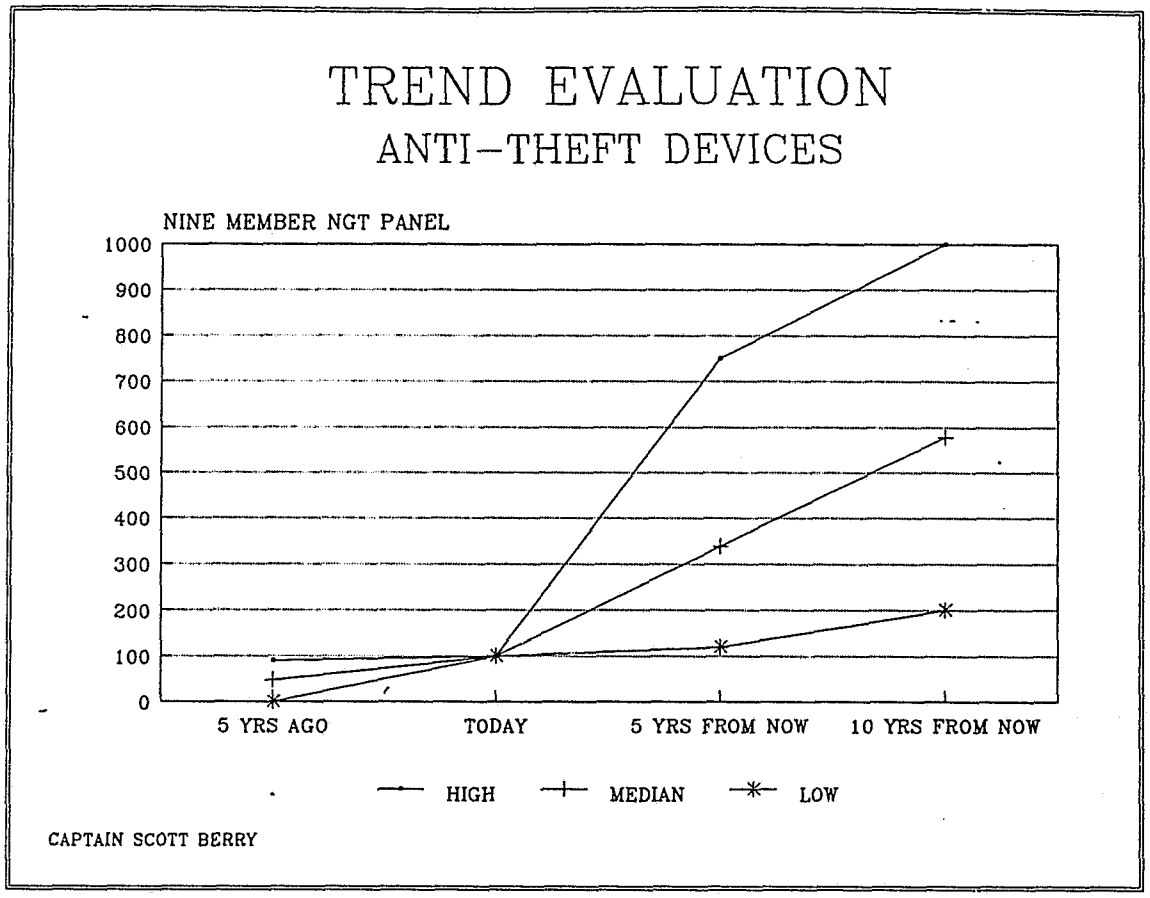
Currently there are new devices interfacing with the ignition systems to prevent theft. "Pass Keys" are used in General Motor cars and Ford products utilize a small, under the dash, computer card to prevent theft. Technology will continue to develop new items to assist vehicle owners in preventing auto theft.



T-8 LEVEL OF POLICE RESOURCES TO HANDLE "ROUTINE VEHICLE THEFTS" AS COMPARED TO VIOLENT CRIMES.

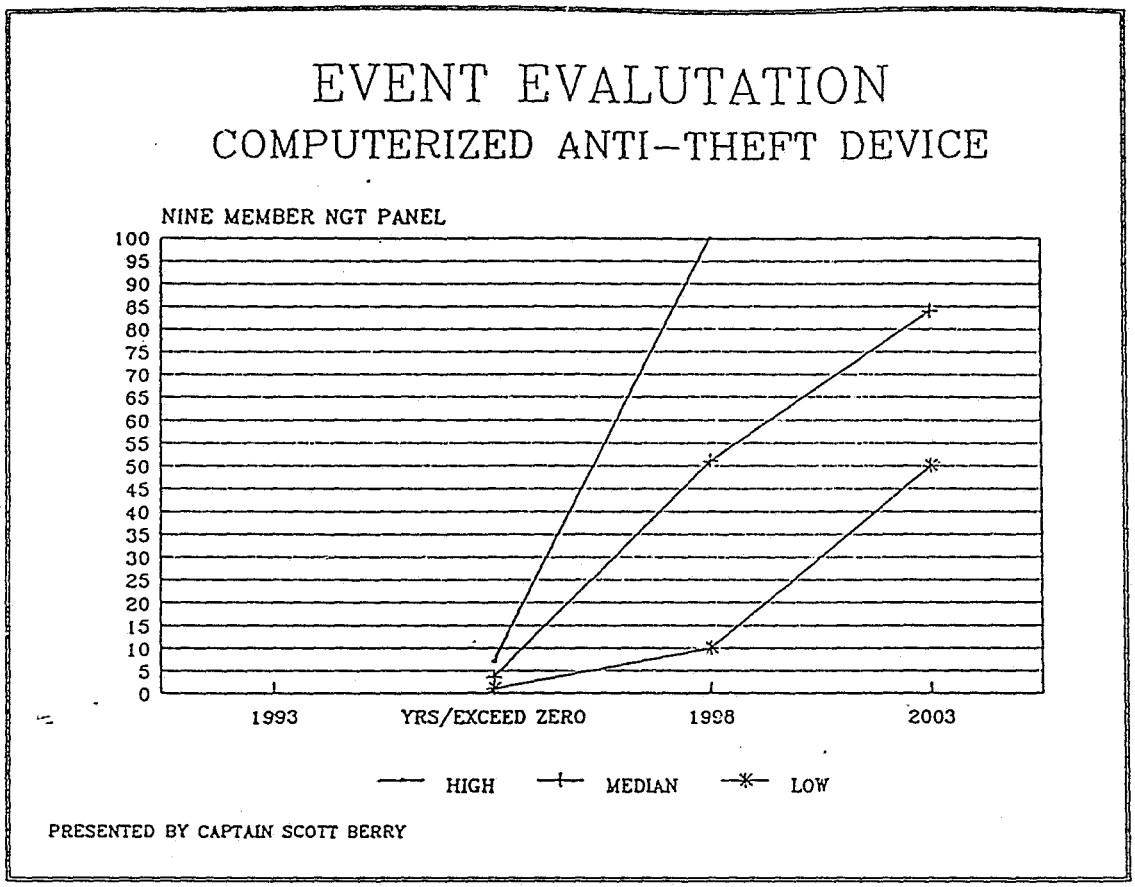
Panelist split on this issue. Some believe law enforcement may improve upon our financial situation and have specific officers on the street assigned to handle crimes such as vehicle thefts.

The majority of the panel believes present budget problems will continue to deteriorate, preventing additional assignments.



T-9 DEGREE OF AFFORDABILITY OF ALARMS AND ANTI-THEFT DEVICES TO CONSUMERS

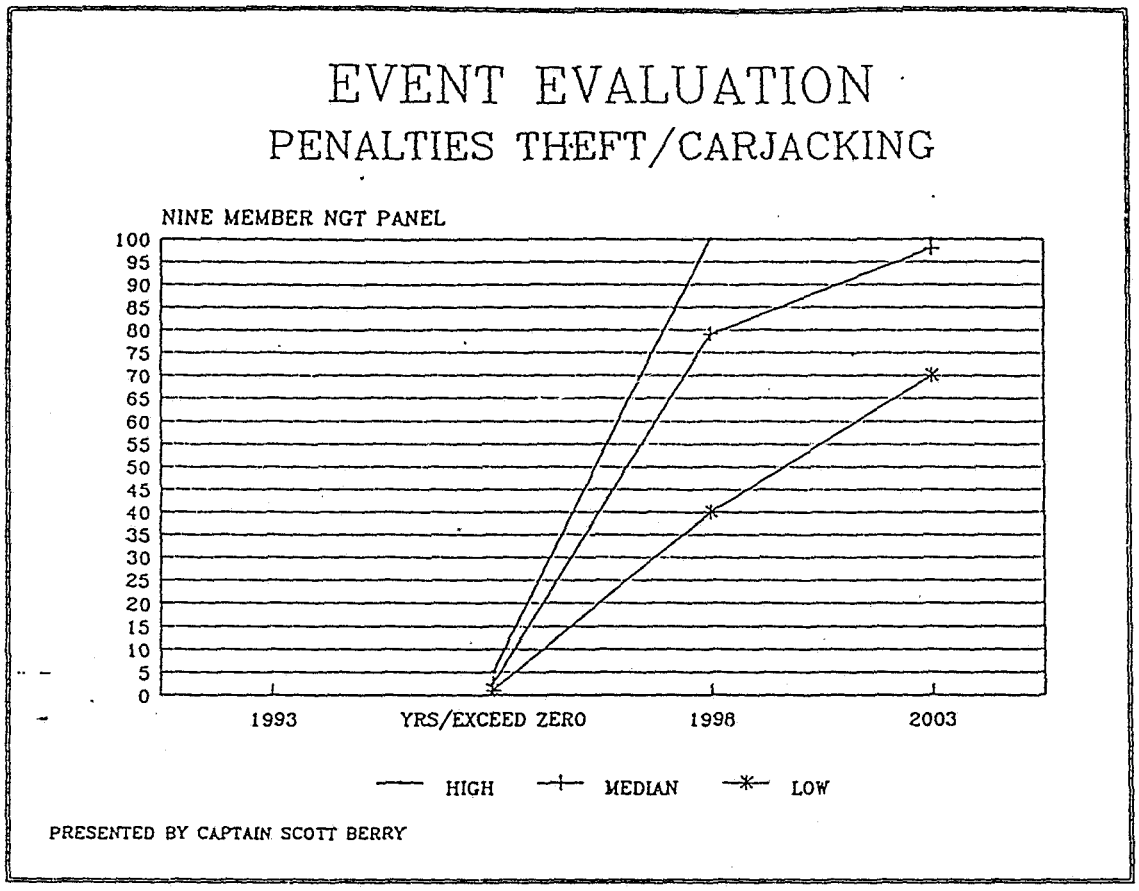
When the market is flooded with products of similarity and technology continues to improve the panel feels it is reasonable to believe prices will go down and such devices will be available to a large portion of our population.



E-1 NEW LAWS ENACTED REQUIRING COMPUTERIZED ANTI-THEFT DEVICES INSTALLED ON NEW CARS

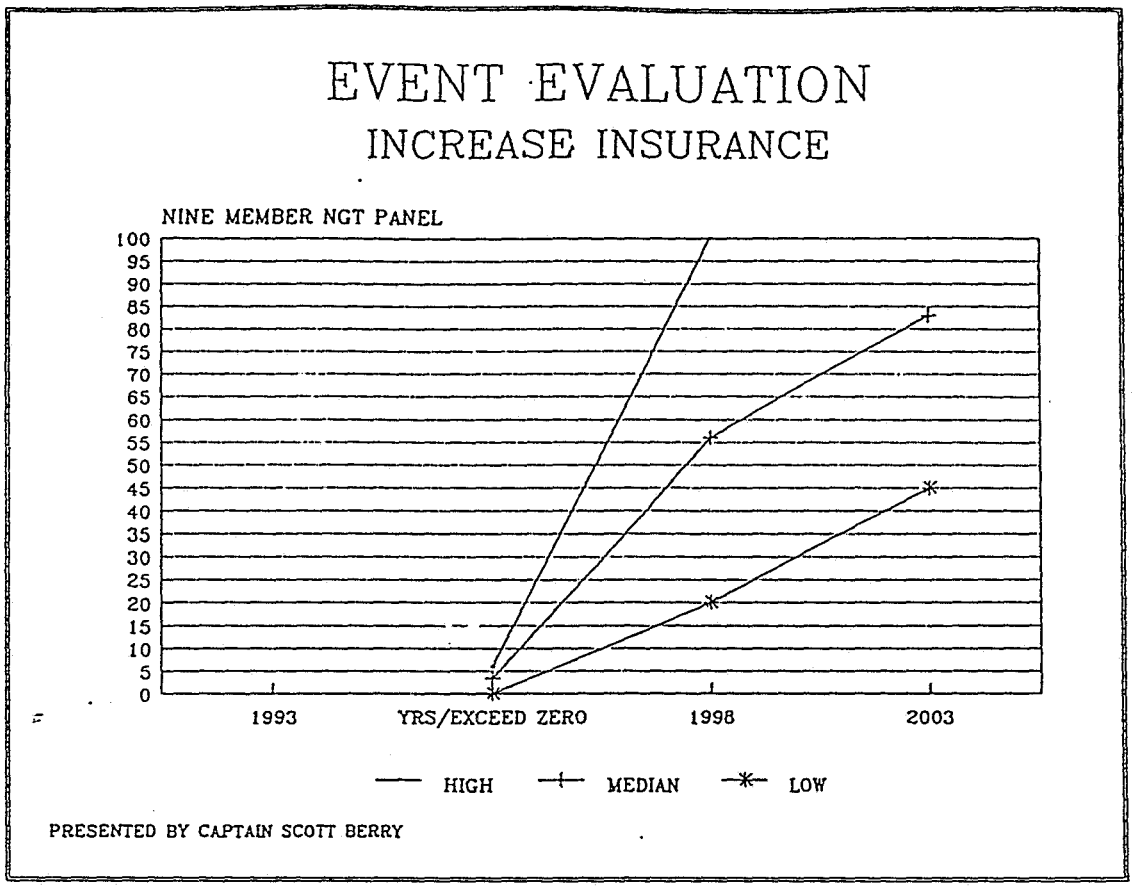
Legislature probably will enact laws requiring such devices to reduce auto theft. The panel believes that their is a 50 / 50 chance that will occurr within the next 5 years.

They do not agree if this action will be a positive or negative action on part of the legislatures.



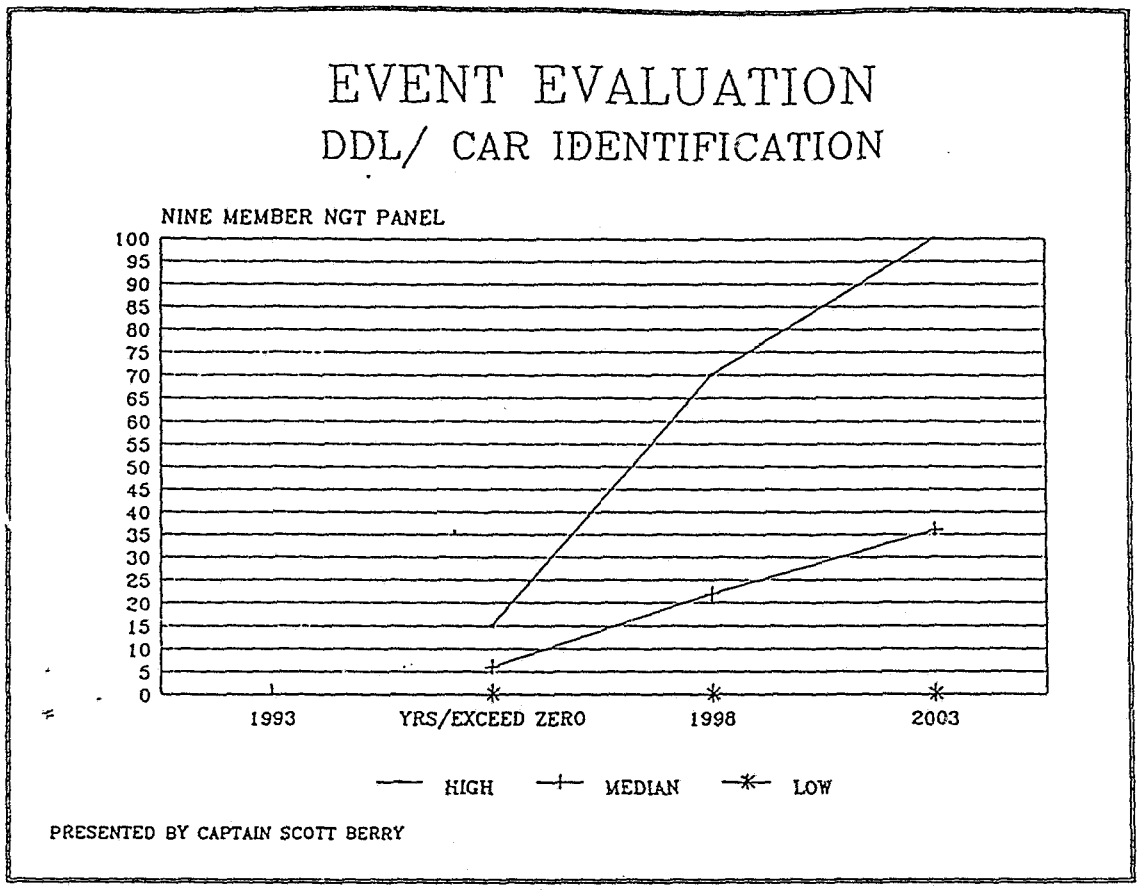
E-2 LEGISLATION IS PASSED INCREASING PENALTIES FOR GENERAL VEHICLE THEFT AND CARJACKING.

The panel recognizes that the normal procedure or response by legislatures to crime is to increase the penalties. The panel is not saying that it would be a solution but believe it will likely occur and in the not-to-distant future. Majority of the panel believes legislation will have a positive impact but others believe it will have a very negative impact.



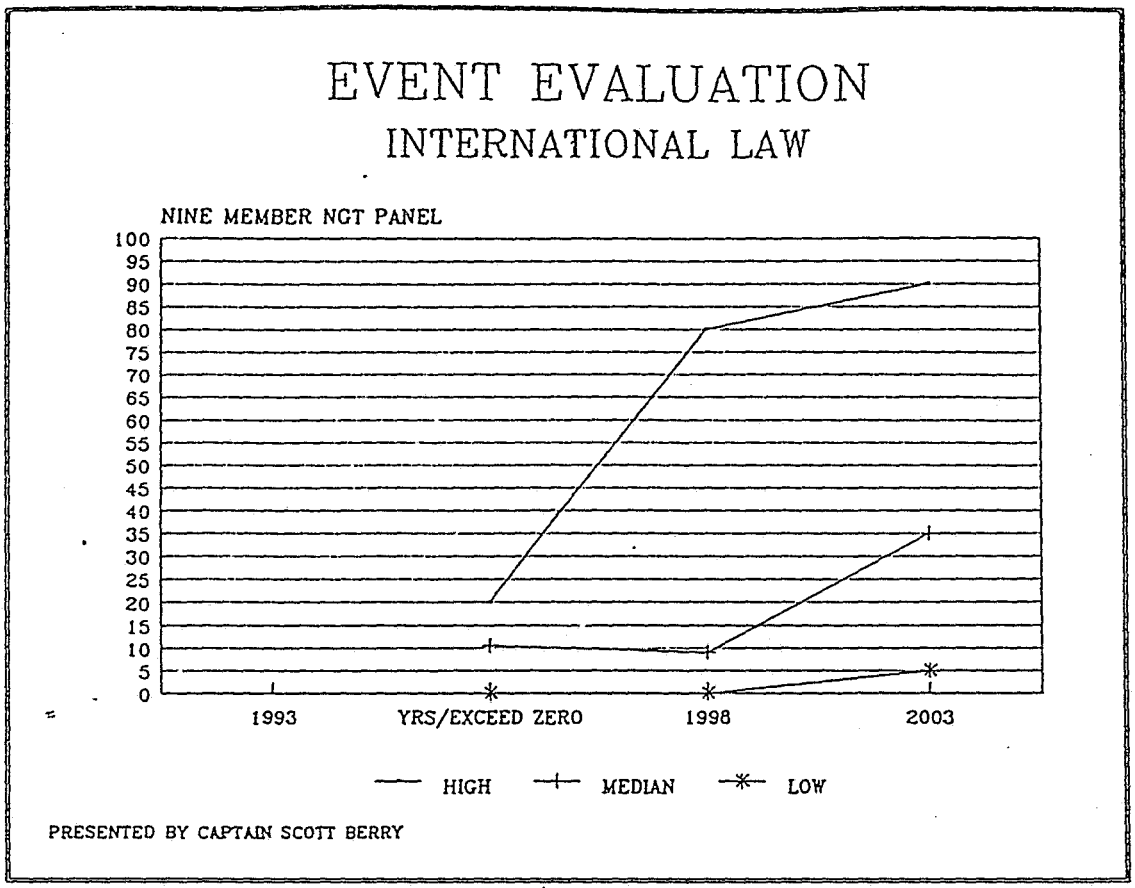
E-3 INCREASE IN INSURANCE RATES FOR VEHICLES NOT EQUIPPED WITH APPROVED ANTI-THEFT DEVICES.

Reduction in cost for such devices are predicted, thus possibly making them available to all vehicle owners. Presently, insurance companies are considering offering discounts for having such devices, but in the future they will be so common you will be charged more if you do not have a anti-theft device on your car.



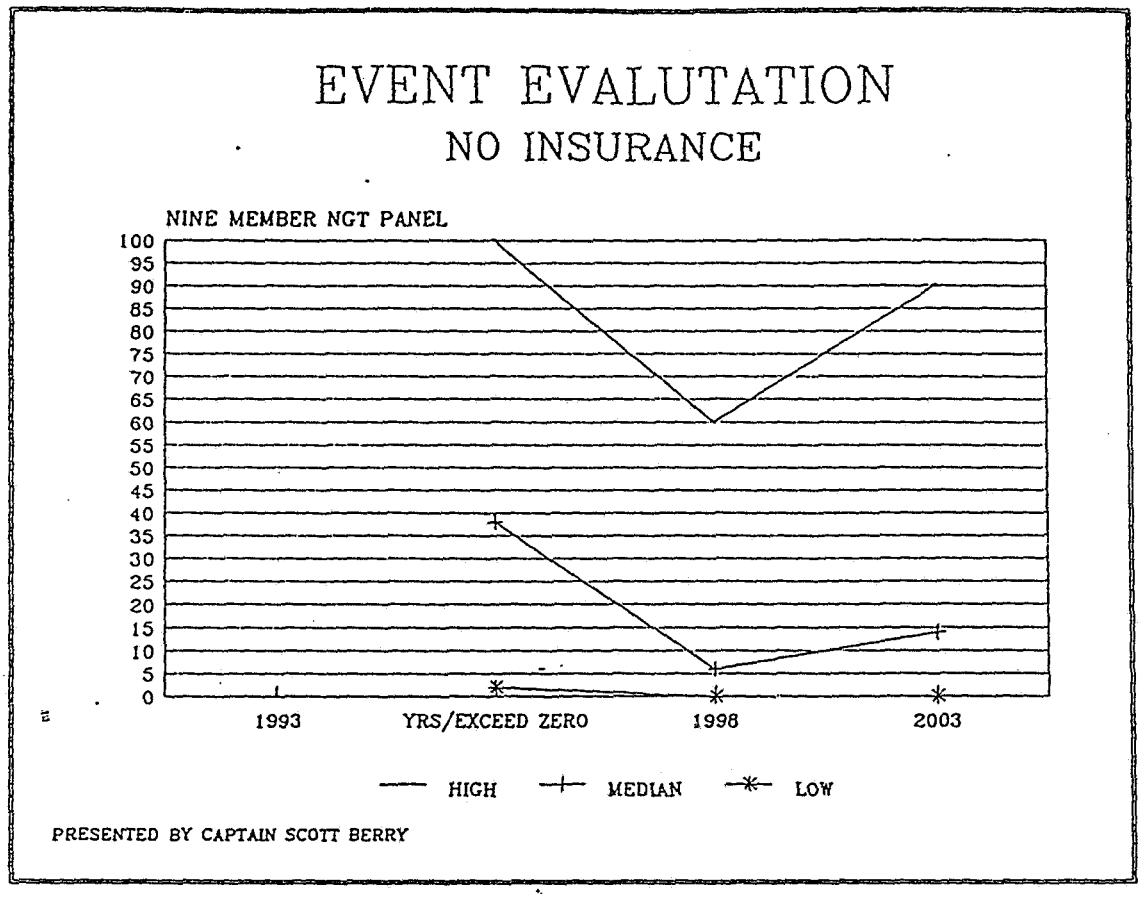
E-4 DRIVERS LICENSE INCLUDE VEHICLE IDENTIFICATION INFORMATION BY USE OF ELECTRONIC CODE. WHEN LAW ENFORCEMENT CHECKS DRIVERS LICENSE STATUS, IT ALSO CHECKS VEHICLE STATUS.

Technology is presently available for such usage and some instances the medical field have recorded your medical records on coded cards. Discussion range from it will never happen to-it will be here tomorrow.



E-5 INTERNATIONAL LAW - CONSISTENT APPROACH THROUGHOUT U.S., CANADA AND MEXICO

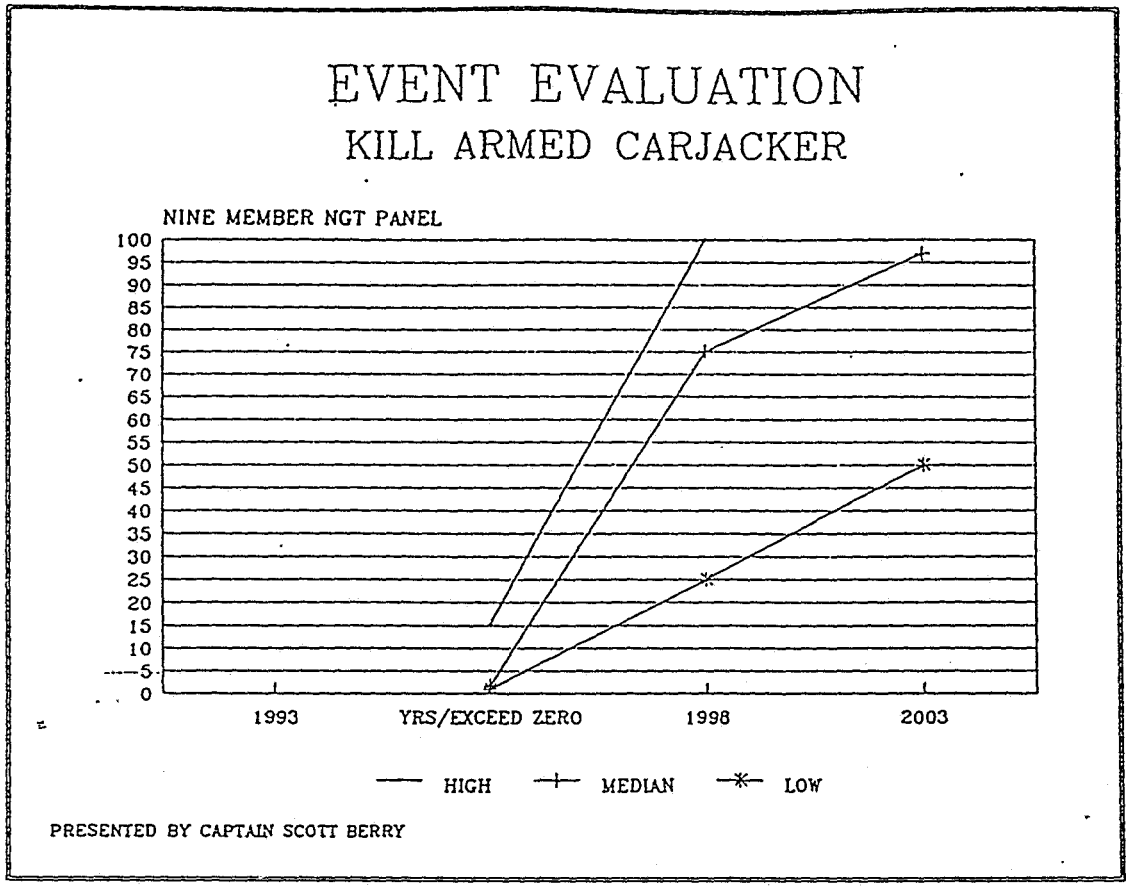
Panel members believe the likelihood of this occurring in the near future is very unlikely. A few do not believe it will ever happen and if it does, it will have a very negative impact on the trends. The majority felt it could have a positive impact due to joint corporation.



E-6 DUE TO HIGH LOSSES, INSURANCE FOR AUTOMOBILES IS NO LONGER AVAILABLE IN CALIFORNIA.

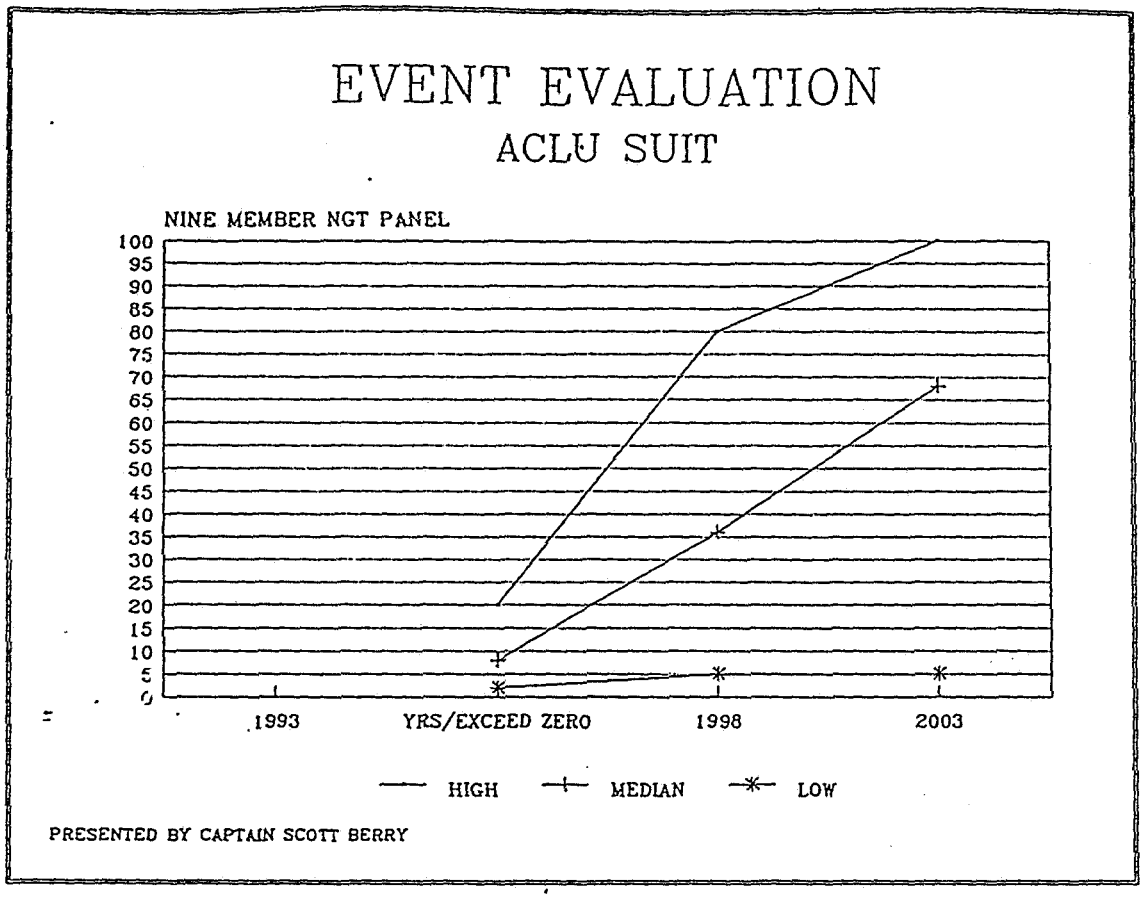
This issue brought several different views from one member stating that it would never happen and another member believing it will occur within the next two years.

The general consensus is that it could possibly happen in 38 years with 14 percent chance of it occurring with ten years.



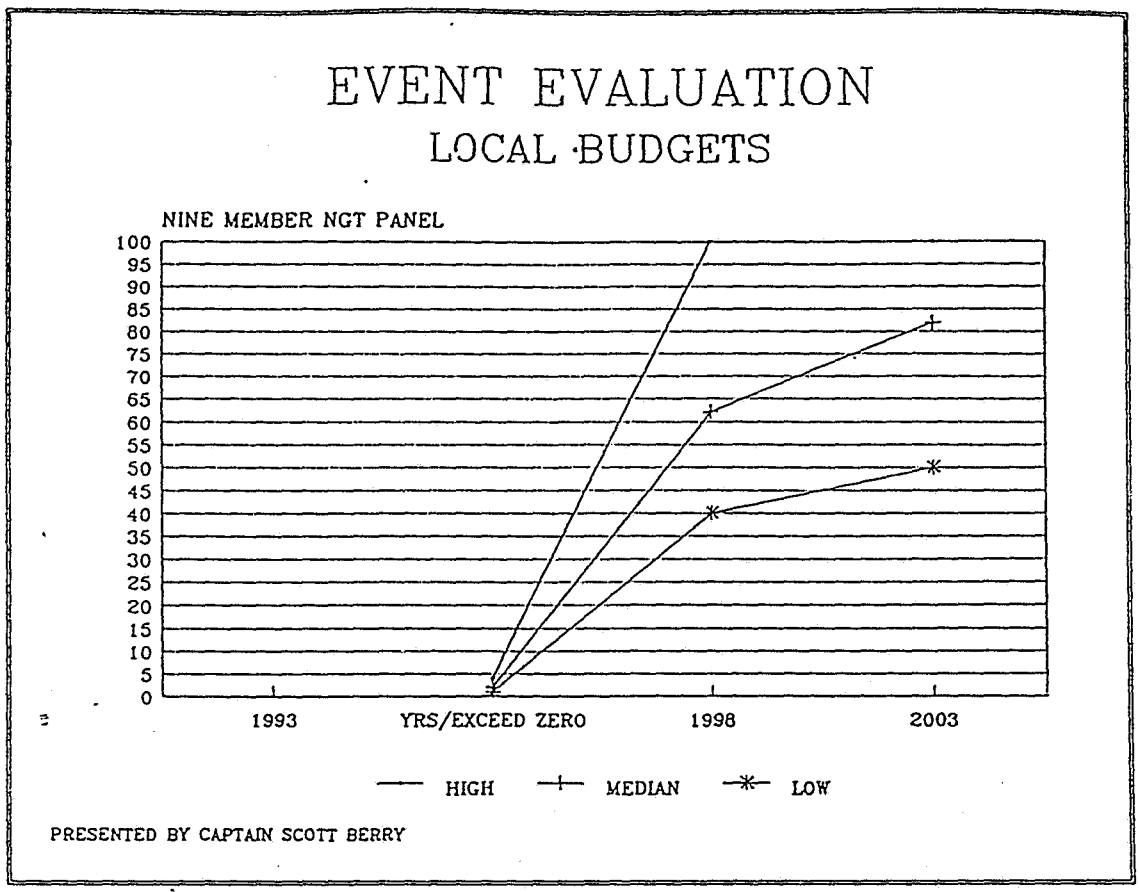
E-7 A DRIVER WILL SHOOT AND KILL AN ARMED CARJACKER WITH GREAT PUBLICITY (IE BERNARD GOETZ)

The entire panel believes this will likely occur within a very short time, 1.5 years. They also believe a person who does the shooting may become a celebrity and receive an acquittal if tried for the shooting. The impact on this event split the panel right down the middle. Some believe this would be a very positive impact others very negative.



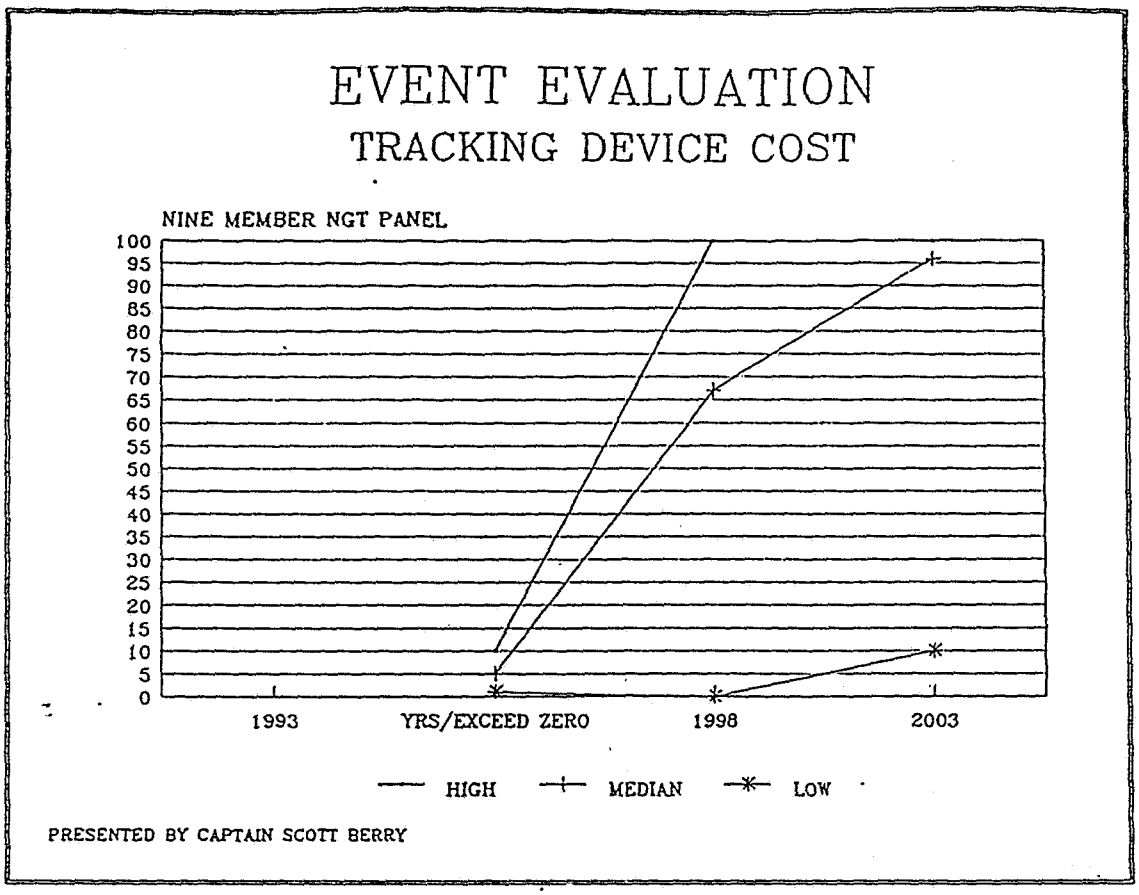
E-8 AMERICAN CIVIL LIBERTIES UNION, (ACLU), WILL SUE EVERYONE WITH TRACKING TECHNOLOGY AS INVASION OF PRIVACY.

Current trend of restricting criminals rights and giving more rights to the victim effect this from occurring within eight years according to the panel. They did agree that such action would have a very negative impact on the issues and with the public.



E-9 LOCAL BUDGETS WILL BECOME HARD PRESSED TO PROVIDE SERVICES FOR VEHICLE PROTECTION, RECOVERY AND INVESTIGATION

The possibility of neighborhoods/victims hiring private companies to prevent auto theft and attempting to recover stolen ones was brought up regarding budget cuts. A check with local agencies involved on the panel believe cut-backs have effected some areas but not vehicle theft.



E-10 VEHICLE TRACKING DEVICES COST WILL PLUMMET.

This event corresponds with Trend Nine described by the panel in it's earlier process. Influence of large volume of the product will effect the price - simply, supply and demand. Plus the fact that as we develop more items in the field, they not only become less expensive they are a better product.

CROSS IMPACT ANALYSIS

The process of Cross Impact Analysis is a modeling technique for depicting how various patterns of occurrence or non-occurrence of individual events in a set of previously forecasted events effect the subsequent probability of occurrence of each of the other events in the set.

The Cross Impact Analysis model was used in the following manner for research on this topic. Events were compared to events, (see event to event cross impact matrix), that revealed interesting date concerning the effect of technology will have on vehicle theft.

The researcher and advisory group, (Administrative Sergeant Ollar, Traffic Supervisor Buckland and Traffic Records Clerk McNair), performed the cross-impact analysis. They individually evaluated the impact each forecasted event would have on other forecasted events. The analysis was based on the assumption that each forecasted event occurred and determined how it would impact the other listed events. The results help identify "Events" for use in developing scenarios. The group recognized that in some instances during the cross impact analysis that each event may raise, lower, or have no effect upon every other event.

After this was completed the group discussed significant scores and clarified reasoning for the listed totals, and then came to agreement on the final totals. The chart indicates the group's estimates.

CROSS IMPACT ANALYSIS CHART

Events to Events Effecting the Future

of Auto Theft and Technology

Initial Prob		E1 84	E2 98	E3 83	E4 36	E5 35	E6 14	E7 97	E8 68	E9 82	E10 96	Final Probabilities		
E1	84	X	2	3	0	3	4	5	5	4	-1	E1 100	8	
E2	98	1	X	-15	-15	1	0	1	0	0	-10	E2 73	6	A
E3	83	1	0	X	-1	2	-5	1	-1	-4	3	E3 83	8	C
E4	36	1	1	1	X	1	3	3	-3	-1	3	E4 42	9	T
E5	35	3	1	1	2	X	-2	4	-3	0	3	E5 44	8	O
E6	14	2	4	5	2	0	X	28	1	-1	3	E6 54	8	R
E7	97	1	0	1	0	1	1	X	-3	-1	1	E7 97	7	S
E8	68	5	2	-3	-2	1	3	3	X	2	3	E8 79	9	
E9	82	3	1	-2	-1	0	-5	-7	-5	X	2	E9 75	8	
E10	96	0	2	2	-3	2	3	3	-4	1	X	10 100	8	
REACTORS		8	7	9	8	7	8	9	8	7	9			

Significant 10 Events

E-1 New Laws requiring Anti-Theft Devices installed in calls.
E-2 Legislation passed increasing penalties for vehicle theft.
E-3 Insurance rates increase for vehicles not equipped w/Anti-Theft Devices.
E-4 Driver's License contain vehicle identification.
E-5 International Law - Consistent approach with US / Canada / Mexico.
E-6 Due to losses, Auto Insurance no longer available in California.
E-7 A Driver shoots and kills an armed carjacker with great publicity.
E-8 ACLU sues everyone with tracking technology as invasion of privacy.
E-9 Local dept.s no longer provide services for vehicle theft.
E-10 Vehicle tracking devices cost will plummet.

ANALYSIS OF CROSS IMPACT DATA

The cross impact analysis affected eight out of the ten events documented in the analysis. Two events did not change their probability after being impacted by the other events.

Impacts on two events, E-2 and E-9, resulted in a drop in probability of occurrence and the remaining six events increased in probability after being impacted by the other events.

The impact analysis utilized the median number taken at the 10 year probability list from the Event Evaluation Form. The largest decrease in probability occurred with E-2, (Legislation is passed increasing penalties for general vehicle theft and carjacking.) . The decrease of 15 percent resulted in a 73 percent probability on the event after it started out at 98 percent. The research reveals that this event will still occur at a very high probability but negatively impacted by (E-3), Increase insurance rates for vehicles not equipped with anti-theft devices and (E-4), Drivers License containing vehicle identification and status, reducing the probability of occurrence to 73 percent.

The largest increase in probability was with E-6, (Due to high losses, insurance for automobiles is no longer available in California. This probability increased 40 percent from 14 percent to 54 percent. This was a result of major impact form E-7, (A driver will shoot and kill an armed carjacker with great publicity).

The NGT panel and the advisory group listing the impacts, felt that E-7, (A driver will shoot and kill an armed carjacker with great publicity), is very likely to occur. This area started out at 97 percent probability and remained at that level after the impacts from the various events.

Two areas that ended in a 100 percent probability of occurring within the next ten years were; E-1, (New law enacted requiring computerized Anti-Theft Devices installed on new cars), and E-10, (Vehicle tracking devices cost will

plummet). The panel agreed with these findings based on the fact that as technology improves and becomes readily available to the consumer the cost will in fact plummet. Plus, legislatures are always trying to enact laws to force the public into something and this may be one incident where they do something right.

FUTURE SCENARIOS

The third phase of this study is the development of three possible futures scenarios which are based upon the previous study of trends and events, cross-impact analysis data and use of the SIGMA Software. Scenarios are imaginative pictures of what could be or could occur. The purpose of each scenario is to provide planners and policy makers of today with some windows of what the future may hold. Forty scenarios were projected through the SIGMA Program and examined for similarities of events and time of occurrence. Three scenarios were then selected and utilized to explore possible futures. (Refer to Appendices F, G, H, showing three samples of scenarios that were generated and utilized for these scenario writings.) The scenarios will identify the various trends and events that were obtained by the NGT Panel acquired during the early stages of the NGT development.

The first scenario is NOMINAL. The nominal scenario is based on the assumption that forecasted events did happen. It relies on issue-related events that have been occurring in the recent past and will probably continue to occur.

The second scenario is NORMATIVE. This is a future that is desired and attainable. "Should be" trend data is utilized as well as "hopeful" data obtained from the literature search.

The third scenario utilized is HYPOTHETICAL. It assumes that all events actually occurred, resulting in a high impact on the issue.

SCENARIO 1 (NOMINAL)

VEHICLE TRACKING DEVICES PLUMMET IN COST (December 1995)

CITIZEN'S FIGHTING BACK WITH GUNS (June 1998)

INSURANCE COMPANIES FLEE CALIFORNIA DUE TO LOSSES (April 2003)

In June of 1995 crime statistics show that Auto Theft and Carjacking continues to rise in California. Vehicle tracking technology is beginning to be affordable to the middle class individuals who are purchasing new cars (E-10). Legislation is addressing the violent crime of carjacking by making more laws and more severe punishment (E-2).

Studies have proven that crime is not deterred by the mere passing of a law but our Legislature continues to enact more laws as the solution to dealing with the issues. Crime continues its upswing and by 1996, Legislature finally realizes that the negative economy may have something to do with the high crime rate (T-8).

Interviews conducted in June of 1996 with criminals presently serving time in

the penal system reveal that they are becoming more computer literate (T-36) and using this knowledge to assist them in their crimes. Some inmates have gone to great detail in describing how they are now able to by-pass the high-tech locking systems on new vehicles.

The increase in tracking devices and reduction of cost has resulted in a high volume of tracking technology throughout the public sector. By April 1998, the ACLU has filed a class action suit against the insurance companies and law enforcement claiming invasion of privacy, (E-8).

Two months later, June 1998, the State of California begins to see an increasing number of citizens that have "had enough" and are arming themselves to fight the would-be carjacakers, resulting in many deaths (T-5). The violent confrontations finally leads to a driver/victim killing an armed carjacker in self-defense, with high profile, bringing back memories of the Bernard Goetz shooting in New York, during the late 1980's (E-7).

Immediately following the shooting, July 1998, Insurance Companies begin a statewide campaign offering reduction incentives in the premiums for the installation of anti-theft devices (T-23). Insurance companies continue in the spot light and, by March of 2001, quit insuring vehicles owned by individuals living or working in a high crime neighborhood (T-25). Two years later, 2004, major Insurance Companies ultimately leave California due to the high losses they are suffering from vehicle thefts and carjackings (E-6)

While insurance companies continue to struggle, recent technology is grabbing the headlines at the State capital. November of 1999, "Voice Recognition" (T-1) is introduced in the auto industry on an affordable mass production line. This technology is utilized to start vehicles instead of the traditional key. A few years later, further technology is designed into vehicles utilizing global positioning satellites which allow activation of a 911 call recording the location to the emergency dispatcher (T-7). This allows the police the ability to override the electronic ignition system and stop the car when they are in position for an arrest.

This technology would be a major and positive advancement. However, the deterrent now, and in the future will most likely be financial stability. Studies indicate that the present economy will continue to curtail the ability to meet the financial pressure of the rising criminal element. Californians can only hope that our economy greatly improves by the year 2003.

SCENARIO II (NORMATIVE)

VEHICLE ALARMS AND OTHER TECHNOLOGY BECOME FINANCIALLY AVAILABLE TO CONSUMER (September 1999)

ECONOMY CONTINUES TO REBOUND AS CALIFORNIA PULLS AWAY FROM TROUBLE TIMES OF 1995 (January 2002)

CRIME RATE DROPS FOR THIRD STRAIGHT YEAR (June 2003)

January 2002 finds California's economy continuing to rebound strongly with job growth in high-tech industries, retailing and factory work. For the third straight year, the state has witnessed an increase in businesses entering California in comparison to the practices of the mid 1990's when the majority were leaving the State.

Along with the economic boom that Californian's are witnessing, the State of California is also experiencing a drastic drop in the crime rate. Economists believe the economic growth has had a direct impact on the drop in crime. Violent crimes have also decreased with the largest decline in the area of Vehicle thefts and Carjackings.

Recent technology advancement have been given a large majority of the credit for reducing vehicle thefts and saving lives. Global Tracking Satellites (GPS) systems are becoming the standard equipment on all new vehicles (T-37) since Legislation, in 1998, has provided incentives for car manufactures and buyers to equip their vehicles with such technology (E-1). The cost of such equipment has been reduced approximately 37 percent within the last two years (E-10), starting in September of 1999.

A GPS System (with the capabilities of electronically turning the vehicle's engine off after the police pulled in behind the stolen vehicle) has been given credit for saving the lives of a 23-year-old mother and her two children in Fresno, California (T-4).

Documentation reports that the vehicle's tracking device was activated as soon as the voice identification system registered an intruder driving the vehicle. Swift action by the Fresno Police Department determined that the vehicle was stolen, gave out the description and location to field units and within minutes, the vehicle was located.

Once police pulled in, behind the vehicle, the GPS System turned off the ignition as the vehicle slowed down for a signal light. The suspect was taken into custody without incident and the victims were found unharmed in the back seat of the vehicle.

Insurance companies that were fleeing California in the late 1990's due to high losses (E-6) are now returning and making insurance available to the average consumer who utilizes present technology to install anti-theft devices in their vehicles (T-25). Insurance companies have taken the lead in research and development of equipment to prevent auto theft and to locate vehicles once they are stolen (T-1).

There have been no reports of homicides or shootings as a result of carjackings since the present economic upswing and the advancement in technology within the last eighteen months (E-7). Studies, concluded in August of 2003, have determined that citizens are no longer arming themselves due to the advancement in technology and the safe feeling that is returning to the State (E-2).

Budget cuts that forced layoffs, curtailed investigation and handling of routine vehicle thefts (E-9) are no longer occurring in local agencies. Law enforcement is servicing the citizens at a very positive level and most agencies within the State are highly involved in neighborhood problem solving policing.

Practical legislation incentives offered by insurance companies and given to manufactures and buyers coupled with a positive economy, has given a "green light" to citizens of California to go forward and enjoy their lives instead of living in fear.

SCENARIO III (HYPOTHETICAL)

POLICE ASSOCIATION AND ACLU SUES AGENCY USING TRACKING DEVICES "STATES IT IS AN INVASION OF PRIVACY" (September 1999)

STRICT ANTI-THEFT MEASURES PAST CONGRESS "ASSEMBLYMAN WILLIE BROWN HAS HIS CAR STOLEN" (June 1999)

DEFENDANT IS ACQUITTED OF KILLING CARJACKER - "RULED SELF-DEFENSE" (January 2000)

As our state enters the 21st Century, looking back on the 1990's, there were many controversial decisions by the courts and juries. In May of 1998 the first person stalking a carjacker was arrested for carrying loaded firearms in his vehicle (T-5). Investigation determined that the suspect was anticipating the approach of a would-be carjacker in order to kill him. One-and-a-half years later, January 2000, a jury determines a man innocent of killing a would-be carjacker (E-7).

This case was very similar to the 1980's case involving Bernard Goetz when he killed a juvenile he thought was going to rob him on a subway in New York. Details of this shooting revealed that the suspect was unarmed when he was shot and killed. Some believe that the juvenile was lost and may have been asking for directions. The suspect had no previous criminal record and friends vowed that he would never commit such a crime. The shooter stated that he thought the victim was going to attack him. Society has become so defensive that citizens now shoot first and ask questions later.

Technology has assisted in locating stolen vehicles and even allows tracking vehicles in individual departments (T-7). But, is this tracking of innocent people against the Law? The ACLU and the local Police Association believe it is and recently brought suit against the department, claiming this was an invasion of privacy to monitor individual fleet movement while on duty (E-8).

Didn't law enforcement management take into consideration the safety factor of the tracking ability for our patrol units in the field when they were purchased four years ago? Plus, wasn't the Association pushing for the same tracking device, stating it was a great officer safety factor to be able to direct units to help fellow officers? Now that the policy is implemented, controversy surrounds the issue.

In November of 2001, Congress passed stricter punishment laws for carjacking and vehicle theft. This is the fourth increase in penalty during the last seven years (E-2). Maybe it has something to do with the fact that

of 2001, Assemblyman Willie Brown had his vehicle stolen at gun point from his driver earlier this year (E-1). Congress is a strong believer that if there is a crime wave the solution is to make the punishment greater however, there is no evidence that more laws will decrease crime.

Results to all this is that California has an increase in carjackings, citizens are arming themselves and shooting first, asking questions later, and courts and juries are supporting this action (E-41).

As California moves into the 21st century, law enforcement can only hope that somebody shakes some sense into the general public (citizens - lawyers - congress - law enforcement). Citizens and government need to realize that only through education, utilizing manpower, technology and sensible legislation, can California move ahead into the 21st century and beyond. Without such foresight Californians will be writing the year 2002 on our checks but re-living the 1990's all over again.

POLICY CONSIDERATIONS

The NORMATIVE (Scenario II) was selected for the purpose of policy idea experimentation. The normative scenario was developed based upon desirability, attainability, "hopeful" data obtained from literature search and input from the NGT Panel. The anticipated result for this scenario is reduction of vehicle theft and the prevention of loss of life that is occurring due to carjackings.

The following policy considerations were developed to assist in accomplishing the desired future and to mitigate an undesired one with the assistance of a panel consisting of Sergeant Bill Ollar, Traffic Supervisor Corporal John Buckland and Traffic Clerk Joe McNair all of the Yuba City Police Department. The criteria for selection of trial policies included whether or not the policy was feasible and if support of the police was likely. The selected policy ideas include:

1. Law Enforcement, headed by the California Highway Patrol will establish a joint committee comprised of law enforcement, automobile manufactures, insurance companies and various technicians to address the broad spectrum of vehicle theft issues.
2. California police departments should develop strategies which recognize trends of vehicle theft at the earliest stage possible.
3. The county law enforcement agencies, adopted state wide, should develop uniform procedure in dealing with vehicle thefts including pursuits and investigations.
4. California police departments should provide training for officers regarding vehicle theft including the latest technology.
5. California Highway Patrol should coordinate efforts with insurance companies and automobile manufactures to implement change in government requirements for standard equipment issued on new automobiles.
6. The California Highway Patrol should create a separate, statewide investigation unit for vehicle theft and carjacking

investigation. This unit should include personnel from law enforcement, insurance companies and technologist.

7. California Highway Patrol and Department of Justice should work with technology experts in the field of Global Positioning Satellites (GPS) for the development of a state wide tracking system as opposed to programs designed for specified counties or cities.

8. All California Law Enforcement Agencies should vigorously support automobile manufactures in the development of anti-theft devices and encourage insurance companies to offer reduction incentives for installation of such devices.

STRATEGIC MANAGEMENT PLAN

BACKGROUND

The issue addressed in this study is "How can Anti-Theft Technology be applied to Vehicle Theft Detection by the year 2000?". The study is focused on how law enforcement will take measures to reduce vehicle theft, recover stolen vehicles rapidly and arrest responsible's to prevent thefts, injuries and death from occurring.

Several essential trends were identified during the futures research which impact the study and include; 1) Vehicle locating devices will increase and improve, 2) Citizens arming themselves to confront would be attackers, 3) Insurance companies initiate incentives to reduce premiums, 4) Anti-Theft devices improve in quality and lower in price, and 5) Police resources will be curtailed from vehicle theft investigation to handling more violent crimes.

Research also identified several events that may occur impacting this project including; 1) Laws requiring anti-theft devices installed in new cars, 2) Increased penalties for vehicle theft and carjacking, 3) Due to high monetary loss insurance companies flee California, and 4) A driver will shoot and kill a would be carjacker with great publicity.

These trends and events all have an impact on the direction the remainder of this project takes in addressing the issues.

MISSION STATEMENT

The mission statement defines the areas of operation for a given statewide organization, California Highway Patrol, and serves as a foundation for policies and decisions. It guides behavior, expresses values, builds commitment, and ensures consistency.

The Mission of this project is: To enable law enforcement officers to utilize all resources available to participate with State government, public and private industries, insurance companies and the citizens in which all these entities serve to provide the best possible service in recovering stolen vehicles in a swift manner and at the same time preventing injures and/or death. In addition, law enforcement is committed to reduce the financial impact of vehicle theft and to identify, arrest and prosecute those individuals or groups responsible for motor vehicle theft.

The normative "desired and attainable" scenario will be used for the purpose of developing a strategic management plan for all law enforcement agencies in the State of California to address the issue, "How can Anti-Theft Technology be applied to Vehicle Theft Detection by the year 2000?". The strategic plan brings to reality a future which is desirable and obtainable.

ENVIRONMENTAL ANALYSIS

An environmental analysis identifies the opportunities and threats related to the issue of this study. Plus, the impact these opportunities and threats have on successfully achieving the mission as listed earlier.

Opportunities are defined as: Any promising or beneficial situations in the California Highway Patrol's environment. The opportunities which were identified include the following:

1. Advancement in technology brought on by competition for the economic market increases the availability of anti-theft devices and lowers their cost.

Simple basic economics of supply and demand for the technology of anti-theft and tracking devices. Trends show that vehicle thefts will continue to be a problem in California and citizens will be looking for means to ensure their safety or at least assist in rapidly recovering their vehicle if it is stolen.

"LoJack Corporation" and "Teletrac" are two new companies presently operating in the open market for vehicle tracking. Companies are selling devices to track stolen vehicles and even stop stolen vehicles by over riding the electronic system of such vehicles. Technology is continuing to improve and widening the field of service making it affordable to all.

2. A favorable image of law enforcement working with industries and insurance companies to address the issues facing vehicle theft.

Law enforcement has taken an after the fact approach to vehicle theft by responding to calls for help after the crime has occurred. Taking a

proactive approach and getting involved with industries and insurance companies to push for development and installation of anti-theft devices in vehicles before the crime occurs will only enhance the image of law enforcement.

3. Insurance companies getting involved with the solution and offering incentives for the installation of anti-theft devices in vehicles.

Insurance companies pay out more in losses then they receive in premiums covering vehicle thefts. They are not bankrupt due to profiting in other areas of sales. Insurance companies offering incentives to vehicle owners who install such anti-theft devices may increase the utilization of these devices. Such increase in the use of anti-theft devices will assist law enforcement in the rapid recovery or may even prevent the actual theft of vehicles.

The increase of anti-theft devices encouraged and supported by insurance companies may have a direct impact on the reduction of vehicle theft. This impact may also be reflected in lower insurance rates which would be a favorable goal for all citizens.

4. Reduction of vehicle thefts and carjacking allow citizens to travel in private vehicles feeling safe and secure.

Implementation of a high number of anti-theft devices and tracking devices may result in a major reduction of vehicle thefts and carjackings. This reduction may give the citizens the secure feeling allowing them to travel extensively by private vehicle.

The freedom of movement by citizens is a very important right for individuals and has been recently challenged by the increase in vehicle thefts and carjackings.

This action is not only good for the citizens but will assist sales of vehicles, increase consumption of gasoline and possible upswing in the use of hotels and restaurants assisting the entire economy.

Threats are defined as: Those unfavorable situations in an organization's environment. The threats identified include:

1. Attorneys for the American Civil Liberties Union (ACLU) challenge the use of tracking devices as an invasion of privacy on the part of citizens and criminals.

Laws protecting the rights of individuals are utilized by ACLU attorneys to prohibit police from tracking vehicles with the use of global positioning satellites. The stance of ACLU might be that police may start tracking citizens and their vehicles for other means than trying to recover stolen vehicles.

This action causes the sales of such devices to fail and businesses going bankrupt. Vehicle thefts and carjackings again become a major concern for law enforcement and they start to increase in regularity resulting in injuries and death.

2. Technology market becomes so flooded with anti-theft and tracking devices that quality is ignored and quantity is pushed resulting in loss of consumer trust.

Demand for anti-theft and tracking devices becomes so immense it results in mass production of inferior products inundating the consumer market. Malfunctions of faulty anti-theft and tracking devices result in citizens receiving serious injuries and the loss of hundreds of vehicles that were equipped with tracking devices.

Consumer confidence in this technology is lost and companies go out of business leaving many unemployed and vehicle thefts and carjacking again rising in occurrence.

3. Insurance companies fail to support such technology and continue to suffer high losses and start increasing rates and refuse to insure citizens living in certain geographical locations.

Insurance companies will continue to suffer losses if status quo is maintained. The failure to support such programs through premium reductions

or other means may keep the consumer from paying the extra cost for anti-theft or tracking devices. Thus, with fewer people utilizing devices to reduce occurrence, vehicle theft continues to increase and insurance companies continue to lose money.

Loss of revenue may result in insurance companies putting tighter restrictions on vehicles they insure, such as making them be locked in garages at night. Insurance companies may even leave the State to avoid further losses. Less insurance companies may result in higher premiums with the few companies that are left.

4. Economy may continue its present downswing resulting in citizens inability to afford such anti-theft and tracking devices. Plus, poor economy may result in additional law enforcement services being deleted.

California has a very high unemployment rate and presently in a very serious recession. Major companies are fleeing the State due to its bureaucracy, taking with them not only tax dollars but jobs. On the other hand California is experiencing an increase of an unskilled work force moving into the State from other states and countries.

Loss of revenue by the State will result in reduction of public services. Law enforcement budgets include such a large slice of the entire budget, cut backs may occur. Law enforcement will be forced to handle only major violent

crimes. Crimes such a vehicle thefts will not be investigated, resulting in an increase of vehicle thefts and possible increase of injuries and deaths.

ORGANIZATION ANALYSIS

In order to further assess the capabilities of the California Highway Patrol's relationship to our ability to achieve our mission, the panel must discuss the specific strengths and weaknesses of law enforcement through-out the state of California.

Strengths are those resources or capabilities an organization can use to effectively reach its objectives. Strengths of law enforcement in the State of California are:

1. Law Enforcement is recognized as a progressive well-trained and well equipped profession.

California law enforcement is recognized by the entire country as highly trained professional police officers dedicated to public safety. Law Enforcement has defined training starting with the basic academy and continuing with advanced officer courses.

2. California law enforcement has a history of being on the cutting edge of law enforcement technology.

Law Enforcement has access to cutting edge equipment and trained staff to keep the profession in the forefront.

3. California law enforcement is not afraid to try new ideas and procedures in order to better serve our citizens.
   Such as, Community Policing tried in Sacramento and other cities.

Well trained personnel means you have professional officers that are willing to try something different if it may assist in doing a more efficient job . In general, Law Enforcement is approachable to change and not afraid to change in order to improve their service.

Weaknesses are those limitations, faults, or defects in the organization which keep it from achieving its objectives. Weaknesses which were identified are:

1. State economy may continue to decline forcing manpower staffing for law enforcement to be cut.

The economy may effect organizational needs as well as the environmental needs of our State. Finances may force management to cut staffing of law enforcement officers throughout the State.

2. Prioritizing needs of service may result in law enforcement management viewing vehicle theft as a property crime with little importance.

Cutbacks in staffing will result in agencies prioritizing their services. Vehicle theft may be looked upon as only a property crime by management and not the violent crime that it has become.

3. Apathy by management in regards to vehicle theft may flow down to line staff.

When priorities are placed on certain high profile crimes and management places low priority on property crimes including vehicle theft, such apathy will have direct impact on the line staff. Line staff will realize the lack of importance vehicle thefts have within their agency and may elect not to conduct a thorough investigation. Poor investigations will result in suspects getting away with the crime and the continuance or even rise in the crime of vehicle theft.

4. Law enforcement agencies within the State may vary in procedures or priorities in regards to vehicle theft.

There are hundreds of law enforcement agencies in California ranging from under ten sworn personnel to over five thousand sworn personnel. These agencies will have different procedures and priorities for investigating a

vehicle theft. One agency may place vehicle theft as high priority and utilize abundance of resources to investigate such crimes. When they discover suspects traveling outside their area to another jurisdiction that does not give vehicle theft a lot of attention they may find little or no assistance, resulting in criminals going free and property not being recovered.

STAKEHOLDER ANALYSIS

Stakeholder analysis is the final phase of situational analysis. This process identifies stakeholders related to the strategic issue being addressed in the study. Stakeholders are individuals, groups, or organizations who 1) impact what you do; 2) are impacted by what you do; 3) are concerned about what you do. Each stakeholder has a "stake" in the success or failure of the strategic issue and sub issues being addressed in the strategic plan. Most stakeholders can be easily identified and their position on the issue is obvious.

The stakeholder analysis was performed with the assistance of members of the original NGT panel; the members were Lieutenant George Brown of the South Lake Tahoe Police Department, Lieutenant Bruce Muramoto of the West Sacramento Police Department and Mr. Fred Cotton of Search Group, Inc., a consulting firm that deals with the interface between computer technology and law enforcement agencies.

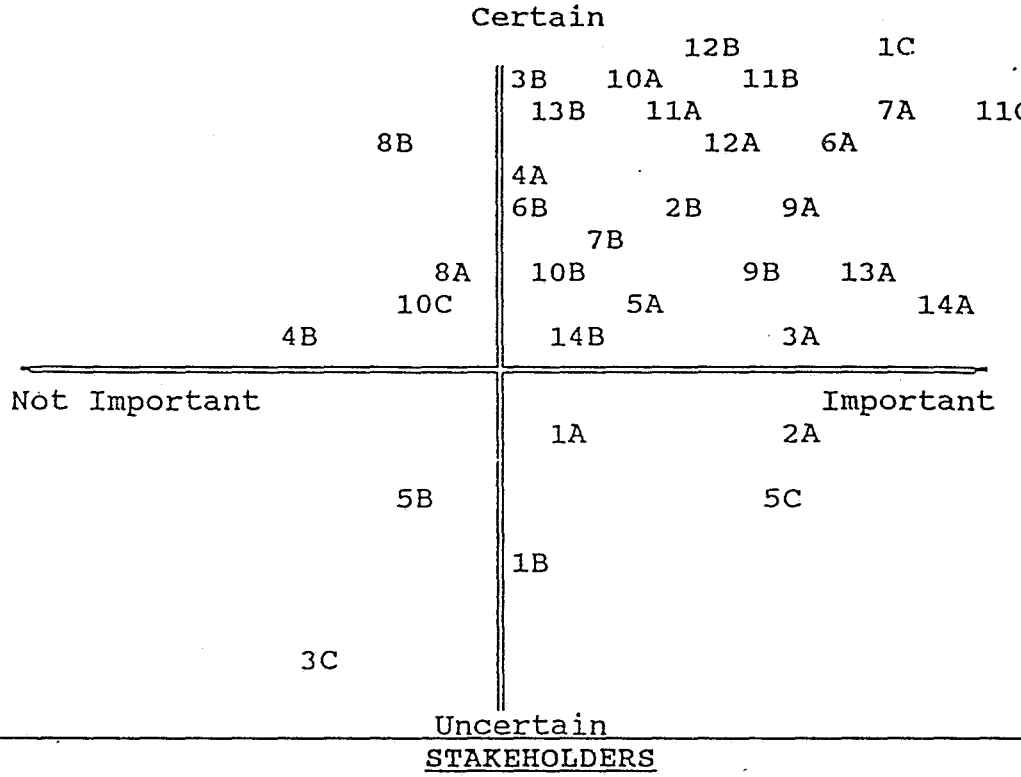
Some stakeholders, individuals or groups, are less obvious or are unanticipated. These stakeholders can stop or hinder the direction of the organization and can ultimately cause serious problems with program implementation. The term "snaildarter" is associated with these stakeholders.

Assumptions are made as to the projected position of each stakeholder in relation to the issue. An assumption can be defined as basic, deep rooted, often unstated values and beliefs that individuals or groups have about the issue. The question was asked, "What does the stakeholder care about or want?" The following list is of thirteen critical stakeholders and the assumptions identified for each. The following graph, "Stakeholders Assumption Map" (page 65) depicts the importance of the stakeholders as they relate to the issue questions, and the level of projected certainty in the assumptions assigned to the stakeholders.

STAKEHOLDER IDENTIFICATION:

1. STATE LEGISLATORS (Possible Snaildarter)
   A. Hard line approach against crimes will assist in making laws to address the issue of vehicle thefts and carjackings
   B. Liberal attitude possibly taking allies with ACLU stating tracking is in violation of civil rights of criminals and citizens in general. This may be effected by lobbyist of certain self interest groups

STAKEHOLDERS ASSUMPTION MAP



STAKEHOLDERS

1. STATE LEGISLATORS
   - A. Hard Line Approach
   - B. Liberal attitude
   - C. Power of purse strings
2. INSURANCE COMPANIES (NICB)
   - A. Offer incentives
   - B. Active support program
3. CONSUMERS
   - A. Support technology
   - B. Support insurance cuts
   - C. Wary of Tracking
4. MOTOR VEHICLE INDUSTRY
   - A. Great selling point
   - B. Resist due to cost
5. LINE POLICE OFFICERS (PORAC)
   - A. Resist Change
   - B. Wants Equipment now
   - C. Fear of Dept. tracking
6. POST & POLICE ACADEMIES
   - A. Provide training
   - B. Support Change
7. ANTI-THEFT & TRACKING CO.
   - A. Assist agencies / consumers
   - B. Opportunity for new market
8. DEFENSE ATTORNEY'S
   - A. Attack technology
   - B. Lobby for ban
9. STATE DEPT. OF JUSTICE
   - A. Integrity of agency
   - B. Implementation cost
10. MEDIA
    - A. High interest
    - B. Mistrust of L.E.
    - C. Look for Negative
11. LOCAL GOVERNMENT
    - A. Concerned about image
    - B. Concerned about cost
    - C. Support to fight crime
12. CALIFORNIA HIGHWAY PATROL
    - A. Central Agency
    - B. Support program
13. STATE ATTORNEY GENERAL
    - A. Support program
    - B. Standardize procedure
14. POLICE MANAGEMENT CAL CHIEF'S & SHERIFF'S
    - A. Recognize need
    - B. Manpower priority

C. Have the power of the purse-strings to assist in technology and implementation operation on a State level.

May prevent money or encourage money for technology.

2. INSURANCE COMPANIES & NICB (NATIONAL INSURANCE CRIME BUREAU)

At present, insurance companies are offering incentives in terms of reduced insurance rates for safety devices that motorists have on their cars. It is reasonable to suppose that, given the likelihood that measures proposed in this study will lead insurance companies both to provide additional incentives and to provide financial assistance in research and development on an enlightened self-interest basis.

A. Will offer further incentives for installation of anti-theft and tracking devices in consumer vehicles

B. Will assist and support industry in the developing technology to reduce their financial impact regarding vehicle thefts

C. Assist law enforcement in the investigation of vehicle thefts, NICB.

3. CONSUMERS

A. Support technology to allow them to feel safe in their movement in private vehicles

B. Support insurance companies to offer incentives to consumers who utilize anti-theft technology

C. May be wary of law enforcement's ability to track their vehicles, resulting in fear of big brother watching

4. MOTOR VEHICLE INDUSTRY (Possible Snaildarter)

A. Recognize and utilize technology as a selling point for safety and insurance reduction of their vehicles

B. Resist change due to increase of cost to their vehicles. It may take governmental action before they will add new electronic devices to automobiles on a regular basis.

C. Will work with POST to develop training.

5. LINE POLICE OFFICERS & PORAC (POLICE OFFICER RESEARCH ASSOCIATION OF CALIFORNIA)

A. Resist change, but responsive to documented results
Must prove the worth of the program prior to support

B. Frustration if tracking devices are not available for all officers in all areas

C. Apprehensive of tracking devices in their patrol vehicles fearing of supervisors tracking them

6. POST & POLICE ACADEMIES

A. Will want to provide the best training available

B. Will support change and encourage department's efforts to develop and implement training

C. Will provide available resources to assist agencies where possible in terms of training in the use of new technology

7. ANTI-THEFT AND TRACKING DEVICE COMPANIES

A. Will assist agencies and consumers in the selling and installation of products

B. Will look to this as a opportunity for a new market to promote their technology

C. Will assist law enforcement with training programs and design of equipment as an enlightened self-interest measure.

8. DEFENSE ATTORNEYS - (Snaildarter)

Both the original NGT panel and the members of the panel that assisted in the identification of stakeholders expressed concern over the reaction of defense attorneys with respect to the projected plans. Their point was that defense attorneys would be concerned about misuse of the technology without regard to the issue of "probable cause."

A. Attack technology as invasion of privacy

B. Lobby legislatures to ban tracking devices

9. STATE DEPARTMENT OF JUSTICE

A. Set guidelines and procedure on interface equipment with State computer system to protect integrity of department

B. Require fees to offset cost of implementation of program with their present system

10. MEDIA (Possible Snaildarter)

A. High interest in legal battle that may occur with implementation of program

B. General mistrust of law enforcement agencies and see them as uncooperative and trying to hide information

C. May look to negative stories over positive action by police to save lives and recover vehicles

11. LOCAL GOVERNMENT - CITY COUNCILS / COUNTY SUPERVISORS

A. Concerned about city/county image

B. Concerned about cost of program and equipment

C. Will support program and its stand to fight crime if the program would add to their image in terms of protection of citizens

12. CALIFORNIA HIGHWAY PATROL

A. Will be central agency due to statewide coverage and be the lead agency in the implementation of the program

B. Will support implementation of program because of its public relations value.

C. Will work with local agencies in cooperation with Cal-Chief's / Cal-Sheriff's to implement program for the reason stated immediately above

13. STATE ATTORNEY GENERAL / DISTRICT ATTORNEYS

A. Will work with law enforcement's efforts to arrest and convict

suspects for vehicle thefts

B. Will work statewide to standardize a procedure addressing suspects arrested for vehicle thefts and carjackings

14. POLICE MANAGEMENT / CAL CHIEF'S & CAL SHERIFF'S

A. Will be willing to address vehicle theft and carjackings as a major crime problem

B. Will be concerned of manpower allocations compared to other crimes and their own department priorities

C. Will work with each other through the above listed organizations, Cal Chief's & Cal Sheriff's, to develop a workable policy and procedure to improve the image of law enforcement

DEVELOPING ALTERNATIVE STRATEGIES

In order to execute the mission of this study the author met with a series of colleagues and with experts from outside law enforcement to generate several alternative strategies addressing this issue. The panel consisted of Corporal John Buckland and Sergeant Bill Ollar, Traffic Clerk Joe Mcnair all of the Yuba City Police Department, Fred Cotton of Search, Inc., Larry Vieira of CAL FARMS Insurance Company, and Myron Truex of Motorola Inc.

The panel used the Modified Delphi Process to generate a list of credible strategies. The panel then studied the strategies for their feasibility and desirability, and the following three alternatives were selected. The alternatives will not only be listed, but will be accompanied by the pros and

cons of each along with an assessment on how the strategy will be perceived by the stakeholders.

1. Law Enforcement takes the lead role utilizing the California Highway Patrol in the leadership role setting policy and guidelines for all agencies. Law Enforcement would assume insurance companies and technology industries would support program.

Pros: Clearly defines areas of responsibility, and accountability. One voice avoids conflicting statements on same issues. Making it easier to identify strengths and weaknesses to avoids duplication of effort and provides for clear definition of the desired end.

Cons: Failure to draw support from technology representatives, government & citizens in violation of mission statement.

One entity of the group may fail to meet or recognize the needs of entire group.

Assumption of support may never develop from insurance companies and technology industries.

Stakeholders Perceptions: Law enforcement segment of the participants may accept the idea and believe everything is fine. Insurance and technology companies my make no commitment to the program because they are not identified from the start. Media may not be attracted to the program because of no high profile attraction, law enforcement program only. Thus, consumers will not pick up on the program without the media and they will not become involved. State legislatures, Attorney General / District Attorney's and

POST will maintain status quo until they see a significant change. The motor vehicle industry will also stay status quo because their is not support for change.

2. State legislators set policies and laws impacting technology and insurance companies to produce anti-theft and tracking devices to combat vehicle theft and provide cost saving insurance in the process. Legislators also introduce laws increasing penalties for committing such crimes. Laws include funding and direct training for law enforcement

Pros: Commitment from government for funding and training.
Direction given to technology companies to develop products to impact vehicle theft.
Direction for insurance companies to support program and provide incentive to consumer.
Guarantees law enforcement the equipment to attack the specific crime.

Cons: Viewed by consumers as government telling them what to do and how to do it.
Viewed by insurance and technology industries as government telling them what to do and how to do it.
Restricts involved parties from creativity and problem solving on the issue.

Stakeholders Perceptions: When law enforcement first looked at this strategy they believed that it would be a great solution to the problem. Thus, government stakeholders, (Legislators, Attorney General, District Attorney's) and even law enforcement entities would view this strategy as very good. Insurance companies, motor vehicle industry, anti-theft / tracking device companies and even the consumer would feel that big brother is telling us what to do again. The media would pick up on the animosity of these stakeholders and would bring out all the negative issues into the open.

3. Law enforcement, state government, anti-theft / tracking device companies and insurance companies join in a united effort to address the problem of vehicle thefts utilizing the media to alert everyone of the problem and possible solution.

Pros: Joint corporation from the start builds trust and commitment into the program.
Everyone recognizing the problem and possible solution.
Responsibilities of all participants clearly defined.
Great public relations for image of law enforcement.

Cons: Law enforcement agency size may limit commitment.
Large group process may slow implementation.
Slow implementation may bring negative media attention.

Stakeholders perceptions: Cooperative effort by the major stakeholders is

a very positive approach. It presents a very indisputable appearance to the media who in turns relays the same image to the consumer. Trust is built into the program due to everyone having input into the setup and operation of the program. A united stance with everyone working towards a well defined goal allowing for feedback and input will only strengthen the program.

PREFERRED STRATEGY

The strategy was targeted with keeping in mind the mission statement: Law enforcement utilizing all resources available are devoted to participating with state government, public and private industries, insurance and the citizens in which we serve... Thus, the third strategy with the addition of the California Highway Patrol taking the lead law enforcement role was recommended by the group as the direction that should be followed. Encouraging joint cooperation by all stakeholders in the program including the acceptance of feedback both supportive and critical are essential. California Highway Patrol would assume the lead law enforcement role based on their state wide enforcement. The group felt that one agency with input from law enforcement agencies throughout the state would better serve the overall mission.

Start-up costs for the program outlined below are difficult to estimate. It is reasonable to suggest, however, that if the program is successful that there will be substantial savings both at the state and local level in terms of swifter apprehension of vehicle thieves and the likelihood that vehicles that now disappear out of state or into "chop shops" will be returned to

their owners intact and in an expeditious manner. It seems, then, that such a program would result in a net gain for the citizens, law enforcement and the insurance industry alike.

IMPLEMENTATION PLAN

The transition management plan for strategy implementation is a time line covering approximately five years covering three phases until operation. The phases are: 1) Assessing and Developing a Program 2) Preparing for Change and 3) Implementation. The first step in the process is the establishment of a committee and project manager to oversee the implementation process and be responsible for ensuring that all phases are carried out. This is handled by California Highway Patrol and assigned agencies.

The major obstacle in the completion of this process is bureaucracy in general and its failure to move in a expedient manner. Utilizing such a wide variety of stakeholders may cause for the process to be delayed.

The Commissioner of the California Highway Patrol would be in overall charge of the program. He would first appoint a project manager from his staff to handle the details of the program for him. He would also select from specialists in the various technical fields, in law enforcement and insurance companies individuals who would select members of a council whose job it was to carry out the program under the direction of the project manager. There would be, thus, as an organization consisting of an executive and a council or committee composed of technicians, law enforcement officials and insurance

company executives, the three groups believed to be most interested in the program. Care should be taken to include as members of the council individuals with good connections with both the stakeholders listed above and the critical mass to be discussed in the section that follows. This organization would run the program, taking the steps described below.

Phase 1: Assessing and Developing a Program:

Time line: Zero to eight months.

This phase lays the ground work and includes;

Recognize present condition and reason for change

Evaluation of current resources available

Identify internal and external resources

Identify training methods to be used

Establish time lines for all components of program

Phase 2: Preparing for Change:

Time line: Nine months to a year

This phase puts into operation the training and direction:

Continue to keep all stakeholders informed to maintain their commitment to the goal and mission.

Education and Training of personnel on new equipment.

Ongoing communication to reduce employee uncertainty and minimize counterproductive rumors.

Budget for project cost

Phase 3: Implementation:

Time line: One to three years

The implementation of the program include:

The program reaches fulfillment

On going evaluation of the program results with effectiveness of the chosen training

Maintenance of communication with all those involved in the program to determine if needs are being met.

SUMMARY

The strategic management plan provides a procedure to initiate the desired and obtainable future described in the normative scenario. Utilizing environmental analysis to recognize opportunities and threats that would have impact on successfully achieving the mission, the strategic management plan is developed. The study then looked inside the California Highway Patrol, organization analysis, to assess the strengths and weaknesses of its ability to achieve the mission.

Stakeholders (individuals, groups, or organizations) having significant interest in the success or failure of the strategic issue and sub issues addressed in the strategic plan are identified. Assumptions as to their projected position in relationship to the issue are made on each stakeholder.

Developing alternative strategies were completed and reviewed in a group process resulting in one specific strategy selected. Transition management plan for strategy implementation was designed with time lines covering approximately five years until operation. The implementation would be completed in three phases consisting of 1) Assessing and developing the program, 2) Preparing for change, and 3) implementation.

TRANSITION MANAGEMENT PLAN

BACKGROUND

This part of the study focuses on a transition management plan for the organization defined in the previous section to prepare the California Highway Patrol and all California Law Enforcement Agencies to prepare for the use of technology in the reduction of the crime of vehicle theft by the year 2000. Critical to implementing the strategic plan is the process of "getting from her to there", or moving from the current state to the desired state. The success, or failure, of the change process depends on how well the transition process is managed. A transition management plan must be designed for the unique environment of each individual organization utilizing a recommended strategy developed by the organization.

The strategy developed in an earlier phase of this study is utilized in the development of this transition management plan. That strategy is as follows:

Law enforcement, state government, anti-theft / tracking device companies and insurance companies join in a united effort to address the problem of vehicle theft utilizing the media to alert everyone of the problem and possible solution.

The joint cooperation with several stakeholders builds trust and commitment from the very start of the implementation. Everyone recognizing the problem and working together towards a possible solution. Responsibilities of all participants are clearly defined and understood. This positive approach

presents a indisputable appearance to the media who in turns communicates the same image to the consumer.

Trust is built into the program due to everyone having input into the setup and operation of the program. A united stance with everyone working towards a well defined goal allowing for feedback and input will only strengthen the program.

A transition management plan consists of three distinct but interdependent parts. First, those persons necessary to make the change begin are identified, their current commitment status is analyzed, and ways to build or change commitment are suggested. Next, the structure(s) necessary to manage the change effectively are identified. Finally, methods and tools that can be employed to support implementation and to minimize the negative impact of change on the California Highway Patrol.

COMMITMENT STRATEGY

The first phase of a transition management plan is to develop a commitment strategy. This involves a series of action steps to obtain support of the key stakeholders who are critical to the change effort. From this group of stakeholders, it is necessary to identify the critical mass. The critical mass can be identified as those individuals or groups whose active commitment is necessary to provide the energy for change to occur. If the critical mass support the plan it is likely to succeed, and if they oppose it, it is likely to fail.

CRITICAL MASS

The critical mass are the individuals or groups that are necessary to create the desired change. The critical mass differs from the stakeholders due to the intensity of influence regarding the issue. The critical mass was identified with the assistance of a panel consisting of Sergeant Bill Ollar, Corporal John Buckland and Clerk Joe McNair, all of the Yuba City Police Department.

The critical mass identified regarding the impact technology will have on the reduction crime of vehicle thefts by the year 2000 include the following:

CRITICAL MASS ACTORS:

State Legislators
Motor Vehicle Industry
California Highway Patrol
Department of Justice
Anti-Theft & Tracking Device Companies
Insurance Companies
Defense Attorney's
Media
POST
Police Management
Cal Chief's & Cal Sheriff's

As was noted above, the members of the council in charge of the entire program must include those with good connections with the critical mass members named above. In essence, since this is a statewide project, care must be taken to take political realities into account so that neither stakeholders (and they are likely to be many in some of the smaller communities) nor the individuals who make up groups named in the critical

mass are in a position to block the program or inhibit its progress.

COMMITMENT CHARTING

Once the critical mass has been identified, it is necessary to determine the commitment of the proposed change. Their composition in relation to the issue, and the position which they need to assume to make the change successful needs to be identified. The below chart, "Critical Mass Commitment Chart", identifies the current position and desired position of each member of the critical mass in terms of; block the change, let the change happen, help the change happen, and make the change happen. Following the chart is a short summary of each critical mass actor and the possible intervention strategies which can be used to gain the needed commitment for success of the transition plan. Some of the actors are at a desired position currently and the only strategy necessary at this time is to monitor their position.

"CRITICAL MASS COMMITMENT CHART"

ACTORS IN CRITICAL MASS	TYPE OF COMMITMENT: BLOCK CHANGE	LET CHANGE HAPPEN	HELP CHANGE HAPPEN	MAKE CHANGE HAPPEN
STATE LEGISLATORS	0		X	
INSURANCE COMPANIES		0	X	
MOTOR VEHICLE INDUSTRY	0	X		
DEFENSE ATTORNEYS	0	X		
CALIFORNIA HIGHWAY PATROL			0	X
MEDIA (PRESS AND TELEVISION)	0	X		
POLICE MANAGEMENT		0		X
DEPARTMENT OF JUSTICE		0-X		
ANTI-THEFT & TRACKING DEVICE CO			0-X	

STATE LEGISLATORS -- Presently legislators as a whole are functioning in a "Block Change" position. This a result of a few key members of the legislature that serve on the Criminal Justice Committee and control the movement of vital laws that are forwarded to the entire body of the legislature. The Assemblymen chairing this committee and is appointed by Speaker of the House. The Chairman's current posture has been to block several law enforcement issues from ever reaching the floor of the assembly.

Current changes in the legislature with Term Limits beginning to remove senior members from legislature is causing a major change in how citizens approach the legislators and encourage passing of certain bills. Law Enforcement will no longer have the few powerful positions to deal with but will need to address the ever changing membership on a grassroots program.

Law enforcement will need to contact all the legislators to show support for change and the importance of such change. The committee will need to move the special committees from the "Block Change", to the "Help Change Happen".

INSURANCE COMPANIES -- Insurance companies presently show a monetary loss in reference to vehicle thefts. They have not taken a very active role in trying to improve the technology and reduce the loss of vehicle thefts, thus, they need to be placed in a "Let Change Happen" position. The insurance companies need encouraged to move to the "Help Change Happen" position during the process.

Movement can be made by educating them and showing them the benefits of such change. This would not be a hard task to take on during this transition management.

MOTOR VEHICLE INDUSTRY -- The motor vehicle industry is in the business to make a profit for their companies and to sell automobiles. The addition of such technology on their vehicles may result in higher cost of the product and possibly the consumers going elsewhere to make a purchase. The motor vehicle industry is in a "Block Change" position at this time.

They must be brought to a "Let Change Happen" position and be shown that by mass production of such technology will;
1) reduce the overall cost, 2) provide a safety factor, and 3)possibly decrease the insurance rates resulting in an increase in sales of their vehicles.

DEFENSE ATTORNEYS -- Defense Attorneys will look at this technology as an invasion of privacy and are presently in a "Block Change" position. They need to moved to a "Let Change Happen" level on the commitment plan. This movement could be handled by the passing of laws supporting such action and thus blocking the defense attorney's avenues to impede such progress. Grassroots work with our legislators as mentioned before would be required to make this change happen.

CALIFORNIA HIGHWAY PATROL -- The California Highway Patrol presently support such change and that is evident by their active leadership on statewide Vehicle Theft Committees sponsored by the California Peace Officer's Association and the Governor's Task Force on Vehicle Theft. They are presently in a "Help Change Happen" position and need to be moved to the front of this program into the "Make Change Happen".

The profile of this program has the California Highway Patrol assuming the lead agency position. This is based on the fact that they are statewide and have the ability to monitor the whole program with little change in their structure. By empowering them as the lead agency and giving them support at all levels of government there should be no trouble with them moving into the "Make Change Happen" mode.

MEDIA -- Some members of the media has the capabilities and seem to have the desire to identify any negative action that occurs by law enforcement in general. The media will perceive this program as a big brother is watching idea and would be presently placed in a "Block Change" position. The committee must move them to a "Help Change Happen" position but realistically just moving to "Let Change Happen" would suffice.

The media must be educated on the entire program showing them why such action is necessary and what benefits the program can do for the citizens of our State if the strategy is carried out.

POLICE MANAGEMENT / CAL CHIEF'S & CAL SHERIFF'S -- Police Management are key members of the critical mass. They are working with he California Highway Patrol for the execution of the plan and modeling the desired change. They must complement one another in a team effort and move from a position of "Letting Change Happen" to the "Make Change Happen".

The committee will need to address their concerns of manpower, etc. but will need to clearly identify why the change needs to occur so that they can communicate this information downward to the line personnel. A lead person, designated by his / her peers from the management structure will need to address this group and keep them informed of the programs progress.

DEPARTMENT OF JUSTICE -- The Department of Justice currently operates in a "Let Change Happen" position. They set the guidelines and procedure on interface equipment with the state computer system to protect integrity of the system. They will be required to work with the private sector and law enforcement to evaluate requests for interfacing of the computers based on legal and professional criteria.

They have the authority to grant or deny access to the state system and thus need to be moved to the "Help Change Happen" position. I do not see this as a problem and assume that they will work right along with the program.

ANTI-THEFT & TRACKING DEVICE COMPANIES -- The Anti-Theft and Tracking Device Companies are presently in a position of "Help Change Happen" based on their

desire to increase their products on the open market. It is important to leave them at their present position and utilize their knowledge and expertise to help the change, not make the change. If they become to involved in the process it may appear like they are self-serving and not trying to meet the desired mission of the entire program.

TRANSITION MANAGEMENT STRUCTURE

To be successful during the transition process usually requires a separate structure and form of management appropriate to its goal. The management structure for the proposed change must be specifically suited for the task at hand. It should be considered temporary, and focus specifically on the transition process.

The management structure for this transition is a combination of A) Project Manager with B) Representatives of constituencies of the critical mass. The Project Manger will be from the lead agency in the project, California Highway Patrol.

The project manager will possess the authority to make decisions and cross organizational barriers, in theory take on the "executive" role. The project manager must possess interpersonal skills, the respect of the representatives of constituencies, and a strong dedication to making the change precess a successful one. The project manager's vision becomes the vision of the entire transition team. "His or Her vision is our vision."

The representatives of constituencies will incorporate members who can effectively address the issues with the clout to mobilize resources and keep the transition process on line with the established time line. They will be given the authority by the California Highway Patrol to make the necessary changes or corrections to keep the program on schedule.

The Project Manager with representatives of constituencies is appropriate for this program based on the need for joint cooperation with the numerous critical mass agencies involved in this transition. Project manager is with the lead agency and he/she facilitates communication and participation from each of the participating representatives. This form of structure will induce participation by the various representatives as they work through the transition period.

The transition team must avoid certain traps and be aware of people's concerns and reaction's during the change process.

The team must:

A. Create a clear and inspiring vision that everyone can understand and share. (Be Constant)

B. Be ruthless in the drive to succeed - consistency.

C. Direct and Manage all energy, especially negative energy needs to be directed and managed.

D. Provide overkill on information, use every opportunity to repeat the vision. Accurate reporting of information for feedback.

E. Teamwork - everywhere and everyone.

IMPLEMENTATION TECHNOLOGIES

Transition management plans must address the technologies and methods which can be employed to support implementation. Resistance to change is to be expected, and several technologies are available to lessen, or at least manage, change generated anxiety. This anxiety can result in behavior that can work against achieving the desired purpose. It is critical that key problems are anticipated, plans must be clear and consistent, communication flows freely, and the entire transition management team shares the same vision for success. This study will utilize three methods and technologies, listed below, for activation of the transition management plan.

Responsibility Charting: Responsibility charting provides a explicit display of the actions to be taken, the actors involved in those actions, and level of responsibility for those actions. This technique reduces ambiguity, saves energy and reduces interpersonal reactions of people involved in the change process. The project manager holds the ultimate responsibility for developing the overall plan, monitoring the change and keeping the representatives of constituencies informed. Utilizing a responsible chart you can clearly spell out roles and relationships; refer to page 90 for the responsiblity chart.

Shared Information: It is critical that information obtained during the transition process be shared with all members of the transition team. This will reduce or even eliminate the anxiety that accompanies change. Shared

RESPONSIBILITY CHART

R = Responsibility (not necessarily authority)
A = Approval (Right to Veto)
S = Support (put resources toward)
I = Inform (to be consulted)
- = Irrelevant to this time

CRITICAL MASS (Actors)

DECISION	STATE LEGISLATORS	INSURANCE COMPANIES	MOTOR VEHICLE INDUSTRY	DEFENSE ATTORNEYS	CHP-PROJECT MANAGER	MEDIA	POLICE MANAGEMENT	DEPARTMENT OF JUSTICE	ANTI-THEFT COMPANIES
Lobby for Law Change	A	A	A	I	S	I	A	A	I
Mass Production of Technology	I	A	A	-	S	I	I	A	R
Introduction to Law Enforcement	-	A	A	I	R	I	A	A	A
Introduction to Media	I	S	S	I	R	S	S	I	A
Maintain Group	I	I	I	I	R	I	A	I	I
Install Equipment	I	S	S	-	A	I	A	A	R
Train Officers	A	S	S	I	A	I	R	S	S
Feedback by Citizens	S	I	I	-	R	-	A	S	A
Evaluate Program	S	S	S	-	R	I	A	A	S
Continue Research	I	S	S	-	S	I	A	A	R

TASK

Illustration #26

information can be completed by group meetings with the representatives or by word of mouth of an individual basis. The project manager may take the lead role in sharing of information but all members of the transition team must take the responsibility to keep each other informed as the process advances.

Communicating a Vision: Where there is no vision law enforcement may have uncertainty and discord among the officers. Reluctance to change and the

natural tendency to maintain status quo requires the transition team to clearly communicate a clear vision of the program. This is not a one-time task, it is an ongoing process that serves to keep the goal in the forefront in the teams mind.

The project leader plays the key role in setting the tone by introducing the vision, but it will require the efforts of the entire team to share and sell the vision. The entire team must be focused on the project and moving forward in a timely matter.

The team will evaluate the effectiveness of each implementation technology by the overall advancement of the team along its time line. This will require feedback from its members at designated intervals during the transition process. The three technologies utilized to support implementation are ideally designed to offer feedback as required for this evaluation procedure.

TRANSITION MANAGEMENT (IMPLEMENTATION) PLAN

The transition management plan is a time line covering three years from start of transition to up and running under the proposed plan. Once the development of the program and the preparation for change is completed the California Highway Patrol will step into the transition period. Utilizing the representatives of constituencies is an important part of this plan.

First Year:

A. The Commissioner of the California Highway Patrol will appoint Project Manager to oversee the program.

B. The Project Manager will form a council consisting of representatives from technical firms, law enforcement and the insurance industry.

B. The Project Manager and the council will work with legislators and insurance companies in addressing the current laws and incentives for installation of anti-theft & tracking devices in passenger vehicles.

C. The Project Manager and the council will work with the motor vehicle industry and the anti-theft & tracking device companies in the development of mass production of devices for automobiles.

D. The Project Manager and the council will plant the vision with police management, department of justice, and California Highway Patrol on the proposed plan.

Second Year:

A. Start the media campaign and push with the legislators for enactment of laws supporting the change and encouragement of installation of such devices in vehicles that are affordable for all consumers.

B. Start working out the logistics on the interfacing of equipment with the private and public sector.

C. Begin training at the end of the second year on use of the equipment for the private and public users.

Third Year:

A. Start the utilization of the technology into the public sector and private sector.

B. Utilize the media, legislators and police management in a highly publicity campaign displaying the completion of the project.

C. Document and monitor all results, positive and negative.

SUMMARY

During this entire process the California Highway Patrol will be utilizing the implementation technologies outlined earlier in this study. They will constantly maintain a monitoring program with responsibility charting, sharing information and working towards the shared vision with all of representatives of constituencies.

Monthly meetings with the project manager and representatives of constituencies will be required to ensure that everyone is kept abreast of the progress as well as the pitfalls.

Success of the program can not be enjoyed by one key critical person but must be shared by all identified critical mass actors to ensure that all visions and goals are met with the project.

CONCLUSIONS

The purpose of this research project was to examine the "Anti-Theft Technology" and its effect on Vehicle Theft by the year 2000. Technology in this domain may effect anti-theft devices in two ways. The first is to prevent the vehicle from being stolen initially. Second, the technology to locate the vehicle if it is stolen. Law Enforcement must prepare for the future and have policies and procedures in place to meet the ever changing world.

It appears that this research has addressed the specific issue and sub-issues identified through brainstorming, futures wheel and nominal group technique. The sub-issues identified and covered in this research are as follows:

1. What type of political organization might be required to bring anti-theft technology on line?

The problem to be addressed was clearly a statewide rather than a local issue because stolen automobiles generally leave the jurisdiction in which they are stolen and because auto theft occurs in every jurisdiction in the state. For this reason, it became apparent that a statewide organization was required to deal with the problem. The data indicated that the natural organization to head up the program was the California Highway Patrol. The selected plan involved a project manager appointed by the Commissioner of the Highway Patrol assisted by a council consisting of representatives from law

enforcement, insurance and specialists in auto-theft technology.

2. How might interested groups be used in preparing the way for the application of vehicle theft detection?

The three interested groups named above, namely law enforcement, insurance companies and specialists in auto-theft technology, all appeared to have a natural interest in the development of auto theft detection. Law enforcement would benefit because reduction in auto thefts and swifter recover of stolen vehicles would both cut costs and enhance its reputation with the citizens who support it with their taxes. Insurance companies would benefit because they would pay less in insurance claims because automobiles would be recovered swiftly and intact. Auto theft technology companies would benefit through increased business.

In the Strategic Plan, these three groups were used as part of a steering committee empowered to bring the necessary technology on line and set the entire program in motion. It was seen that all three groups would be well-motivated to undertake such efforts because each would, in its own way, derive benefit from the success of the program.

3. What funding sources will be available for future technology?

This research has identified numerous possibilities in regards to the funding of such technology in the future. Ideally the funding will be a joint effort

with vehicle manufactures, insurance companies, state / federal assistance and consumers joining in meeting the needs of the cost of such technology. The National Insurance Crime Bureau works with insurance companies and is a excellent resource of information along with the central source for the possibility of financial assistance from the insurance companies.

Budgetary problems that face state and local agencies in the 90's will not likely go away as Californian's approach the year 2000. Thus it is essential that law enforcement join together with numerous stakeholders as this research has identified to make this plan work.

It is clear that start-up costs for the program outlined below are difficult to estimate, but might be met in part to assistance provided from the insurance industry and perhaps automobile manufacturers as well. The effects of the program are much easier to estimate. Fairly obviously, if the program is successful, there will be substantial savings both at the state and local level in terms of swifter apprehension of vehicle thieves. In addition, those vehicles that now disappear out of state or into "chop shops" will be returned to their owners intact and in an expeditious manner. This would seem to indicate that such a program would result in a net gain for the citizens, law enforcement and the insurance industry alike.

"How can Anti-Theft Technology be applied to
Vehicle Theft Detection by the year 2000?"

This research has identified the need for the California Highway Patrol to take the lead position as a central agency in directing resources and manpower, utilizing both public and private sector in developing technology and training, to address the issue of vehicle theft. Input from law enforcement personnel, insurance companies, and technology companies show that joint cooperation can have a very positive effect on vehicle theft in the reduction in the amount of vehicle thefts and number of injuries from vehicle thefts be it a car jacking or vehicle pursuit of a stolen vehicle.

RECOMMENDATIONS

The focus of this research has been identifying the technology presently available and what kind of organization might be useful in implementing such technology into the present operation of law enforcement agencies. Research has identified that this program would require joint cooperation between governmental agencies and private sector companies. The results of such cooperation would not only benefit law enforcement but would also benefit the private sector financially and peace of mind for our citizens.

There is no question but what this area deserves further study. The plan envisaged called for a statewide effort and was somewhat general in nature of necessity. It is suggested that this area be investigated in other futures methodology studies to determine what problems might exist within individual law enforcement agencies in connection with such a program and how those problems might be addressed.

Law enforcement agencies in the State of California have the opportunity to implement the plan outlined in this research. It is suggested that these agencies start now by developing the program, educating and training the stakeholders and last but not least implementing the change into a highly technological progressive law enforcement by the year 2000.

ENDNOTES

1. Sourcebook of Criminal Justice Statistics 1991, Table 3.155, p. 301. Uniform Crime Reports, U.S. Dept. of Justice

2. "Uniform Crime Reports", U. S. Dept. of Justice, F.B.I. released August 30, 1992, p. 50.

3. State of California, Office of Traffic Safety Public Information Program, Operation "Green Speed" May 1994.

4. Department of California Highway Patrol, "Vehicle Theft and Recovery Data for 1993" 065-16 Investigative Service Section

5. YUBA CITY POLICE DEPARTMENT Statistics for 1986 & 1982

6. YUBA CITY POLICE DEPARTMENT "H.E.A.T.", (Help End Auto Theft) PROGRAM. Handled by the Y.C.P.D. Crime Prevention Unit

7. Yuba-Sutter "The Appeal Democrat" Newspaper. Saturday, April 3, 1993 p. D-12.

8. Violent Crime Control Act of 1992, Title III - Carjacking. "Congressional Quarterly", October 10, 1992 - p. 3167.

9. "Washington Post" - September 22, 1992 pages D-1 and D-8.

10. "New York Times", June 26, 1991 p. D7(L).

11. "The New York Times" - February 9, 1991 p. 48.

12. GIS - Technical Memorandum 3: Global Positioning Systems Technology and its application in Environmental Programs. EPA/600/R-92/036 Published February 1992 p. 21.

BIBLIOGRAPHY

1. ALEXANDER, Larry D., "Successfully Implementing Strategic Decisions", THE JOURNAL OF THE STRATEGIC PLANNING SOCIETY: LONG RANGE PLANNING, PERGAMON JOURNAL LTD, Great Britain Vol. 18, 1985

2. BENNIS, Warren, "Change: The New Metaphysics", EXECUTIVE EXCELLENCE MAGAZINE, November 1993

3. BRIDGES, William, "Managing Organizational Transitions", ORGANIZATIONAL DYNAMICS, Summer, 1986, pp. 28-32

4. BURKE, Tod W. and O'REAR, Charles E., "Armed Carjacking: A Violent Problem in Need of a Solution", THE POLICE CHIEF, January 1, 1993

5. DOUGLAS, Michael, "Big Brother begins blipping as new vehicle tracking systems covers city", HOUSTON BUSINESS JOURNAL, October 5, 1992

6. ENG, Paul M., "Car 54 - oh, there you are. - (California Highway Patrol's Vision 20000 system's Automatic Vehicle Locator uses Global Positioning Satellite system)", ELECTRONIC NEWS, April 6, 1992.

7. GAEBLER, Ted, "Bureaucracy's Gotta Go!", THE AMERICAN LEGION MAGAZINE, August 1993

8. GRISAFULLI, Patricia, "Illinois tests navigation systems with a computer on the dash. (Illinois Department of Transportation - Motorola Inc. - Research)", JOURNAL OF COMMERCE AND COMMERCIAL, December 30, 1991

9. HEGARTY, W. Harvey and HOFFMAN, Richard C., "Who Influences Strategic Decisions?", THE JOURNAL OF THE STRATEGIC PLANNING SOCIETY: LONG RANGE PLANNING, PERGAMON JOURNAL LTD, Great Britain.

10. KANTER, R.M., "Managing the Human Side of Change", MANAGEMENT REVIEW, April, 1985, pp. 52-56

11. KITCHEN, Rosemarie, "A definite yes for security products. (Merchandising of anti-theft devices and car security systems)," AFTERMARKET BUSINESS, July 1, 1993

12. NAISBITT, John, "Local Government: The New Capitalist Tool", JOHN NAISBITT'S TREND LETTER, November 1992

13. PUTERSKI, Robert, / CARTER, Jerome A., / HEWITT, Mason J. III, / STONE, Heather F., FISHER, Lawrence T. Ph.D., / SLONECKER, E. Terrence, "GIS Technical Memorandum 3: Global Positioning Systems Technology and its Application in Environmental Programs", ENVIRONMENTAL MONITORING SYSTEMS LABORATORY OFFICE OF RESEARCH AND DEVELOPMENT, February 1992

14. REED, Richard and BUCKLEY, M. Ronald, "Strategy in Action - Techniques for Implementing Strategy", LONG RANGE PLANNING VOLUME 21, JUNE 1988

15. RUOTOLO, Andrew K. Jr., "MDT's Aid Auto Theft Task Force", THE POLICE CHIEF, September 1992

16. SHELDRICK, Michael G., "Automotive Electronics: Smart Car may be Just Down the Smarter Road." ELECTRONIC NEWS, April 6, 1992

17. SWANSON, Karel, A., "Managing Change i the Public Sector: an Organization Development Approach", September 1987

18. SZILAGYI, Andrew D. Jr. and WALLACE, Marc J. Jr., "ORGANIZATIONAL BEHAVIOR AND PERFORMANCE - 5TH EDITION", Harper Collins Publishers

19. TAFOYA, William L. Ph.D., "The Future of Policing", FBI LAW ENFORCEMENT BULLETIN, January 1990

20. THERRIEN, Lois, "To Thwart a Thief: The Latest in Car Protection", BUSINESS WEEK, September 7, 1992

21. WIEFFERING, Eric J., "Mac and Bill's alarming development", CORPORATE REPORT - MINNESOTA, December 1993

APPENDIX A

NOMINAL GROUP TECHNIQUE

NGT PANEL MEMBERS

The nine professional members of the community and law enforcement officials that were recruited to act as members of the NGT panel. Their selection was based upon knowledge and experience in their field and its relationship with the issue. The panelists were:

Mr. Fred Cotton: Search Group Inc. Sacramento, Calif., with six years involvement in high technology and computer crimes. Previously a Police Officer responsible for the Traffic Division with 13 total years of Law Enforcement experience. Presently a Reserve Police Officer.

Mr. Carl Adams: Criminal Prosecutor - presently elected District Attorney for Sutter County, since 1982. Has over 17 years of experience as a prosecuting attorney. Prosecuted numerous vehicle theft cases.

Mr. Myron Truex: Owner of local Motorola Outlet, Sutter Buttes Communications. 17 years of experience with technology regarding tracking and Mobile Digital Terminals, prior Deputy Sheriff Reserve.

Captain Richard Doscher: Yuba City Police Department Division Commander responsible for Investigations Division. Has 21 years of experience in Law Enforcement, 16 years with Yuba City Police Department.

Mr. Carl Miguel: Sutter County Chief Probation Officer, 24 years of experience in the field of probation. Has talked to and worked with numerous suspects involved in vehicle thefts.

Mr. Gordy Stringfield: General Sales Manger with Geweke Ford in Marysville, worked in car sales for 16 years. Familiar with recent technology products offered in new models.

Mr. Larry Vieira: Insurance Agent for 15 years and prior to that was a police officer with 10 years of experience in patrol. Aware of trends in vehicle thefts and its effect in the insurance field.

Officer Ken Manies: California Highway Patrol Officer with 24 years of experience. Presently assigned as Auto Theft Investigator for the local CHP Office.

Lieutenant Bruce Muramoto: West Sacramento Police Department presently in charge of Uniform Division. Over 20 years of experience in the field of Law Enforcement.

APPENDIX B

N.G.T. PANEL

1. Welcome everybody for coming and explain what the N.G.T. Panel is and what is Command College.
2. INTRODUCE THE ISSUE: "HOW CAN ANTI-THEFT TECHNOLOGY BE APPLIED TO VEHICLE THEFT DETECTION BY THE YEAR 2000?

   Talk about some present tech - ideas - groups
3. Have panel introduce themselves and there expertise and present profession. How long is your present field.
4. Explain my reasons for the panel members.
5. Explain the process of NGT - TRENDS - EVENTS
6. TRENDS:

   Expose objective analysis trends.

   Vehicle Theft will continue to rise in the next ten years.

   California will stay in a recession for the next five years.

   Budget cuts will continue to impact officers on the streets.

   Development of Technology will increase/improve in the field of auto tracking - auto theft prevention

   Vehicle registration will continue to increase in California

   Individual Work - list 10 trends

   List ideas in a round robin - list on chart

   Join similar trends listed

   Vote for top ten - utilize 3 X 5 Card

   Trend Analysis - utilize form

7. EVENTS:

Individual work listing 10 events

Ideas listed in a round robin - list on chart

Join similar trends listed

Vote on Top Ten - utilize 3 X 5 Cards

Event Analysis - utilize form I. D. Events

Probability of Event occurring in 10 years

" " " in 5 years

Years until probability of first occurring

Positive impact or negative impact

APPENDIX C

July 6, 1993

_____
_____
_____
_____

Dear _____:

Thank you for agreeing to participate as a member of my Nominal Group Panel for my Command College intersession exercise. We will be meeting on Friday, July 9, 1993, in the Sutter Conference Room at City Hall, 1201 Civic Center Blvd. I have scheduled the panel to begin at 8:00 AM. The session should conclude by 11:30 AM, and we will adjourn to lunch at the Full House Restaurant.

The issue I have selected is "How can Anti-Theft Technology be Applied to Vehicle Theft Detection by the Year 2000?" Sub-issues identified with this issue include:

1. How will citizens respond to tracking technology and possible infringements upon their civil rights?

2. How will this technology assist law enforcement involved in vehicle pursuits?

3. How will such programs / technology be funded?
   Will it be by law enforcement, private entrepreneurs developing the technology or even The National Auto Theft Bureau?

As a participant you will be asked to identify current TRENDS which may have an impact on these issues. "A TREND is a series of events by which change is measured over time." An example of a trend in this field is - Vehicle Theft is becoming a very violent crime.

I will ask you to list ten trends at the beginning of the session on the attached paper. You may want to start thinking about your trends now and list them on the attached trend evaluation form.

We will then discuss the group's entire selections and try to identify trends that will most likely occur during the next ten years.

We will then list 10 EVENTS in the same manner as you did trends. "An Event is a discrete, one-time occurrence that can have impact on the issues - trends." An example of an event would be - State Law is passed making it mandatory that all vehicles sold after 1996 be equipped with tracking devices.

You may want to list some events now on the attached event evaluation form to better prepare you for our activity.

Once the events have been identified you will project the probability of the event occurring and when it will occur over the next ten years.

The entire panel exercise should be concluded by 11:30 AM. I will then treat you to lunch in appreciation for your time and effort in helping me with my intersession project.

If you have any questions, please give me a call at 741-4674. Thank you again for helping me with this project and I look forward to seeing you Friday at 8 AM.

Sincerely,

Captain Scott Berry
Field Operations Division

APPENDIX D

OVERALL LIST OF TRENDS

1. Advances in Microprocessor Technology will provide Multiple Functioning for safety and convenience.

2. Vehicles will be able to combine GPS for travel maps inside vehicle via a single monitor, cellular phones will use the same monitor in a windows configuration.

3. Voice recognition will increase in popularity and usage in the electronic ignition to start and run vehicles.

4. Built in 911 phone call emergency button will activate the vehicle location device, call 911 and shut down the vehicle electronic system in a specified time.

5. Citizens begin arming themselves which may lead to more violent Confrontations.

6. Remote vehicle starting and locating systems are developed that allows you to find your vehicle in parking lots

7. Vehicle locating devices - GPS and cell phones

8. Because of the negative economy crime will be on the upswing - including auto theft.

9. Expect vehicles to be parted out at scene - fenders, windshields etc., to avoid tracking devices.

10. Expect more deaths and injuries to occur due to carjackings.

11. People will arm themselves in vehicles in order to safeguard their private possessions.

12. Insurance rates will go up even higher to off set the comprehensive loss of theft.

13. Knowledge of high-tech is increasing in our society as a whole, as evident by computer literacy. High tech crime will rise.

14. The U.S. is losing its edge on high-tech development to countries like japan, so security is no longer controlled in the U.S.

15. GPS Systems are becoming cheaper and more accurate.

16. Computer Systems used to control GPS Systems are complex and have many security flaws.

17. Increased air pollution from vehicle exhaust will slow the manufacture of vehicle volumes. New vehicles will have better Anti-Theft devices.

18. Older, inefficient vehicles with poor security will be phased out on pollution controls.

19. Telecommuting will help reduce the numbers of vehicles on the road. Effecting thefts from business locations and carjackings.

20. Social acceptance of the RAP/Gang Culture will wane and a return to family unit values will re-emerge, reducing violent crimes.

21. Molecular transmission and re-constitution will eliminate vehicles all together, but burglaries will increase rapidly.

22. Neighbors will band together in order to assist each other in combatting auto theft.

23. Insurance Companies continue to offer incentives, i.e. reduced premiums for anti-theft devices on vehicles.

24. Insurance Companies may not insure vehicles that are not garaged during darkness.

25. Insurance Companies may not insure vehicles in certain high crime areas - Particular target areas may be uninsurable.

26. Due to high loss ratio in California - many insurance companies will leave state - leaving primarily high risk, expensive companies.

27. Insurance Premiums will go out of sight.

28. Auto theft become increasing more violent.

29. Anti-Theft Technology will focus more on moving cars.

30. Courts will permit greater use of force in defense of property & self defense in carjacking.

31. We will continue to move towards GPS Tracking.

32. Computer Anti-Theft devices continue to be developed.

33. More people will arm themselves.

34. More laws developed re: car thefts & carjackings.

35. Carjackings will increase.

36. Gangs or crooks will be more computer literate.

37. More vehicles will be controlled by keyless locking devices.

38. More people will be buying car alarms.

39. Auto manufacturers develop more anti-theft devices.

40. Voice recognition / ID fingerprint technology will continue to increase and be affordable.

41. Personalized ID - Fingerprint - Voice Id, etc. will be tied to vehicle ignitions.

42. Cars will abandon physical "Keys" in favor of codes - thumbprinting - combination locks and radio wave devices to operate.

43. Auto tracking devices will be more common.

44. On board computers in police cars will quickly access stolen vehicle data bank.

45. Technology will permit turning off engines remotely and police will control the remote,resulting in "No more Auto chases".

46. Probable cause waivers will become common and courts will enforce against a non owner / driver.

47. Technology will be paid for by new car prices and insurance reductions to make them affordable to the consumer.

48. Increase in substance abuse: Cause a need money to support habits.

49. Breakdown of the family unit:
    Children not being raised - just growing up
    Parents not responsible for their children:
        No respect for authority
        Loss of Work Ethics
        Non Supporting
        Loss of Moral Values, etc.

50. Lack of motivation to work - cause / current welfare system

51. Factory installed auto theft deterrent devices.

52. Increase burden on Society:
    Increase Auto Theft - impacting the justice system which is funded by tax dollars.

53. More people arming themselves creating an even more unsafe living environment.

54. Satellite Tracking of stolen vehicles.

55. Increase in Juvenile Auto Theft Rings - organized.

56. More sophisticated alarms on vehicles.

57. More violent response by victims to carjackings.

58. Technology limits ability to drive the car - not allowing non-owners to drive the vehicle.

59. More ways to ID parts on vehicles.

60. Vehicle theft rates will continue to escalate in the absence of dramatic and effective intervention.

61. Suspect & Victim contact and its associated dangers will increase as carjacking become more popular.

62. Private industries continue advancement in technological development to combat auto theft.

63. Advancements in technology could create greater dangers for vehicle owners when confronted by auto theft suspect. Suspect keeps custody of driver to avoid disabling of vehicle.

64. Public education relative to auto theft will dramatically increase.

65. Police resources will continue to decline curtailing officers from routine thefts to handle violent crimes.

66. Legislative lobbying for increased penalties for auto theft will take place.

67. Insurance companies commission private contractors for auto recovery due to lack of police resource availability.

68. Manufacturer installed auto theft devices may create a select target demand for specific makes and models of cars.

69. As more anti-theft items come on the market, thieves will match it using trailers, dollys, tow cars, etc. (big dollar units).

70. Any anti-theft devices, (electric) can be overcome. The real pro will not be stopped, it may lower theft of lower value vehicles.

71. Vehicles going to Mexico and other Latin American Countries will continue in greater numbers.

72. Out of country parts markets will become even larger to all 3rd world counties - China, Cuba, Middle East, etc.

73. Major theft rings will start hitting car dealers, ports of entry & highjacking of truck loads of cars in transport.

74. The increase in reported thefts is to a great deal insurance frauds. This will continue to be a major problem.

75. The Feds will become more involved in Auto Theft, in both vehicles and parts leaving the nation & interstate - however they will have no real effect on the problem.

76. Alarms and Anti-Theft devices become increasingly more affordable for the consumer.

77. More sophisticated Communications between various law enforcement agencies to combat vehicle thefts.

78. Thieves find a Way to defeat anti-theft devices at point of sale.

79. Auto theft schools for criminals are a growing concern.

80. Anti Tempest Technology increases on the part of the thief. Military presently use this technology and it will fall into the hands of the criminals.

81. There are many really good alarms & anti-theft items that are not priced out of reach of anyone.

APPENDIX E

OVERALL LIST OF EVENTS

1. Death Penalty for Car Theft.
2. In 2000, Ford announces that they will be placing gun ports as standard issue in all new models to combat carjacking.
3. Law Enforcement develops GPS stolen vehicle tracking capabilities.
4. Jamming devices for GPS transmitters are available at K-Mart for $10.95, affordable for all citizens.
5. New Laws enacted requiring computerized Anti-Theft device installed on all new cars.
6. New sonic alarm knocks out suspect/s
7. Legislation is passed increasing penalties for general vehicle theft & carjacking.
8. Increase in insurance rates for vehicles not equipped with approved anti-theft devices.
9. Public transit used to a greater extent.
10. Greater utilization of telecommuting.
11. Gas shortage - less vehicles on road.
12. Cut back in welfare payments results in higher vehicle thefts to offset cash flow.
13. Revision of medical care ie: Health Insurance being available to everyone, results in lower crime.
14. Minor wars breakout, more jobs available, placing more men and women at work in military and manufacturing, crime rate drops due to higher employment.
15. Make auto theft (carjacking) a capital crime.
16. Perot takes office, saves the world.
17. Drivers license, have car Identification on Drivers License with electronic code. When Law Enforcement checks Drivers License status - it automatically checks status of Car.

18. Funds will be cut from educating prisoners - and utilized for law enforcement.

19. Federal Traffic Unit Formed, taking over interstate and U.S. Highways and all vehicle thefts on interstate and Highways.

20. Federal Law passed requiring all new vehicle's as of 1-1-98 to have 100 complete VIN No.s - 50 fixed locations & 50 left up to joint agreement with manufacturer & N.A.T.B. % of the 50 locations would be confidential. The 50 locations would be hard Nos. the 50 fixed locations would be based on items being stripped; engine, windshields, frames, transmissions, doors, etc.

21. Federal / State Gas Tax increase to the point that middle income can't afford cars - less vehicles, more mass transit; vehicle thefts go down.

22. Law - when convicted of Felony Auto Theft & placed on probation or parole, individual would register and be placed in Data Bank with current address and status. Documenting if he/she is searchable thus giving Law Enforcement extra tools to work with.

23. International Law - Consistent approach throughout U.S., Canada & Mexico.

24. Records - All autos must have historical records.

25. State Law - If convicted Auto theft your Drivers License is taken away.

26. Stock market crash due to over extended deficit throws hundreds of 1,000's of citizens out of work; crime becomes a matter of survival.

27. False activation of a Stolen Vehicle Alarm causes 500 car pile-up I-5 resulting in recall of anti theft devices based on that technology.

28. Due to high losses, Insurance for automobiles is no longer available in California.

29. High level political figure is killed during a carjacking, resulting in a frenzy of new legislation and tougher penalties.

30. A driver will shoot and kill an armed carjacker with great publicity, (like Bernard Goetz).

31. Secure local funding for law enforcement will be established via sales tax allocation.

32. Dual locking ignition, (key plus second system), will be offered on new cars.

33. Transponder signal will be built into car radios.

34. The insurance commissioner will permit premiums to be based on area at an increased cost to consumer.

35. Legislature will increase penalty for robbery of vehicle from driver, carjacking.

36. Police officer association will sue their own department for using GPS technology to monitor patrol activity.

37. ACLU will sue everyone with tracking technology as invasion of privacy.

38. Hackers penetrate Lojack computers and are able to disrupt the system. This information is rapidly disseminated through criminal "school" in are prison system.

39. Automatic GPS tracking is banned by a liberal U.S. Supreme court as being too intrusive and a violation of the suspects right to privacy.

40. Chop Shop uses anti-tempest technology to defeat automatic location device.

41. A celebrated case involving a citizen who arms himself and "trolls" for carjacking results in an acquittal, car jacking declines rapidly.

42. No-Fault Insurance

43. Legislation is enacted to require all manufacturers to install anti-theft devices.

44. Change of president

45. Utilization of our own military to concentrate 50% of their efforts to drug trafficking and auto theft.

46. Local budgets will become hard pressed to provide services for vehicle protection and recovery.

47. Anti-Gun lobbies will make it more difficult for the honest citizen to protect themselves, thereby making carjackings more attractive.

48. Vehicle tracking devices cost will plummet.

49. Automatic Fingerprint, I.D. System is installed in a vehicle & prevents a carjacker from driving a vehicle.

50. Air pollution & ozone depletion results in sever restrictions on the operation of motor vehicles.

51. Car Insurance cost cut in half with computer anti theft

52. Car bomb type anti vehicle theft device developed.

53. All cars sold/made are equipped with GPS tracking device.

54. Harsh anti car theft law passed after Willie Brown has Rolls Royce stolen.

55. A Yuba City Police Officer will shoot and kill a gang member pounding on a car window. (He will turn out to be a religious fanatic trying to give the driver a religious flyer.)

APPENDIX F

NOMINAL SCENARIO DATA

The Policy Analysis Co., Inc. SIGMA Scenario Generator

In a 10 year SCENARIO that begins in 1994;

THIS IS WHAT HAPPENS:

1.	JUNE 1995	E-10	Vehicle tracking devices cost plummet.
2.	JUNE 1995	E-2	Legislation is passed increasing for penalties for vehicle theft and carjacking.
3.	APRIL 1998	E-8	ACLU will sue everyone with tracking technology as invasion of privacy.
4.	JUNE 1998	E-7	A driver will shoot and kill an armed carjacker with great publicity.
5.	January 2004	E-6	Due to high losses, insurance for automobiles is no longer available in California.

The events which did NOT HAPPEN are:

E-1 New laws enacted requiring computerized Anti-Theft devices installed on new cars.

E-3 Increase in insurance rates for vehicles ont equipped with approved anti-theft devices.

E-4 Driver's license have car identification with electronic code. When check status on DDL it automatically checks status on car.

E-5 International Law - Consistent approach throughout U.S., Canada and Mexico.

E-9 Local budgets will become hard pressed to provide services for vehicle protection and recovery.

Note: Trends, some, identified in Nominal Group Technique were utilized in writing of the Nominal Scenario.

APPENDIX G

NORMATIVE SCENARIO DATE

The Policy Analysis Co., Inc. SIGMA Scenario Generator

In a 10 year SCENARIO that begins in 1994;

THIS IS WHAT HAPPENS:

1.	November 1998	E-1	New laws enacted requiring computerized Anti-Theft devices installed on new cars.
2.	June 2000	E-6	Due to high losses, insurance for automobiles is no longer available in California.
3.	September 1999	E-10	Vehicle tracking devices cost will plummet.
4.	June 2002	E-7	A driver will shoot and kill an armed carjacker with great publicity.
5.	August 2003	E-2	Legislation is passed increasing penalties for vehicle theft and carjacking.
6.	April 2003	E-9	Local budgets will become hard pressed to provide services for vehicle protection and recovery.

The events which do NOT HAPPEN are:

E-3 Increase in insurance rates for vehicles not equipped with approved anti-theft devices.

E-4 Driver's license have car identification with electronic code. When check status on DDL it automatically checks status on car.

E-5 International Law - Consistent approach throughout C.S., Canada and Mexico.

Note: Trends, some, identified in the Nominal Group Technique were utilized in the writing of this Normative Scenario.

APPENDIX H

HYPOTHETICAL SCENARIO DATA

The Policy Analysis Co., Inc. SIGMA Scenario Generator

In a 10 year SCENARIO that begins in 1994;

THIS IS WHAT HAPPENS:

1.	January 2000	E-7	A driver will shoot and kill an armed carjacker with great publicity.
2.	June 2000	E-8	ACLU will sue everyone with tracking technology as invasion of privacy.
3.	June 2001	E-1	New laws enacted requiring computerized Anti-Theft devices installed on new cars.
4.	November 2001	E-2	Legislation is passed increasing penalties for vehicle theft and carjacking.

The events which do NOT HAPPEN are:

E-3 Increase in insurance rates for vehicles not equipped with approved anti-theft devices.
E-4 Driver's license have car identification with electronic code. When check status on DDL is automatically checks status on car.
E-5 International Law - Consistent approach throughout U.S., Canada and Mexico.
E-6 Due to high losses, insurance for automobiles is no longer available in California.
E-9 Local budgets will become hard pressed to provide services for vehicle protection and recovery.
E-10 Vehicle tracking devices cost will plummet.

Note: Trends, some, identified in the Nominal Group Technique were utilized in writing the Hypothetical Scenario.