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CALIBER

ASSESSING TRENDS AND BEST PRACTICES OF MOTOR VEHICLE THEFT PREVENTION PROGRAMS

Final Report

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I. EXECUTIVE SUMMARY

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Caliber Associates has prepared this report to describe the methods and findings of two evaluation efforts. The first evaluation involved an assessment of trends and best practices in motor vehicle theft prevention programs, with a particular focus on the Watch Your Car (WYC) program. The second evaluation effort reviewed in this report is a cost effectiveness analysis of the Watch Your Car program. These evaluations were conducted between October of 2002 and March of 2004.

The goal of the best practices portion of this project was to research and identify best practices that were geared toward motor vehicle theft prevention with a particular focus on the Watch Your Car program. To this end, Caliber met with or interviewed all participating WYC member states. Furthermore, states that did not belong to the WYC program were surveyed on various aspects of their vehicle theft prevention efforts. In accordance with the wishes of the National Institute of Justice (NIJ), we also surveyed motor vehicle theft prevention experts in 10 U.S. cities that had the highest motor vehicle theft prevention rates according the 2002 Uniform Crime Report.

Because the type of data needed for a cost effectiveness analysis was not being collected by WYC programs. The results of our cost-effectiveness analysis for the WYC program, rely on a mathematical model that projects cost outcomes under a set of hypothetical, but reasonable assumptions. While outcome data essential to the analysis are currently unavailable, this model, once fully developed, can become a useful estimating and planning tool for ongoing program management.

This report begins with a review of the background for this work and our methods. Following this we review the results of our work on assessing trends and best practices in motor vehicle theft. The content of our findings are presented in varying levels of detail so the reader can quickly review summaries of our findings and then read detailed review sections if specific information is desired. The approach used to assess trends and best practices followed a set of guidelines we have employed frequently in the past to conduct program evaluations. This

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general model assesses programs in 5 areas: 1) Inputs, 2)Activities, 3) Disposing Conditions, 4) Outcomes, and 5) Impacts. The results of the WYC member survey and the discussion of best practices are, in general, presented according to this program evaluation model.

WYC member states reported that the WYC program was easily incorporated with other auto theft prevention programs. The vehicle Identification Number (VIN) etching program appeared to work especially with the WYC program. States that had auto theft prevention authorities or councils were better able to get their WYC programs started and they were better able to maintain their programs. Based on our findings, more guidance from BJA would have been appreciated in implementing, administering, and assessing the WYC programs at the state level. The biggest differentiators between programs were the level of development of enrollment and the level of sophistication in database systems. The most developed database systems incorporated automated data entry and data checking/updating methods. One shortcoming that was evident across all database systems was the inability for officers to easily check a vehicle's status across state lines or in other jurisdictions.   A nation-wide database of WYC members was viewed as more advantageous by member states than the state-by-state database system used now.   The WYC program was viewed by administrators as a good tool for increasing public awareness about auto theft prevention and as a good community relations tool.

States that did not belong to the WYC program used a myriad of auto theft prevention programs/approaches. Examples of such technologies/approaches include: license plate readers at border crossings, the marking of vehicle parts with VIN numbers, the inspection of salvaged cars to ensure salvaged VIN numbers were not being used on stolen cars, cargo inspection programs, and a bi-lingual information center that law enforcement officers used to combat auto theft between the United States and Mexico. Parts marking programs and public awareness were perceived to be most effective of those programs/approaches. Based on our findings, there does not appear to be much effort expended to assess the direct effect of those programs/approaches at combating vehicle theft prevention on the part of state or local law enforcement agencies.

The WYC program was, in general., viewed as effective by non-member states. Several reasons were given by those states for not implementing the WYC program in their state.

Prominent among those reasons were the requirements of creating a database or that the state already has a similar program.. Nevertheless, most respondents thought that a federally funded, nationally organized auto theft prevention program was a good idea.

II.   INTRODUCTION

II. INTRODUCTION

1. PURPOSE AND ORGANIZATION OF REPORT

Caliber Associates is submitting this report to describe the methods and findings of two evaluation efforts. The first part of this report details an assessment of trends and best practices in motor vehicle theft prevention programs, with a particular focus on the Watch Your Car (WYC) program. The second evaluation effort reviewed in this report is a cost effectiveness analysis of the Watch Your Car program. These evaluations were conducted between October of 2002 and March of 2004. During that time, the WYC program had been implemented in 11 States, the U.S. Virgin Islands, and in Washington, D.C.

The goal of the best practices portion of this project was to research and identify best practices that were geared toward motor vehicle theft prevention with a particular focus on the Watch Your Car program. To this end, Caliber met with or interviewed all participating WYC member states. Furthermore, states that did not belong to the WYC program were surveyed on various aspects of their vehicle theft prevention efforts. In accordance with the wishes of the National institute of Justice (NIJ), we also surveyed motor vehicle theft prevention experts in the 10 U.S. cities that had the highest motor vehicle theft prevention rates according the 2002 Uniform Crime Report.

The goal of the second portion of this project was to conduct a cost-effectiveness analysis on the Watch Your Car program. The cost effectiveness analysis was conducted using a mathematical model that projects cost outcomes under a given set of assumptions. This model was used to provide a suitable basis from which to assess the Watch Your Car program in the absence of actual program outcome data from participating WYC states. Once fully developed, this model can be a useful estimating and planning tool for ongoing program management.

This report is organized into three major sections. The first section of this report describes the methods used to assess trends and best practices in motor vehicle theft, with an emphasis on the Watch Your Car program. The results of the trends and best practices

assessment are presented in the second section. In the third section of this report we detail our cost effectiveness analysis for the Watch Your Car program.

2.   BACKGROUND FOR PROJECT WORK

The automobile has brought convenience, mobility, and countless other social and economic benefits. Because of these factors, and a host of others, the automobile has become a ubiquitous symbol of our culture. Unfortunately, the proliferation of motor vehicles also presents opportunities for theft and criminal activity. The FBI's Uniform Crime Report (UCR) indicates 1,246,096 motor vehicles were stolen in the United States in 2002, up approximately 1.4 percent from 2001. Preliminary UCR data for 2003 indicate that motor vehicle thefts in 2003 were approximately 0.9 percent higher than in 2002. These figures represent a steady increase in vehicle theft rates since 1998. Prior to 1998 there was a continuous eight year decreases in auto thefts, which were down nearly one-third (30.7%) from 1991. The estimated value of motor vehicles stolen in 2002 was approximately $8.4 billion, up from $7 billion in 1999. The average value of each motor vehicle stolen in 2002 was $6,701, up from $6,104 in 1999.**{**tc "America's so-called love affair with the automobile has brought convenience, mobility, and countless benefits to citizens of all ages. Unfortunately, the proliferation of motor vehicles also presents opportunities for theft and criminal activity. The FBI's Uniform Crime Report indicates 1,165,559 motor vehicles were stolen in the United States in 2000, up approximately 1.2 percent from 1999. Preliminary UCR data for 2001 show that motor vehicle thefts in 2001 were approximately 5.9 percent higher than in 2000. These figures reverse eight continuous years of decreases in auto thefts, which were down nearly one-third (30.7%) from 1991. The estimated value of motor vehicles stolen in 2000 was approximately $7.8 billion, up 11.4 percent from $7 billion in 1999. The average value of each motor vehicle stolen in 2000 was $6,682, up 9.5 percent from $6,104 in 1999. "**}** The National Insurance Crime Bureau (NICB) attributes trends observed during the 1990s and their recent reversal to several factors. First, manufacturers developed a new generation of high-technology anti-theft devices, which act in concert with visible devices such as steering wheel locks to reduce that attractiveness of a car to thieves. The emergence of specialized auto theft units within law enforcement agencies, as well as new prevention programs sponsored by Federal, State, and local governments, have been critically

important. Macro-economic forces kept employment high and drug use down in the nation's urban areas. Those economic forces recently reversed, and the effects of a slowing economy have been exacerbated by a recent reassignment of law enforcement officers away from specialized theft units and task forces to activities associated with anti-terrorism (NICB, 2002).

The mid-1990s was an active period for Federal legislation and State collaboration to combat auto theft. Passage of the Anti-Car Theft Act in 1992 and the Violent Crime Control and Law Enforcement Act in 1994, followed by the Anti-Car Theft Improvements Act in 1996, all strengthened the hand of law enforcement agencies on the ground. A few examples of measures that developed from the passage of this legislation are: 1) "carjacking" is now a Federal offense, 2) manufactories are required to mark, with vehicle identification numbers (VINs), 14 major parts of cars, 3) start-up funding has been allocated to link all state motor vehicle departments to ensure access to titles, 4) a pilot program of x-raying containers to prevent export of stolen vehicles has been started, and 5) grants have been created for State and local anti-car theft committees (Insurance Information Institute, 2004).

Responding to high auto theft rates, a number of states and regions, with encouragement and support from Federal agencies, began to organize to promote public awareness of vehicle theft and to lobby for passage of state legislation aimed at combating vehicle theft. Anti-car theft groups and automobile theft prevention authorities have implemented various prevention programs. The Watch Your Car program (WYC), sponsored by the Bureau of Justice Assistance (BJA), is one such program. The WYC program involves motor vehicle owners who voluntarily place stickers in the windshields that alert police that they can stop the car for a theft check during certain hours of the night and in certain locations. Caliber Associates was asked by the National Institute of Justice to formally assess the Watch Your Car program. This evaluation project was mounted to accomplish two goals: 1) to identify trends and best practices across motor vehicle theft prevention in general and within the WYC program in particular, and 2) to assess the cost effectiveness of the WYC program.

III. METHODS

III. METHODS

The trends and best practices evaluation consisted of five steps: 1) performing a background information search, 2) developing of survey forms, 3) conducting WYC member site visits and interviews, 4) administering the non-member states and cites survey, and 5) conducting data entry and analysis. A cumulative activity summary for this project is provided in Appendix A. We began our best practices evaluation with a literature search that culminated with a site visit with Major Ray Presley of the Maryland State Police. Major Presley was recommended by BJA as an authority on the WYC program and vehicle theft. We used the information from the literature search and site visit in the development of our member and non-member survey instruments. Once the survey instruments were developed, we either distributed the survey instruments through the mail or we used the instruments as the basis for our site visits and interviews with WYC members. Data from completed member and non-member surveys were entered into separate summary forms. Data in the summary forms were analyzed to draw conclusions about trends and best practices in motor vehicle theft prevention. Each of the steps in this process is described in more detail on the following pages.

1. BACKGROUND RESEARCH

Our first step in investigating trends and best practices in motor vehicle theft was to gather information about vehicle theft prevention methods and the Watch Your Car program in particular. The primary goal of this search was to gain a general understanding of issues related to motor vehicle theft prevention that would allow us to conduct a more purposeful survey of professionals in motor vehicle theft prevention. We sought information about vehicle theft prevention programs, methods, and devices by reviewing published research literature pertaining to theft prevention. We also reviewed technical reports prepared by or for government agencies such as the FBI's Uniform Crime Report, and reports from the Insurance Institute for Highway Safety and the National Criminal Justice Reference Service. We examined several state programs that are similar to WYC such as the Help End Auto Theft (HEAT), Combat Auto Theft (CAT), and Beat Auto Theft (BAT) programs. Other sources such as the insurance industry (e.g., NICB) and the American Automobile Association (AAA) were explored as possible

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sources of information about vehicle theft prevention. Lastly, we reviewed the web sites of the member states in the WYC program.

Using the information from our background research, we compiled an initial set of topics and questions about the WYC program and about other forms of motor vehicle theft prevention (e.g. VIN etching, parts marking, other decal programs). These initial sets served as the basis for our meeting with Major Ray Presley of the Maryland State Police. In addition to gaining Major Presley's input regarding the topics and questions, the meeting with Major Presley allowed us to observe how a WYC program is organized, how applications are processed, and how WYC membership information would be checked when a police officer attempts to verify a driver's WYC records. The information gathered in the background research and in our meeting with Major Presley provided us with the content material we used to develop of our WYC member and non-member survey instruments.

2. SURVEY DEVELOPMENT

In addition to the information gathered from the background research and Major Presley, we incorporated one other source of information into the development of our surveys. We used our experience with program evaluation to select a model that would serve as a basic structure around which to build our surveys. We chose this model because all program evaluations have a common underlying rationale to identify significant program components and the links between the components. By using this model we are better able to understand how the WYC program operates and what it achieves. This broad evaluation framework is shown in Exhibit 1.

EXHIBIT 1. HIGH-LEVEL PROGRAM EVALUATION RATIONALE

Formative Evaluation

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                    ┌──────────────┐
                    │  Activities  │
                    └──────────────┘
┌──────────┐                              ┌──────────┐      ┌──────────┐
│  Inputs  │                              │ Outcomes │─────▶│ Impacts  │
└──────────┘                              └──────────┘      └──────────┘
                    ┌──────────────┐
                    │  Disposing   │
                    │  Conditions  │
                    └──────────────┘
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Summative Evaluation
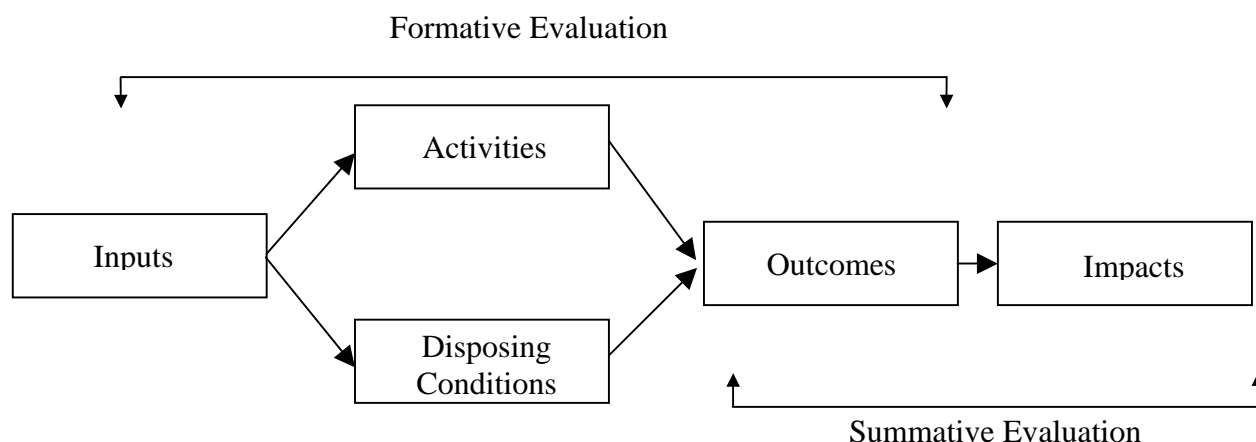
Exhibit 1 demonstrates that any program essentially embodies a network of hypotheses about the causal connections between the different program components – that is, the embedded rationales in the program. These various cause-effect links can be represented in a flow diagram that makes explicit the working logic behind the program strategy. Thus, the inputs in Exhibit 1 refer to the initial resources, such as staff members, seed monies, and equipment and facilities, that are brought to bear in carrying out the program intervention. Activities refer to the "way things are done," the activities and procedures implemented that are under the control of the program (e.g., vehicle theft prevention education, enrollment blitzes). Disposing conditions or contextual variables are factors and influences that can enhance or impede program success but are not under program control (e.g., attractiveness of program to all types of citizens, change in economic factors). Outcomes are the results or attainments of a program that are expected or desired in the shorter term (e.g., increased enrollment, increased recovery rates due to WYC stickers). These shorter term outcomes are expected to contribute to the achievement of longer term impacts or ultimate goals (e.g., reduced auto theft).

Based on the information gathered through our literature review, our meeting with Major Presley, and the basic tenets of program evaluation, we had the foundation for our member and non-member survey instruments. Because States are allowed flexibility in how they administer WYC programs, we attempted to incorporate some flexibility in our survey instruments while

maintaining a relatively high level of structure across the instruments. This need for structure was necessary so that information obtained from different sources about theft prevention strategies could be compared. We structured our data collection instruments and assessment around the implicit logic of vehicle theft prevention strategies. That is, all WYC member states have program "inputs" or resources that are allocated (e.g., dollars, people, planning, administrative/support services) to meet objectives. These inputs lead to observable program "activities," such as training police officers, conducting media campaigns, involving private sector partners, and reaching out to targeted citizens, to name several. Program activities, in turn, are intended to have near- and long-term outcomes such as increased vigilance and reduced numbers of vehicle thefts. By organizing information collection around vehicle theft program inputs, activities, and outcomes, we formed the basis for a categorization system to examine strategies, aspects of different implementation methods, outcomes, and trends and best practices.

Because we thought that there might be regional differences in way motor vehicle theft prevention was handled, we created seven versions of the survey for the non-WYC States. The same logic was used in our creation of the three versions of the survey used with the 10 cities cited by the National Insurance Crime Bureau as having the highest auto theft rates. The surveys were "regionalized" by asking respondents how certain aspects of their region of the country or their city might impact their approach to motor vehicle theft prevention. The groupings for the regional state surveys were based on geographic region with consideration given to the influence of such factors as proximity to international borders and ports. Except for the regionally-oriented questions, the format and content of questions within the surveys was held constant. Exhibit 2 below portrays which states were assigned to each region.

EXHIBIT 2	
Region	**State**
Northwestern	Idaho, Oregon
Southwestern	California, New Mexico, Nevada, Texas
Central	Kansas, Nebraska, Oklahoma, Montana, North Dakota, South Dakota, Wyoming
Midwest	Indiana, Illinois, Iowa, Kentucky, Missouri, Michigan, Ohio, Wisconsin
Southern	Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina
Eastern	Maine, New Hampshire, New Jersey, Pennsylvania, Rhode Island, Virginia, Vermont, West Virginia
Non-continental US	Alaska, Hawaii, and St. Croix

We surveyed the ten cities with the highest rates of motor vehicle theft to gain some insight into their motor vehicle theft prevention activities. Based on their location, these cities naturally formed three groups. Exhibit 3 below portrays which cities were surveyed and how each city was assigned to a region for survey purposes. The non-member state and city surveys are provided in Appendix B.

EXHIBIT 3	
Region	**Cities**
Northwestern	Seattle, Tacoma – WA
Western	Fresno, Modesto, Oakland, Sacramento, Stockton – CA Las Vegas – NV Phoenix – AZ
Southern	Miami – FL

The survey for WYC program members consisted of 48 open and closed-ended questions that were divided among five major sections. Each section was designed to gather information about a variety of functions related to the Watch Your Car program. The member survey asked respondents to provide information about such matters as: how they learned of the WYC program, their WYC-related program activities, the outcomes of their program, ways in which they might have done things differently if given the opportunity, and a few summary questions that ask WYC program administrators for their opinions about various aspects of the overall WYC program. A copy of the member survey is in Appendix B.

The survey for the 36 non-member states and the 10 cities was divided into two sections. The first section collected information about motor vehicle theft prevention within the respondent's state or city. The second section addressed the respondent's knowledge of, and opinions about, the Watch Your Car program. In the process of obtaining contact information for the non-member survey, we were informed by law enforcement or department of public safety representatives in Idaho, Kansas, and Wisconsin that auto theft prevention is not dealt with at state level. As a result, we did not send surveys to those three states. Information from the non-member survey was used in conjunction with information from WYC member survey and site visits to draw conclusions about innovative and effective motor vehicle theft prevention strategies and the Watch Your Car program. Each survey (i.e., member, non-member state and city) was submitted to NIJ for approval prior to administration.

2.1   Watch Your Car Member Site Visits and Interviews

To obtain first-hand experience with a range of WYC programs we conducted on-site interviews with representatives from Arizona, New York, Connecticut, Delaware, and Massachusetts. The on-site interviews varied in length, but took about two to three hours to complete. For the remaining WYC member states, we distributed the member survey in advance of a phone interview with instructions to review and answer the survey as we would spend time during the phone interview reviewing the survey and discussing issues that were brought up by the respondent or by their answers to the survey. If the WYC administrator had not completed

the survey by the time the site visit or interview was conducted, we asked them to return the completed survey form as soon as possible.

This particular combination of site visits and phone interviews was decided upon as the best balance of coverage and cost management. Particular attention was given to the states of Arizona, New York, and Maryland as these states were identified as being exemplar WYC programs by BJA. The exact arrangement of site visits and phone interviews is depicted in Exhibit 4. The state of Maryland was drawn upon twice; once for an interview during the background research work and once again for a phone interview with the final version of the WYC member questionnaire.

		EXHIBIT 4			
	Participating States	Telephone Interview	Site Visit	Client's priority	Time in WYC
1	Maryland	O	O	O	1997
2	New York		O	O	1997
3	Connecticut	O	O		1998
4	Massachusetts		O		1998
5	Minnesota	O			1998
6	Virgin Islands	O			1998
7	Arizona		O	O	1999
8	Colorado				1999
9	Delaware		O		1999
10	Tennessee	O			1999
11	Washington	O			1999
12	Utah	O			2001
13	Washington D.C.	O			2001

2.2 Non-member Survey for States and Cities

Contact information for motor vehicle theft prevention authorities in non-WYC states and the ten cities with the highest vehicle theft rates was typically obtained by using the following methods. To find the appropriate contact information for each state and city, we reviewed the relevant state or city police web site looking for specific information about vehicle theft prevention. If there was a phone number specifically for vehicle theft prevention, we first used that number. If such a number could not be found, the main police information phone number

was used. We explained our purpose for calling and asked to whom we could send a survey about vehicle theft prevention methods. We followed this general process until we had all the needed contact information. For states, the contact information usually led to an individual within the state police, highway patrol, or department of public safety. For the ten cities, the contact information we obtained usually led to an employee within the police department.

As the site visits and interviews with the WYC member states came to a close we distributed the regional surveys to motor vehicle theft prevention administrators in the non-member states and to the ten cities with the highest motor vehicle theft rates. As the response rate began to slow for these two groups, we created electronic versions of the non-member state and city surveys. These electronic forms were sent via email to those individuals/agencies that had not already responded. Electronic versions of the surveys were used in an attempt to increase our response rate by serving as a reminder and by providing an alternative means of completing the regional non-member state and city survey forms.

3.   DATA ENTRY AND ANALYSIS

The survey data from the member states were entered into a summary form for later analysis. The same method was used to summarize, in separate forms, the answers from the non-member state and city surveys. The responses to the surveys were transcribed into the summary forms to make analysis of the responses more straightforward. Having the data organized in this manner allowed analysts to quickly review all responses to a survey item. Consequently, identification of themes within a set of responses was made easier. These summarization forms are on the data CD that accompanies this report. The data were analyzed using conventional content and thematic analysis techniques whereby a common theme or themes were sought for each survey question and each group of survey questions that fell under a higher order category.

4.   RESPONSE RATES

We received 11 completed surveys from the 13 WYC member states. For the non-member states we sent out 36 surveys, of which 16 were returned. We did not send surveys to Idaho, Kansas, and Wisconsin because we were informed by law enforcement or department of public safety representatives in those states that auto theft prevention is not dealt with at state level. For the 10 cities with the highest vehicle theft rates, we received 5 of the 10 surveys. The response rates cited above represent a response rate of 85% for the WYC-member states, a 44% response rate for the non-member states, and a 50% response rate for the ten cities.

As the return rate for the non-member surveys began to decrease we considered ways to increase the number of returned surveys. We created electronic survey versions that could be distributed and returned using email. We sent electronic surveys to the 20 non-member states from which we had not already received data. The same was done with 6 of the top-ten cities. Of the 16 non-member state surveys returned, six of the surveys were completed using the electronic format. We received one city survey via the electronic format. For the WYC-member states, we chose to call and speak with the program administrator rather than sending them an electronic version of the survey. During those calls we asked if there was anything we could do to make completing the survey more convenient. We also offered to send another copy of the member survey in paper or electronic form (i.e., a Word document) to the Member states.

IV. RESULTS AND DISCUSSION

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In the following pages we detail the findings from our site visits, interviews, and survey efforts. We first review the findings from the 11 WYC member states. We then review the findings from the surveys returned by the 16 non-member states and the five surveys returned from the cities with the highest vehicle theft rates. Our review of each survey follows a similar format; the responses to each question are summarized and then each major section of a survey is summarized.

1. WATCH YOUR CAR MEMBER SURVEY RESULTS

The WYC member survey was organized into the five main sections. Each section was oriented toward different aspects of the WYC program and the activities of the WYC administrator. In the following review, each section is discussed and then summarized. These five sections are outlined below.

1) Section 1: General Questions –contains background questions, questions regarding the organization of the particular state's WYC program, collaborations with other state entities, and the goals of the program.

2) Section 2: Inputs –is divided into two parts, Part one contains questions about the implementation of the WYC program such as BJA guidance, BJA funding. Part two contains questions about WYC related activities such as database work and public awareness.

3) Section 3: Outcomes/Impact – contains questions about data collection activities undertaken in WYC member states concerning program impact and obstacles encountered during data collection efforts.

4) Section 4: Improvement – contains questions that ask WYC administrators what they would do differently with regards to starting the WYC program in their state, public education and enrollment, program functioning, and program sustainability.

5) Section 5: Summary Opinion Questions – contains questions that ask WYC administrators to express their opinions about various aspects of the WYC program.

1.1 Section 1: General Questions

The 17 questions in this section cover the broader aspects of the WYC program, such as how administrators learned of the program, how their WYC programs are organized, the extent of collaboration between their WYC program and other state agencies, what are the goals of their program, are they meeting those goals, have their goals changed over time, and would guidance from BJA be appreciated in these areas.

The first question asked administrators how they or their predecessor heard of the WYC program. There was no one method that stood out as the main means by which administrators came to know of the WYC program. Although a few states mentioned an Association of Auto Theft Investigator's conference or hearing of the program through associates, the method by which administrators seemed to learn about the program most frequently was through their own research into vehicle theft prevention. When asked why the member state decided to use the WYC program, the more notable answers, beyond the expected reason of reducing vehicle theft, were that the WYC program was attractive due to its national scope and that the WYC program offered a way for law enforcement agencies to be more proactive in reducing vehicle theft by educating the public. The earliest date reported for the receipt of funds by a WYC member program was 1997 and the earliest stated date for actual implementation of the program was 1998. The latest date reported for the receipt of funds by a WYC member program was 2001 and the earliest stated date for actual implementation of the program was 2002. Seven of the 11 WYC programs stated that they had received more than one grant from BJA for the WYC program.

In questions 6 through 11 administrators were asked to provide information about how their WYC program is organized within their state, about some of the program's more unique characteristics, about how many counties participate in the program, and administrators were asked to describe the type of collaboration, if any, their program has with other organizations in the state.

With regard to the organization of the WYC programs, the WYC programs within Arizona, Maryland, Minnesota, New York, and in the District of Columbia were a part of a council, a board, an authority or a similar entity that was charged with motor vehicle theft prevention. In the remaining states/territories (i.e., Colorado, Connecticut, Delaware, Tennessee, Utah, & the Virgin Islands) motor vehicle theft prevention was dealt with by individual police departments or state-level departments. When asked how many counties participate in the WYC program, nearly all states reported that their programs were in effect state-wide, however, not all cities/counties within a given state actively promoted the WYC program. The descriptions provided by program administrators regarding the staffing, leadership, and day-to-day functioning of their programs indicated that, as expected, the larger and better funded programs (e.g., New York, Arizona, Maryland) have a greater number of staff and more full-time staff devoted to their programs. The newer and less well funded programs (e.g., D.C., Utah) typically have staff sharing the duties necessary to keep their program functioning.

When asked to describe something about their program that made it unique, use of Internet registration was cited by Colorado and Delaware. Arizona cited the quality of its database, their application mailing and scanning system that is interconnected with the Department of Motor Vehicle's database, and their marketing and training efforts. Similarly, the state of Maryland also stated that the interconnectivity of its database with law enforcement and motor vehicle administration databases was an exceptional aspect of their program. Connecticut and New York stated that the use of VIN etching along with the WYC program were special aspects of their programs. New York also cited their development of software and the use of hand scanners and two-dimensional, registration barcodes as a unique aspect of their program. The WYC program in Washington D.C. stated that their efforts to reach out to federal and local D.C. government agencies made their program unique. The state of Tennessee cited their use of the WYC program as one part of a multi-phase effort to combat auto theft under their Help End Auto Theft (HEAT) program as one way in which their WYC program is unique. When asked if the program was a priority within their agency or department, 6 states reported that their WYC program is a priority and 4 states reported that the WYC program is not given a priority status.

Question 11 asked how, if at all, each state's WYC program works in collaboration with other agencies or groups. Beyond expected partnerships with state and local police forces, some of the more notable answers were those provided by Maryland where they have partnered with approximately 100 private and public organizations to promote the WYC program. Minnesota's WYC reported collaborating with the National Night Out campaign to promote both programs. Minnesota's administrator also reported working with auto insurance agencies and car dealerships. New York mentioned working with the following: 1) the NICB on VIN etching software, 2) the New York Department of Motor Vehicles, and 3) the New York State Insurance Fraud Bureau. The state of Tennessee mentioned working with the Tennessee Anti-Car Theft Committee (TACTC) which consists of members from the insurance industry, local businesses, and other groups interested in auto theft prevention. The Utah WYC program, organized within the Utah Motor Vehicle Enforcement Division, stated that they are working on increased collaboration with the Utah Highway Patrol.

Although it was not in this section of the survey, question 32 is more appropriately addressed here because that question asked administrators if there were any other motor vehicle theft prevention programs or strategies being used within their states. The use of comprehensive vehicle theft prevention programs was cited by Arizona, Colorado, Maryland, New York, and Tennessee. While not identical, these programs have in common such things as VIN etching and public awareness programs. States such as New York and Maryland have also coordinated through their motor vehicle theft programs specific collaborations to enhance enforcement and prosecution.

The next set of questions (#12 – 17) asked about the goals for each state's WYC program. The most frequently stated goals reported were to both increase public awareness of the WYC program and to increase enrollment in the WYC program. Some states cited specific enrollment goals while other states reported more broad goals such as decreasing auto theft or increasing the number of agencies within the state that participate in the WYC program. Member states were also asked if they were collecting data to assess their progress toward their goals. In one form or another, all states were collecting data. However, there was considerable variety in the type of data that was collected. One consistent data collection area was enrollment

data. All programs are collecting enrollment data. Three states reported that they were collecting data on the number of WYC-related stops and recoveries. The level of complexity in data collection and maintenance methods varied considerably from state to state. Some states simply maintained spreadsheets while other states, such as Arizona, Maryland, and New York, had more complex systems that allowed for the exchange of information between WYC databases and databases in agencies such as a state's Department of Motor Vehicles.

When each state was asked if the goals for the WYC program were being met, eight of the ten states that responded reported that they were meeting their goals. Most states had made strides toward increasing public awareness about the program and vehicle theft prevention. Two states, however, mentioned that they have experienced increases in all crime rates, including auto theft. Two states stated that they were not progressing toward their goals as desired due in part to low departmental funding levels and to the low priority given to the WYC program within their department.

When asked if the focus of their WYC program had changed since its inception, five states reported that the focus of the program had indeed changed in some manner. There was no common theme to these changes. Each state appeared to modify their initial focus as needed to meet the unique demands faced by their particular WYC program. For instance, the WYC program in Maryland initially had law enforcement agencies conduct enrollment efforts and apply the decals. This practice was found to be too labor intensive for the agencies and inconvenient for the motorist. Therefore, the focus of enrollment efforts was changed to direct mailings and the use of the Internet registration. In another example, the state of Arizona initially used a public relations firm to market the program. The marketing efforts of this firm were found to be ineffective. Consequently, responsibility for marketing of the WYC program was taken back by Arizona's WYC program.

The last two questions in this section of the survey (#16 &17) asked about BJA's role in goal setting and program guidance. Member states were first asked if BJA provided goals or expectations for each state's program and then asked if benchmark goals or standards from BJA would have been helpful. Regarding initial goals, three states stated that BJA provided goals, but

the administrator's explanations of the goal(s) were not clear. Most respondents, however, stated that no initial goals were set by BJA. When asked if they thought their programs would benefit from BJA-provided benchmark goals or standards, six states reported that guidance would be appreciated. In their explanations of why they thought guidance would be beneficial, one theme that emerged was that member states would have appreciated some training to help them avoid some of the more common errors that are made when establishing and marketing a program such as Watch Your Car. Two states commented that benchmarks would be appreciated if the benchmarks somehow allowed for the different needs faced by each state.

1.2   Discussion of Section 1: General Questions

When asked why they chose to use the WYC program several administrators reported that the WYC program was attractive because of its national scope and because the WYC is a proactive way to educate citizens about vehicle theft prevention. Most WYC programs are in effect state wide, but not used by all cities/counties. When asked about unique characteristics of their program, administrators mentioned aspects of their databases, the use of the WYC in a layered approach to vehicle theft prevention, and the use of VIN etching with WYC as noteworthy aspects of their programs. Just over half of the states reported that the WYC program was a priority in their department. A wide variety of collaborative efforts were reported with groups such as private businesses, the insurance industry , civic groups, and various law enforcement agencies.

Some states had specific, enumerated goals for enrollment while other WYC programs were operating under more general goals such as increasing enrollment and reducing auto theft. Data collection efforts regarding the effectiveness of each WYC program were not uniform across programs. Only a few states were collecting data on the impact of the WYC program. Data storage methods ranged from the creation of databases that are housed on main frame computers to using a file cabinet to store applications and driver records. Most administrators reported making progress toward their goals. However, some administrators reported that their states were experiencing general increases in all types of crimes and that their efforts were hampered by funding and departmental support problems. Several states reported that the focus

of their programs had changed since the program's inception. These changes were the result of a need to adapt their programs to changing demands.   No common cause, other than the need to adapt to new challenges, could be identified as the reason for these changes in initial program focus. Most states reported that they did not receive goals from BJA. Six of the 11 states reported that they would have benefited from benchmark goals supplied by BJA.

1.3   Section 2: Inputs and Activities

Section 2 of the WYC member survey asks administrators to provide information on program inputs and activities. Section 2 is divided into two parts; the first part of Section 2 deals with program inputs and the second part of Section 2 is oriented toward program activities. The particular questions within each section are reviewed in the order in which they appeared in the survey.

Section 2: Inputs

The first question in Section 2 (#18) asked WYC program administrators to relate some of the more memorable experiences they have had, positive or negative, during the implementation of their program. The administrator from Colorado stated that their program was well received by law enforcement until they realized the use of the program would involve their officer's time. As a consequence Colorado has supplemented their registration efforts by implementing an on-line registration system. Since doing so, they have seen a steady increase in enrollment. The administrator from Connecticut said the working with the AAA car club was a very positive experience.   By promoting the WYC program and VIN etching at AAA sponsored events, their WYC program was able to increase registrations. The District of Columbia's administrator stated the they have had positive experience with community meetings and with safety and compliance road blocks. The state of Maryland provided examples of both positive and negative experiences. One positive experience was the initial press conference for the WYC program which was attended by the Governor and included a car stripping demonstration. Maryland's negative experience was that they found that the WYC program was not popular with all types of citizens and that it was more popular with senior citizens. In learning this,

Maryland refocused their efforts more toward senior citizens. New York state listed database development and dealing with their state laws as negative experiences related to getting their WYC program implemented. More positive aspects provided by New York were the press coverage the program has received and comments from the public at sign-up events. Tennessee's administrator stated that the program has been well received by the public and they have enjoyed the positive feedback from the citizens. The negative experience provided by Tennessee involved the development of the database for the WYC program. The Virgin Islands listed meeting with the public on all three islands as a positive experience. Utah's administrator stated that meeting with and training police officers about motor vehicle theft was rewarding and that the most negative experience they have had in implementing the program was recreating their database using DMV records after their database contractor lost all their registration data.

Questions 19 through 22 asked administrators about guidance and training and help from BJA. Question 19 asked if the programs received guidance or training from BJA on implementation. Five states said they did not receive training. Six states said they did receive training and a BJA-sponsored conference workshop was mentioned as the source for the training. When asked if the administrators benefited from guidance (question 20), five of the six states, that answered this question, said that the training was beneficial. In particular, the administrator from Tennessee stated that the meeting at an IAATI conference was beneficial because administrators from other WYC programs provided guidance on how to start the WYC program, how to handle media relations, and how to deal with problems such as database development. The administrator from New York stated the information shared at the IAATI conference was invaluable. Question 21 asked if BJA-provided guidance or training would have been helpful. Six of the ten administrators said "yes". In their explanations as to why they thought guidance would have been helpful they stated that yearly meetings/training sessions would be especially beneficial. There were several suggestions given by administrators when asked what specific types of guidance would have been appreciated (question 22). The administrator from Utah suggested that a guidebook for program implementation would have been helpful. This guidebook could provide information about what other programs had done during the implementation of their programs so that new or younger programs could benefit from the experiences or the more established WYC programs. The administrator from Tennessee said that

guidance from BJA would be beneficial if that guidance allowed for flexibly in dealing with the differences faced by each state. Guidance in dealing with marketing was suggested by the administrator from Maryland. One theme that appears in several answers, across questions: 17, 20, 21, and 22 is that the administrators would have appreciated or still would appreciate some easily accessible means for obtaining information about other states WYC programs. The types of information mentioned by administrators that would be beneficial ranged from basic contact information for other WYC program administrators to more applied information on things such as marketing and promotion, database development/management, data collection, and how to quantify impact.

The next set of questions (# 23-26) relate to program funding matters. Questions 23 and 24 asked administrators if funding provided by BJA was sufficient to get their WYC program implemented and sustained. Eight of the 11 states commented that the funding was sufficient to get heir programs up and running and seven of the 11 states reported that funding was sufficient to maintain the program. In explaining their answers, however, several states mentioned that even though the funding was sufficient to get the program started it was not sufficient to create an office, pay for a full-time person, and/or maintain the program. This apparent inconsistency across some of the responses is to be expected though, since the WYC grants were not intended to support programs indefinitely and those states that have received subsequent grants beyond their initial grants are more likely to see their WYC programs as more sustainable.

The last two questions in the subsection on funding (# 25 & 26) ask administrators to describe what resources and efforts have been put forth to sustain their WYC programs beyond BJA funding. The states with vehicle theft prevention authorities/councils appear to be the only states that have had success at obtaining financial resources to help sustain their WYC programs. Other resources mentioned by states that do not have such authorities/councils were volunteer efforts on the part of officers an staff, assistance from state the DMV with the mailing of registration forms, and the donation of general office equipment. When asked in question 26 what states were doing to ensure the financial sustainability of their WYC programs beyond BJA funding, the responses fell in three general categories: 1) support was being provided, 2) support of some sort was being sought, and 3) there was no identifiable means of support beyond that

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provided by BJA. Administrators from states such as Arizona, Maryland, and New York that have vehicle theft prevention authorities/councils stated that they had a means of support beyond the BJA funding. Connecticut, Delaware, Utah, and the Virgin Islands stated that they had no identifiable means of support beyond BJA funding and the remaining four states/districts of Colorado, D.C., Minnesota, and Tennessee stated that they were seeking support from the state or partnerships with other groups such as the insurance industry to replace the BJA funding once it is gone.

Section 2: Activities

As stated above, the later part of Section 2 contains questions related to WYC program activities. In particular, information about database development and marketing/public awareness efforts was solicited in questions 27 through 37. Question 27 asked administrators if their WYC program had a database to track WYC member information. All administrators stated that they indeed had created databases for the purposes of storing WYC information. However, there was some variety in the way in which the databases were assembled. In general, there were three types of databases used by the WYC programs. The most developed of the databases were housed on a server rather than an individual computer, these databases were linked to other state or law enforcement databases, these databases were easily accessible by dispatchers or patrol officers, and the importation of data to these databases was to some degree automated. According to the answers from question 29, the following states had or were near to having these types of database: Arizona, Colorado, Maryland, New York, Tennessee, and Utah.

During the site visits with Arizona, New York, and Maryland we were shown how each program's registration and database system operated. Each state's system had its own attractive characteristics. The registration system in use by Arizona's WYC program is highly automated and contains methods for ensuring accuracy of data entry. The enrollment process for Arizona's WYC program begins when hardcopy versions of applications are fed into an optical scanner with text recognition capability. This scanner reads the application forms and enters the applicant's information into their WYC database. Once entered, there automated system sends nightly batches of data to the state's DMV computer system to make sure the WYC application

information corresponds to the vehicle registration data kept in the DMV database. Applications that do not correspond exactly are rejected and brought to the attention of a WYC staff member. New York's registration system has a relatively high level of automation. Additionally, New York's WYC program has developed the ability to use hand-held scanners to read two-dimensional barcodes that are used to organize VIN etching and WYC member data. Maryland's database system has the particularly appealing aspect of being well integrated into the same system that Maryland's dispatchers and patrol officers use. This level of integration allows dispatchers and patrol officers ready access to WYC registration data. This is opposed methods and systems used by other WYC programs in which the dispatcher has to open an Excel file or call another person to have the WYC information relayed to them which in turn must be relayed to the patrol officer.

The lesser developed databases were characterized by having data stored on a desk-top or similar computer with a spreadsheet program being used to organize and maintain registration data. The least developed database system used by a WYC program consisted of the filing of the paper versions of the registration forms with no transfer of the data to an electronic or more readily accessible or searchable format.   The answers provided to question 28 indicated that BJA had not provided guidance to WYC member states on the development of their databases. Consequently, the variety of database methods used by the WYC programs is not to be unexpected.

Question 30 asked administrators if they thought a nationwide system of linked WYC databases would be useful. All administrators, except one, agreed that this would be a good idea and provided examples of how such a system would be beneficial. In providing explanations for their answers, several administrators gave similar examples of how checking the WYC records for cars registered in other states would be greatly facilitated if such a nationwide or linked database system existed. The lack of such a system was cited by two administrators as a reason other states had not adopted the WYC program. When asked about the usefulness of national WYC database and whether or not having that database managed by the Federal government (question 31), all but three administrators agreed that a nation database would be more useful than each state maintaining their own WYC database. Some particular reasons given by the

administrators as why such a nationwide database system would be beneficial were that a nationwide database would be more cost-efficient because each state would not have to go through the process of creating their own parallel WYC database, such a database would facilitate access to information about cars registered in other states, and a nationwide database would be more uniform in content.

Questions 33 through 37 asked administrators to provide information about efforts to promote public awareness of the WYC program. When asked if some type of analysis had been conducted to determine how best to apply and /or promote the WYC program, only Maryland reported conducting such analyses. Maryland conducted two-focus groups and one telephone survey to gather data for use in modifying their marketing strategies. Tennessee's administrator reported collecting suggestions at presentations given to state law enforcement agencies and civic organizations during the planning stages of their program to determine how best implement the WYC program. The remaining states did not report having conducted any formal activities expressly for the purposes of determine where to apply or promote the program. Two states/districts did consider information from other sources. Specifically, New York used vehicle theft rates to determine where to implement the program and Washington D.C.'s program reviewed information from community meetings and their DMV to determine how best to implement the program.

When administrators were asked what had been done to increase public awareness of and enrollment in their WYC programs. Many methods of advertising were mentioned. Administrators from Delaware, Tennessee, Minnesota, have created television ads for their WYC programs. Other forms of advertisement mentioned included: billboards, posters, brochures, public service announcements for radio, Internet websites, mass mailings, and ads on special police vehicles. For instance, Arizona's Automobile Theft Authority (AATA) has a van that is covered with WYC decals that is used at WYC related events and Utah's WYC program used a truck covered with WYC decals in several prominent events during the Olympics to promote the WYC program. Other efforts to increase public awareness that were also mentioned included educational videos, created by Tennessee's WYC program, for use with both law enforcement and the public. Maryland and Connecticut mentioned using partnerships with public and private

organizations (e.g., insurance companies, local civic and neighborhood organizations) to increase public awareness. Utah's administrator mentioned that they created an Eagle Scout program that involves the WYC program. An important bit of information that came out of the answers to this question concerned the effectiveness of mass mailings.

Sending WYC application forms in Department of Motor Vehicle mailings was mentioned by Arizona as being particularly effective as a means of increasing enrollment. This sentiment was repeated by the administrator of Maryland's WYC program during our site visit. An interesting aspect of working with a state's DMV is that a WYC program could in theory present every resident of a state in a year's time with a WYC application. This is a result of every state resident having to renew the licenses for their vehicles on a yearly basis. Arizona's WYC program received 14,000 applications from January to June, 2003 using this type of enrollment effort (AATA, 2003). Conversely, the use of standard mass mailings was mentioned by the administrator from Delaware as particularly ineffective at increasing enrollment numbers.

When asked what their ideal approach to increasing public awareness and enrollment would be (question 35), just under half of the administrators reported that they would like to use more television and radio advertisements but their budgets don't allow for the level of use they would like. Just over half of the states reported that having the resources to attend more civic group meetings and having the ability to increase the number of participating local law enforcement agencies would be desirable. Arizona and Maryland reported that their "ideal" would be to continue with their current efforts or do more of what they are currently doing to increase public awareness and enrollment.

Question 36 asked administrators to describe what resources had been used in their WYC programs toward public awareness and enrollment. The responses to this question varied considerably and a common theme across the answers was not apparent. Two states mentioned actual dollar amounts ranging from $25,000 to $200,000. Two other states mentioned using federal and departmental funding, but no figures were provided. Six states reported using such resources as volunteers (both staff and citizens) and paid program staff to help with special events (e.g., state fairs, conventions) and to work with local law enforcement agencies. Other

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resources mentioned were local private groups, local community/citizen groups, the AAA auto club, and news agencies.

The last question in this section (#37) asked administrators if they received guidance from BJA in how to increase public awareness and enrollment. Five states/territories (i.e., Arizona, Connecticut, Maryland, Utah, and the Virgin Islands) reported not having received guidance and three states (i.e., Delaware, New York, and Tennessee) reported that they had received some guidance at a conference. The District of Columbia stated that some guidance was provided, but specifics about the guidance were not provided. The administrator from Colorado was not sure about this issue because the current administrator was not in charge of the program at its inception. The administrator from Tennessee commented that additional WYC conference workshops on this and other topics would be appreciated.

1.4   Discussion of Section 2: Inputs and Activities

Most states reported that they did not receive training on implementation matters. Those that did, stated that the training occurred at conferences. The majority of respondents also stated that they would have appreciated guidance from BJA on implementation matters. Suggestions given by administrators for the type of guidance desired ranged from a procedures guidebook to a shared contact list of other WYC states. Specific areas mentioned for guidance were marketing and promotion, database development, data collection, and help in quantifying impact. Most program administrators reported that the grants from BJA were sufficient to get their WYC programs established, but not sufficient to maintain the programs with full-time staff. Watch Your Car programs in states that had a vehicle theft prevention authorities/councils were more likely to have the ability to sustain the WYC program once the BJA grants ran out. The states that did not have such groups to support their WYC programs reported that they were either looking for other sources of support or that they had no plans for sustaining their WYC programs once BJA funding ran out.

There were three main types of electronic data storage systems in use by the member states which consisted of server-based, pc-based, and non-computerized databases. None of the

administrators reported receiving guidance from BJA on the creation of their databases. As a result, some degree of variability in the format of database is to be expected. The majority of administrators favored the idea of having a nationwide WYC database rather than having each state develop its own parallel database. Several administrators cited the ease of retrieving records for cars registered in other states as a major advantage of such a database. Lower cost of development and uniformity of data content were also cited by administrators as beneficial aspects of such a database.

Very few administrators reported conducting formal assessments of where or how best to conduct public awareness activities. Only Maryland's program had actually conducted formal focus groups to collect such data. Administrators reported that several different advertisement methods had been used to promote the WYC program. Inclusion of a WYC application with DMV registration notices was cited as a particularly effective method of promoting the WYC program by the administrators from Maryland and Arizona. Other advertisements methods included the creation of television and radio advertisements, educational videos for use with law enforcement, and partnerships with a local Eagle Scout troop. Just under half of the administrators stated that, ideally they would like to use more television and radio advertisements. Just over half of the administrators reported that they would like to increase their efforts with civic groups. Five WYC administrators reported that they had not received guidance from BJA in how to increase public awareness; three states reported that had received some guidance at a conference.

1.5   Section 3: Outcomes/Impact

This section of the survey solicited more detailed information about the outcomes and impacts of each state's WYC program. In this section of the survey there were four questions geared toward assessing impact. These four questions dealt with data tracking, comparing the effectiveness of the WYC program against other theft prevention programs, obstacles in assessing impact, and the appeal of help from BJA on how to assess impact.

Questions 38 asked administrators if the impact of the WYC program on vehicle theft was being tracked. Administrators from six states reported that they were collecting impact data. Arizona stated that they get theft data from their grant agencies, but that the exact effectiveness of the WYC program is hard to determine because of the holistic approach that the Arizona Automobile Theft Authority takes toward theft prevention. Colorado reported that they had one instance of recovery because of the WYC program. The administrator from Connecticut said they would be getting data from NICB, but the data would not allow for a determination of why a vehicle was recovered. Maryland commented that they could only encourage their officers to report to them on the effects of the WYC program. Maryland's administrator also reported that they and received reports of six WYC vehicles stolen, but that none of the six were recovered as a result of the WYC program. The administrator from Tennessee reported that each of their participating agencies had to turn in a quarterly report detailing the number of participating vehicles and the number of vehicles recovered. At the time of this survey, none of the registered cars had been reported as stolen. Minnesota reported that impact data were being tracked by a few individual police officers and that law enforcement agencies had been asked to notify the WYC program when cars in the WYC program are stopped, stolen, and/or recovered. At the time of this survey, Minnesota's WYC program had been told of two cars that had been pulled over, one WYC registered car stolen, but no recoveries.

When asked if the effectiveness of the WYC program was being assessed against other programs within their state (question 39), only two states answered yes to this questions. Arizona is assessing the impact of their WYC program with their Arizona Criminal Justice Commission study. Maryland's administrator commented that their program was being assessed against other programs, but did not provide further details. Tennessee's administrator stated that they were assessing the impact of their overall vehicle theft prevention efforts, not just the WYC program.

Administrators were asked in question 40 for details about obstacles that their WYC programs have encountered during data collection and how they dealt with those obstacles. One common problem reported by most programs revolved around the difficulty programs had in "populating" the database once it was established. For instance, Arizona has had trouble

convincing law enforcement agencies to establish "event codes" for WYC stops, recoveries, arrests, etc. Connecticut, Maryland, and Tennessee also reported had trouble getting participating agencies to collect and report back WYC-related data. Delaware's administrator commented that their program did not have a way to record information on police stops or vehicles that are recovered due to the WYC decal. Colorado's administrator stated that they have had trouble getting law enforcement agencies to enter data in a uniform manner. According to Colorado's administrator, this problem has been partially addressed through the creation of an Internet-based registration form. The administrator from the Virgin Islands reported that they did not have the staff needed to do data collection work. Utah's administrator stated that the biggest problem encountered thus far was the loss of all their data due their contractor not properly backing up registration data. Utah's WYC program was, however, able to recreate the data by using DMV records.

When asked if they would appreciate guidance from BJA or other WYC programs on impact tracking methods (question 41), all respondents, except New York, stated that they would appreciate the guidance. The administrator from the District of Columbia stated that they had in fact received help from the Maryland's WYC program. Tennessee commented that it would be helpful to educate all agencies on data collection and impact assessment methods.

1.6   Discussion of Section 3: Outcomes/Impact

Some data on the outcome of the WYC program are being collected, but these data collection efforts are sporadic and unstructured. This has resulted in the collection of data that are not of the type needed to successfully assess the impact of the WYC program. Of the 11 states that returned the survey, five states reported that the impact of their WYC program was not currently being documented. Administrators cited several reasons why they had not been able to collect information that could be used to assess impact. Not having a formal means to track police stops or vehicle recoveries related to the WYC program was mentioned by several administrators. Two other reasons given for lack of outcome data collection were: 1) difficulty in getting participating agencies to collect and return data so that databases could be "populated", and 2) not having the ability to collect data due to lack of funds or the low status of the WYC

program within the WYC program's state/department. All administrators, except one, stated that they would appreciate guidance from BJA or other WYC programs on impact tracking methods.

1.7   Section 4: Improvement

Section 4 of the survey sought information about how WYC administrators would improve the WYC program. The program areas addressed in Section 4 are:

- Start-up / Implementation
- Visibility / public or agency awareness / enrollment status
- Day-to-day functioning (e.g., databases, staffing, etc.)
- Sustainability (e.g., financial, staffing, etc.)
- Administrators' choice of area

When administrators were asked for suggestions as to how they would improve the start-up and implementation of the WYC program (question 42-A). Several different suggestions were made, but no dominant theme emerged.   Administrators from Connecticut and Utah suggested that guidance or examples from established programs would have been helpful. This comment echoes similar comments made in response to several previous survey items. The administrator from Maryland suggested that more national promotion and a national database would have been helpful. Colorado's administrator commented that the WYC program should have been implemented through Colorado's Motor Vehicle Registration Department. Colorado's administrator acknowledged that the vehicle theft was a law enforcement issue, but a more cooperative arrangement between the WYC program and the DMV would have been helpful in registering drivers into the program. Delaware's administrator said that help in establishing an evaluation design and help in identifying the data needed for such an evaluation would have been useful. The administrator from New York commented that gaining the favorable attention of their upper management sooner than they did would have been helpful.

Administrators were asked in question 42-B for suggestions about how they would improve the WYC program with regards to: visibility, public or agency awareness, and/or

enrollment. In general the comments revolved around the need for more advertising especially during the initiation of a state's WYC program. The administrator from Colorado commented that public awareness of their program would have been enhanced by working with the state's DMV. The administrators' comments from Delaware and Connecticut were similar in that they both would have appreciated guidance or training on visibility and public awareness. Administrators from Minnesota, New York, and Tennessee thought visibility would have been enhanced by working with auto dealers, insurance companies, and other law enforcement agencies during the introduction of their programs.

Suggestions about how to improve the day-to-day function of the WYC program were solicited in question 42-C. Four of the eight responses given to this question mentioned the need for more staffing. The District of Columbia, Minnesota, Tennessee, and the Virgin Islands all mentioned, in one way or another, the need for more staffing. Other suggestions offered were: 1) getting more support from the department's administration, 2) getting advice from successful WYC programs, and 3) getting training on day-to-day functioning from BJA.

When asked for comments on how to improve the sustainability of the WYC program (question 42-D). The administrator from Colorado once again mentioned working with their DMW. The administrator from Connecticut repeated the request for advice/guidance from other successful WYC programs. This sentiment was also expressed by Minnesota's administrator. Delaware's administrator stated that guidance in determining impact would help the program demonstrate its effectiveness. This, in turn, would increase the program's ability to obtain funding from other sources. Comments from the administrators from Tennessee, the Virgin Islands, and Utah were all similar in that they mentioned the need for more funding opportunities, either state or Federal.

A final probe, question 42-E, asked for improvement suggestions in any area of the WYC program. Two responses were received for this question. The administrator from Minnesota stated that more support was needed across states. In their words, "[The] bad guy needs to know about the program." The administrator from Tennessee answered this item with more of a comment than a suggestion. The administrator stated that since Tennessee has completed the

creation of their database, which was the biggest hurdle for their program, they could maintain the program for an additional year. The administrator also commented that, while local agencies that participated in their WYC program could continue with the program after the BJA grant ended, they would have come up with their own funding to support their continued use of the WYC program.

1.8   Discussion of Section 4: Improvement

Administrators provided suggestions on ways to improve the WYC program in the areas of: 1) Implementation, 2) Visibility, 3) day-to-day functioning, and 4) Sustainability. Administrators commented that guidance from established programs on implementation matters would be helpful. This comment echoes similar remarks made to response to previous survey items regarding other aspects of the WYC program. The creation of a national WYC database was also suggested as a way to improve the implementation. Another noteworthy comment made regarding implementation improvements was that guidance on an evaluation design and direction in identifying the data needed for such an evaluation would be beneficial. Some of the more salient recommendations made for increasing visibility were increasing promotion of the WYC program on a national level and working with each state's DMV to raise awareness and increase registrations. In addition to working with a state's DMV, other administrators recommended working with auto dealers, insurance companies other state law enforcement agencies to increase public awareness.   According to the respondents, day-to-day functioning of the WYC program could be improved by getting advice from other WYC programs and BJA, obtaining funding for more staff, and getting more support from their respective departments.

1.9   Section 5: Opinion Questions

The fifth, and last, section of the survey asked for opinions about the entire Watch Your Car program. This final section of the survey contained the following six questions:

- In general, what about the WYC program does and does not work well?
- What have been some good and bad decisions made during the implementation of the WYC program overall?
- What have been some good and bad decisions with regard to the day-to-day administration of the WYC program?
- Do you view the WYC program as effective?
- Do you think there are other programs that accomplish the goals of the WYC program and do so more effectively/efficiently?
- The last question in Section 5 allowed respondents to make general comments.

Several themes could be identified in the answers provided to question 43. The lack of support on a national level was mentioned in regard to several aspects of the program by four administrators. More help in "laying the groundwork" would in the opinion of Colorado's administrator, help to make the WYC program better. The perception of this states administrator is that there has been limited effort to fully implement the WYC program on a national basis. The lack of help from BJA with assistance in information sharing and networking between WYC programs was a criticism made by New York's administrator. Another comment that bears mentioning was provided by New York's administrator who expressed frustration at not being able to directly assess the effectiveness of the WYC program. In their words, "How do you measure a thief walking way form a decaled car and stealing another?" Tennessee's administrator commented that national-level help with databases and public awareness are essential for the WYC to be successful. The observation was made by Maryland's administrator that the WYC program is mostly used by senior citizens or middle-aged citizens. This may be in part explained by the response provided by Minnesota's administrator, who commented that some people are worried that they may occasionally drive during the program's hours of operation.   One of the most often mentioned ways in which the WYC program works well is by

serving as a community relations device. Administrators from Connecticut, the District of Columbia, Maryland, and Minnesota mentioned that the WYC program served as a good community relations program.

Administrators were asked in question 44 to describe what had been some good and bad decisions made with regards to the implementation of the WYC program overall. The responses to this question were, unfortunately, oriented more toward each state's program rather than the WYC program overall. Similar, state-specific, answers were obtained in the responses to question 45, which asked WYC administrators to provide examples of good and bad incidents in the day-to-day administration of the program.   As a result, the responses to both questions will be reviewed together.   Arizona thought that their use of the application scanners was a good decision. Delaware thought that their focus on the elderly in the community was a good decision. New York's program administrator mentioned the central warehousing of supplies as a good decision. Tennessee's administrator commented that they should have started their training and public awareness efforts earlier rather than waiting on the development of their database. The administrator for Tennessee also commented that using a contractor to develop and maintain their database was a good idea. Lastly, Utah's administrator stated that their department's administration should have been pressed more to support the WYC program.

In question 46, administrators were asked if they viewed the WYC program as effective. Of the 10 responses provided, seven administrators stated that they thought the program was effective, two administrators said the program was not effective and one administrator stated that they were unsure. One of the more interesting aspects of this group of responses is that an administrator for one of the more well thought of WYC programs, Maryland, did not view the program as effective. Arizona's administrator said that the effectiveness of the WYC program was demonstrated by the response rates to their mailings.

When administrators were asked in question 47 if they thought there were other programs that accomplish the goals of the WYC program and do so in a more effective and efficient manner.   Five of the 10 administrators responded that they did not think that there were other programs that were competitive with the WYC program. However, in two of the responses to

these "No" answers, administrators from Minnesota and Tennessee said that combining vehicle theft prevention methods was the best approach. Three administrators stated that "Yes" there were other programs that were competitive with the WYC program. In explaining their decisions, administrators from Maryland and Utah commented that public education programs can be as effective as the WYC program. Delaware's administrator stated that private sector options such as Lojack, clubs, and alarms were more effective at preventing theft. The remaining responses were neither positive nor negative.

The last question of the survey (#48) asked administrators for general comments. Colorado's administrator commented that education about the WYC program should have been considered/dealt with at the national level while allowing each state program to handle local matters. Maryland's administrator commented that the WYC decal itself is not a deterrent because most thieves don't know what the sticker means and those that do are careful of when they operate the car. an additional comments from Maryland's administrator was that the people that use the WYC program usually employ other forms of vehicle theft prevention. The administrator from Tennessee stated that, "The WYC is very beneficial and it should be continued on a national level. Because of this, I think we need more input from BJA regarding the database, public awareness campaigns, and data collection." Tennessee's administrator also commented that by providing this additional assistance and training more states might be motivated to participate in the program. This administrator's last comment was that the WYC program should be promoted as part of an overall vehicle theft prevention program that could include VIN etching, Park Smart (or a similar program), training, public awareness, and other applicable vehicle theft methods.

1.10   Discussion of Section 5: Opinion Questions

Several administrators stated that the WYC program is a good public relations tool for their law enforcement agencies. The lack of national-level support for many aspects of the WYC program was cited by several administrators as an area of needed improvement. More guidance from BJA with all aspects of the WYC program was a common desire expressed by many administrators. Three of the 10 administrators indicated that they thought there were other

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equally effective programs that accomplished the goals of the WYC program. Alternative programs mentioned by administrators were public education and private sector options such as car alarms. However, 5 of the 10 administrators commented that there were no other programs that were as effective as the WYC program. Two administrators commented that combining vehicle theft prevention efforts was the best approach. The last opinion question asked for comments on any aspect of the WYC program. The issue of national-level support during implementation of the WYC program at the state level was again brought up by several administrators. Colorado's administrator commented that the national-level support would be best if it allowed for some flexibly for states to handle local vehicle theft prevention needs.

2.   NON-MEMBER SURVEY RESULTS

The non-member surveys were sent to the 36 states that were not participating in the WYC program at the time of this study. Of the 36 surveys distributed, 16 were returned. We did not send surveys to Idaho, Kansas, or Wisconsin because auto theft prevention in these states is not dealt with at a state level. Non-member surveys were also distributed to 10 cities that had the highest vehicle theft rates based on 2002 UCR data. Of the 10 surveys distributed to the cites, 5 were returned. The returned surveys represent a 44% response rate for the non-member states, and a 50% response rate for the ten cities.

The basic structure for both the state and city non-member surveys was the same. Both surveys consisted of two main sections. The first section contained questions about motor vehicle theft prevention activities relevant to a given city or state and the second section of the survey presented questions about the Watch Your Car program. Both the state and city surveys were tailored to particular regions of the country by the inclusion of a regionalized question. The regional questions asked respondents how, if at all, specific characteristics of their region influenced their vehicle theft prevention activities. Because the majority of questions on the state and city surveys were the same, the results from both surveys are combined in the following review. Where survey questions differ, responses to those items are reviewed independently.

2.1   Section 1: Motor Vehicle Theft Prevention

The first question asked if an agency such as a motor vehicle theft prevention authority was used to address vehicle theft. Six states (i.e., California, Florida, Illinois, Michigan, North Carolina, and Pennsylvania) reported that such an organization existed in their state. The specific names of these organizations are provided below:

- California Highway Patrol
- Florida Motor Vehicle Theft Prevention Authority
- Illinois Motor Vehicle Theft Prevention Council
- Michigan Automobile Theft Prevention Authority
- North Carolina Department of Motor Vehicles
- Pennsylvania Automobile Theft Prevention Authority

Missouri cited the National Insurance Crime Bureau (NICB) as their organization. However, it appears that the respondent from Missouri misunderstood the item, so we are not counting their answer as a state-level motor vehicle theft prevention authority. Only one city, Modesto, stated that they had such an organization to deal with vehicle theft; the Stanislaus County Law Enforcement Executive Committee.

The second survey question sought information about what sort of motor vehicle theft prevention methods are officially endorsed by a state, state agency, or city. Many theft prevention methods were mentioned and there was a considerable level of similarity in the answers across states and cities. The following methods/programs were mentioned by nearly all respondents (states & cities):

- VIN etching
- Parts marking
- Public awareness initiatives, and
- Other types of decal programs

The use of vertical prosecution efforts, law enforcement task forces, and state-wide patrol training were mentioned by other states. Other particular programs that were mentioned by California were salvage vehicle inspection programs, foreign export and recovery programs, and theft interdiction programs. When asked to rank order their answers to question two, public awareness campaigns and parts marking were often mentioned as effective programs.

Respondents were given the option with the fourth survey item to list other vehicle theft prevention programs that they thought were effective, but were not currently being endorsed by their state or city. Providing ongoing training to law enforcement personnel on matters related vehicle theft was mentioned by one state as an effective means of vehicle theft prevention. The use of multi-jurisdictional auto theft task forces and work with potential juveniles repeat offenders were mentioned by administrators from both state and city law enforcement agencies. Similarly, private sector vehicle theft prevention methods, such as LoJack and car alarms were

also mentioned by both state and city administrators as effective vehicle theft prevention methods.

Only two of the 16 states that returned the surveys reported in question five that they assessed the effectiveness of the motor vehicle theft prevention methods used in their state. Three of the six cities reported that they assessed effectiveness. Most of the respondents that were assessing effectiveness did so by comparing current theft rates against past theft rates. Respondents were asked in question six if they were using more than one method to assess effectiveness and if so, was one method superior. None of the respondents reported using more than one method of assessment.

Question seven asked if there was collaboration between different city/state agencies with regard to tracking motor vehicle theft. California reported that they had a county vehicle task force. Michigan stated that funding from their auto theft prevention authority requires cooperation between agencies. Pennsylvania commented that they are part of a task force between contiguous states in their area. With regard to the cities, Modesto reported that local police, the sheriff's office, and the highway patrol all share information. Sacramento reiterated the comments made by the respondent from Modesto with the additional comment that funds were available from the state's DMV for vehicle theft prevention efforts. Phoenix reported that Arizona's Auto Theft Prevention Authority assisted all agencies with statistics and funding.

Question eight asked if data on factors that may be driving auto theft rates were being assessed. City respondents indicated that they were assessing information from interviews with suspects, theft rates in areas with immediate access to freeways, and theft rates during different times of the year to determine what might be influencing vehicle theft. Respondents from the states reported that they were tracking population demographics, vehicle theft trends, and changes in technology.

Questions nine and ten asked for examples of good and bad decisions made by states and cities regarding motor vehicle theft prevention methods. Good examples included Michigan's comprehensive law enforcement, prosecution, and public awareness programs. Both Illinois and

California commented that their state had made good decisions with funding-related activities. Examples of bad decisions made by states included: reductions in funding, the use of public relations agencies, not having a prevention program in place, the rejection of an effort to create an auto theft prevention authority, and allowing people to verify their own VIN numbers. Good decisions made by city agencies included the use of a "Watch Your Car"-type program and the use of "Bait Cars" in Los Angeles, the use of public awareness efforts in Modesto, and the use of the Watch Your Car program and VIN etching in Phoenix. Examples of bad decisions provide by cities included not creating a regional task force, discontinuing the use of existing multi-jurisdictional task forces, and not advancing public awareness efforts.

Responses varied considerably when respondents were asked in question eleven to describe the level of funding allotted to motor vehicle theft prevention in their state or city per fiscal year. Responses from the state survey ranged from zero dollars as high as $6.5 million. Several respondents were not able to provide an estimate. For the cities that replied, descriptions were more specific. Modesto reported that funding was based on $1 per registered vehicle and Sacramento reported that funding was based on DMV license fees. Other responses reported that no funding was provided or that no estimate could be made.

The twelfth question on both the state and city surveys was used to gather regional information about vehicle theft prevention approaches that respondents thought were, or could be, particularly effective in their area. Four surveys were returned for both the Central and Eastern regions. The composition of each region is explained in the Methods section of this report. For the Central region, four approaches to reducing vehicle theft were identified. These approaches were: 1) training law enforcement officer in matters related to auto theft, 2) increasing public awareness, 3) establishing vehicle theft prevention authorities, and 4) tracking salvaged vehicle VIN numbers so that the VIN numbers from such cars could not be used to conceal stolen vehicles. For the Eastern region, four responses were also given to this item, but only one respondent's comment contained a concrete suggestion. This comment contained a suggestion to establish inter-jurisdictional task forces to combat vehicle theft. This suggestion was proposed as a remedy for the limited amount of resources and manpower devoted to combat vehicle theft.   Two other states, Montana and California, provided specific examples for ways to

combat vehicle theft. Montana suggested that stricter title processing methods should be used in states surrounding Montana. Evidently, states surrounding Montana have title-branding procedures that make the "washing" of vehicle titles a relatively easy task. California reported that they began using a license plate reader system at border crossings to identify stolen vehicles.

Question 13 asked respondents to indicate the methods they use to increase public awareness. The responses indicated that several types of public awareness methods were being used by both states and cities. The use of pamphlets, newspaper ads, public service announcements via television and radio, and presentations to clubs, groups, and law enforcement agencies were listed by respondents as methods of increasing public awareness. Other approaches listed for increasing public awareness included: vehicle theft prevention training, using VIN etching, promoting a "Lock It or Lose It" program, and working with colleges/universities.

Question 14 asked respondents to rank order their answers to question 13. Of the five responses given for this item in the state survey, presentations to law enforcement agencies and public service announcements on television and radio were listed by both states and cities as the most effective methods to increase public awareness. Pamphlets/brochures, newspaper ads, and flyers followed presentations and public service announcements in order of effectiveness.

2.2   Discussion of Section 1: Motor Vehicle Theft Prevention

Six of the responding states reported having auto theft prevention authorities. While only one city, Modesto, CA reported having this type of organization. Several theft prevention programs were mentioned as being officially supported by state, state agency, or city governments. The most often mentioned programs were: VIN etching, parts marking, public awareness, and decal programs similar to Watch Your Car. Additional methods mentioned included vertical prosecution efforts, law enforcement task forces, and programs to train police about theft prevention methods. Other specific programs were reported and are reviewed above. When asked to rank order programs by effectiveness, public awareness and parts marking were rated as more effective. Other theft prevention efforts/initiatives that were mentioned by

particular states or cities as being effective, but not officially endorsed in their states or cites were multi-jurisdictional auto theft prevention task forces, juvenile repeat offender programs, law enforcement training programs, and private sector methods such as LoJack. Only two states reported that they assessed, in some way, the effectiveness of their theft prevention efforts. Their assessment methods essentially consisted of comparing current theft rates to past theft rates. Survey respondents did not appear to be doing much in the way of tracking or assessing what factors might be driving auto theft rates. Some information was being collected from suspects and some agencies reported that they examined annual theft cycles and changes in demographics.

When asked to provide examples of good and bad decisions made regarding motor vehicle theft, agencies included the use of comprehensive programs for auto theft prevention (e.g., law enforcement, prosecution, increased public awareness), using WYC-type programs, and bait cars as good decisions. Programs that were the most successful had some sort of service or fee-based funding stream; such as funding through license fees or through fees on insurance policies. Maryland and Arizona's programs provide excellent examples of such programs. Less successful programs relied on annual budgetary allotments. Examples provided as bad decisions included not establishing an auto theft prevention authorities, and not establishing regional task forces when those opportunities presented themselves.

The regional question that was used to gather information about auto theft prevention efforts that might be or were particularly effective in a given region of the United States. One example of such a program was provided by the respondent from California. The state of California uses license plate readers in an attempt to increase the identification of stolen cars at border crossings. One common suggestion for combating auth theft that appeared across regions was that the establishment of auto theft prevention authorities would be effective in combating auto theft.

The last two questions in this section of the non-member survey asked respondents to list the methods they used to increase public awareness and to state which methods they perceived as being the most effective. Several methods, from pamphlets to televised public service announcements were mentioned and are described in more detail above. Presentations to and

training sessions for law enforcement along with public service announcement were rated as the most effective methods.

2.3 Section 2: Watch Your Car Program

The second section of the non-member survey consisted of seven questions specifically related to the Watch Your Car program. When asked if they were aware of the WYC program (question 15). Six of the sixteen states and three of the five cities reported that they were aware of the WYC program. Respondents who stated that they were aware of the WYC program were asked to answer five additional questions.

Question 16 asked if the WYC program was viewed as effective by people working in the respondent's department or agency. Half of the states and all of the cities reported that the WYC program was viewed as effective. Question 17 asked respondents to describe why their state or city had not adopted the WYC program.   Florida and Michigan had similar comments in that they could not or would not meet the mandatory requirement for a database. New Jersey reported that they had a similar program to WYC called Catch Auto Theft (CAT), but only two to three of the approximately 500 departments in the state participated in the program. Illinois pointed out that there was no interest at the local level in the WYC program. Pennsylvania stated that they did not try because they believed no new applications for the WYC program were being accepted. Lastly, North Carolina reported that they had in fact adopted the WYC program.   This result is possibly due to the length of time that had passed between the initial distribution of the non-member survey and the return of the survey by this state. No responses were provided by the cities to question 17.

Question 18 asked respondents to express, to the best of their understanding, what about the WYC program works well. The two most often mentioned responses from both states and cities were: 1) that the WYC program provides officers a way to stop and check on a vehicle during program hours without having probable cause, and 2) the WYC program was a good tool for public awareness. Question 19 asked respondents to describe what about the WYC program does not work well. Responses included the inability to check WYC records in other

jurisdictions, the lack of funding to administer the program, too many guidelines, and difficulty in getting local law enforcement agencies to participate in the program.

Question 20 asked what would need to change for a state or city to implement the WYC program. The need for a centralized, 24 hour database that is available to all law enforcement agencies was mentioned by two states. Fewer guidelines and sufficient funding to staff and administer the program were also mentioned as needed changes. There were no responses from the cites for question 20.

Question 21 asked if a Federally funded, nationally organized motor vehicle theft prevention program is a good idea. Fifteen of the 16 states and 4 of the 5 cities responded that such a program was a good idea. In explaining why they thought such a program was a good idea, several states commented that vehicle theft was a national problem, not just a local problem and that such a program would increase cooperation between states. Several states also mentioned that Federal funding would help provide the resources needed for staff and equipment. Comments from the cities echoed the state comments closely. Interestingly, the comments from the state and city respondents that did not think such a program was a good idea were very similar in that these respondents commented that vehicle theft prevention should be handled locally.

2.4   Discussion of Section 2: Watch Your Car Program

Of the respondents that stated they were aware of the WYC program the vast majority reported that the program was perceived as effective by people working in their departments. When explaining why the WYC program had not been adopted the following responses were given: two states cited the requirement of creating a database as the reason their states did not adopt the program; several states reported that they already had programs similar to WYC; and lack of interest at the local agency level was also cited by one state as a reason for not using the program.

Perceptions of what worked well in the WYC program included providing officers with a means to stop and check a vehicle during program hours without needing probable cause and the WYC program provided a means to increase public awareness about auto theft. Perceptions about what did not work well in the program included the inability to readily check WYC records in other jurisdictions, the lack of funding to administer the program, too many guidelines, and difficulty in getting local law enforcement agencies to participate in the program. Suggestions for making the program more attractive to law enforcement included creating a centralized, 24-hour database that is available to all law enforcement agencies, having fewer guidelines associated with the program, and providing more funding for on-going staffing and administration needs.

When asked if a Federally funded, nationally organized auto theft prevention program was a good idea, most of the respondents from both the state and city agencies replied in the affirmative. Reasons given for this endorsement included that such a program would help combat a problem that exists across state and local jurisdictions and that Federal funding would help with staffing, equipment, and administration needs. Those respondents from both state and city levels that did not think such a program was a good idea justified their opinions by stating that auto theft is best handled at the local level.

3.   BEST PRACTICES

The following discussion of best practices is a summary of the information gathered from information in our background research, WYC site visits and interviews, and analyses of survey data from non-member states and cities. This summary is organized in the following manner:

- Start-up and Implementation
- Databases
- Integration of WYC and other programs
- Public Awareness and Enrollment
- Impact/Outcome Assessment
- Technological Advances
- Innovative Practices in Auto Theft Prevention outside of WYC

3.1   Start-up and Implementation

Watch Your Car programs that are part of vehicle theft prevention authorities/councils are more likely than independent WYC programs to be successful due to better access to funding and other resources. The WYC programs in Arizona, Maryland, and New York exemplify this point. These programs have established funding methods that help ensure the existence of their programs after the initial funding from BJA has been exhausted. Watch Your Car programs that are part of authorities/associations also appear to be more likely to benefit from increased access to and collaboration with private sector, industry-based, and public organizations/agencies. These vehicle theft prevention authorities/councils are also able to provide local law enforcement agencies with funding and technical training and support with their vehicle theft prevention efforts. As an example, Arizona's Auto Theft Authority (AATA) provides just such training and financial support to local law enforcement agencies for the WYC program and other vehicle theft prevention efforts. A further notable example of the way in which Arizona's AATA supports vehicle theft prevention in their state is the hosting of summits that provide training and support to local law enforcement agencies and personnel. Thus far, the AATA has hosted two summits, one in 2003 and one in early 2004.

The cost and time associated with the start-up of new WYC programs could be reduced to some degree if a readily accessible method for the sharing of information between established WYC and newer WYC programs was available. Such information sharing could help newer programs avoid some of the more common and costly mistakes that are involved with the implementation of a WYC program. For instance, several WYC programs had considerable difficulty developing their databases. Guidance from more established WYC programs or BJA would have likely reduced the difficulty newer programs encountered during the creation of their databases. At the least, help from other programs would have been useful in providing newer programs with ideas on how to best approach the creation of their databases. Help from established programs could also be applied to a range of other factors faced by each WYC program during start-up. A number of WYC administrators indicated that WYC-related meetings that were held at BJA conferences were very helpful. Overall, establishing a means for regular communication between WYC programs could prove beneficial by providing a venue for the sharing of new ideas, approaches, and best practices.

3.2   Databases

The type and level of development of databases used by the WYC programs varied considerably. The most developed WYC databases are housed in computer systems that provided a straightforward means of data entry, data management, and data recall. The more developed systems typically had interfaces that allowed for either staff or automated entry of WYC applicant records. Some of these systems also had the ability to automatically check application information against DMV records. One of the most advantageous aspects of these types of databases is their ability to provide ready access to WYC registrant data at all hours to patrol officers and/or dispatchers. Some of the more advanced systems had Internet-based enrollment and account management capabilities that allowed citizens to maintain their own WYC information. Example database systems with one or more of these characteristics have been created by the WYC programs in Maryland, New York, Arizona, Colorado, and Tennessee.

One shortcoming found with all the databases systems is the trouble the databases present when law enforcement agents need to gain access to WYC data from another state. The time it

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would take to contact a dispatcher or other such person that has access to WYC data for non-residents is most likely so lengthy as to make the process impractical during a routine traffic stop. This shortcoming in data access was mentioned by respondents in both the WYC member and non-member surveys. For the WYC program to be effective and attractive to law enforcement agencies, a means of providing WYC member data in timely manner to all law enforcement agencies is needed. To address this issue, a more uniform and possibly centralized repository of WYC data is almost certainly needed.

An additional challenge that will become more of an issue as WYC member data ages is the accuracy in vehicle ownership data. As WYC members buy new vehicles and sell their older vehicles, some means of tracking changes in vehicle ownership is needed. When a car is sold or the authorized driver(s) of a vehicle change, the WYC programs need to have some functional ability to update this type of information in their databases. Some provision should also be in place to advise the new owner of the vehicle about the WYC program and the implications of having the WYC decals on their vehicle. New owners should also be advised that they need to enroll in the program or remove the WYC sticker from their car. This exact issue posed a considerable amount of trouble for the New York WYC program. The New York WYC program actually had to work with state law makers to address the issues of probable cause and search and seizure related to WYC stickers on vehicles that had been sold or were no longer being operated by the vehicle's original registrant or one of its authorized drivers. Watch Your Car programs in Arizona, and Colorado had systems in place to automatically check WYC applicant data against driver registration data at the time of enrollment. It would seem that such a system could be used to regularly run such checks to ensure that the data for existing WYC members matches their current vehicle registration data. Another course of action could be to have "flags" placed on the DMV records of WYC members so that notices could be sent to that state's WYC program and the new owner of the vehicle to notify both parties that certain actions need to be taken regarding the WYC program.

3.3   Integration of WYC and other programs

It appears that the WYC program has been successfully incorporated with VIN etching and public education programs. A particularly salient example of how well the WYC and VIN programs have been intergraded is provided by New York's WYC program. New York's WYC program has created a bar-code system that combines WYC and VIN etching registration. Their registration system uses a two-dimensional barcode and hand-held barcode readers to populate their databases with an applicant's information. This system is used with a portable VIN etching system that allows representatives from their WYC program to travel around the state to hold registration events in a myriad of settings. Similar mobile registration systems are in use in other WYC member states (e.g., Arizona, Maryland, & New York). Beyond the VIN etching programs, the WYC program has been incorporated into a multi-layered approach to vehicle theft prevention in several member states. This multi-layered approached is promoted to the public through each program's public awareness efforts.

3.4   Public Awareness and Enrollment

Several administrators reported that the WYC program served very well as a mechanism to increase public awareness about vehicle theft prevention. The WYC program in Maryland has actually conducted research (i.e., focus groups) to best determine how to promote their program. The WYC program was also mentioned as an effective "good will" tool that could be used by law enforcement as a means to interact in a positive way with the local community. Two of the more effective methods mentioned for increasing public awareness of vehicle theft prevention and the WYC program were, 1) including WYC applications with DMV registration mailings, and 2) enrollment blitzes held in various locations within a community. The DMV mailings were mentioned by Maryland and Arizona as particularly effective. Other states have used partnerships with local civic groups, neighborhood associations, apartment rental associations, schools, universities, car rental agencies, insurance companies, automobile dealerships, and a myriad of other organizations to increase awareness about vehicle theft prevention and to promote their WYC programs. Other methods of promotion have included the use vehicles covered with large WYC decals and advertisements (e.g., Arizona & Utah), billboards, public

service announcements on radio and televisions, and booths and enrollment blitzes at state fairs and other large public functions.

Presentations to local groups and at enrollment events are advantageous because the details of the WYC program can be better explained at such events. For instance, citizens' concerns about how the program may effect them can be addressed immediately, thus increasing the chances of enrollment.   Such local events also make it possible for citizens to enroll into a VIN etching program (if offered by local law enforcement). Creating WYC materials in languages other than English is yet another way to increase awareness of the WYC program and vehicle theft prevention in areas that have large concentrations of non-native English speaking inhabitants.

One criticism raised by several WYC member states was that more promotion of the WYC program was needed at a national level. This criticism seems to make sense in that the WYC decals loose their effectiveness when decaled vehicles are driven into states/areas where law enforcement is not aware of the meaning of the decals or how to obtain the information needed to verify the status of the vehicle's driver.

3.5   Impact/Outcome Assessment

The collection of data that demonstrates the impact of the WYC program on vehicle theft prevention has proved to be a considerable challenge to WYC administrators. Some data on the outcome of the WYC program are being collected, but these data collection efforts are not meeting with much success. Administrators cited several reasons why they have not been able to collect information that could be used to assess impact: 1) Not having a formal means to track police stops or vehicle recoveries related to the WYC program, 2) difficulty in getting participating agencies to collect and return data, 3) and not having the ability to collect data due to lack of funds or the low status of the WYC program within the WYC program's state/department were some of the more noteworthy reasons given. The data collection efforts of the WYC member states could possibly be enhanced with guidance and support from BJA or through more collective efforts across WYC programs. Watch Your Car administrators stated

that they would appreciate this sort of guidance from BJA or other WYC programs regarding data collection.

Guidance and support for impact assessment is a subject that is closely tied to database development. Reponses to the WYC member survey indicated that each program had approached impact assessment in their own way. Some programs had made more progress than others, but what was apparent was that none of their assessment methods were doing that well at collecting data of the type or amount needed to adequately assess impact. Both existing and future WYC programs would appear to benefit from guidance in the development of impact assessment methodologies, in database development, and in effective methods to collect impact data.

3.6   Technological Advances

Because of the challenges posed by the creation of the databases used with the WYC program, the innovative technical advances from the WYC program tend to revolve around database related efforts. The level of technical sophistication of the databases and associated methods used by the WYC programs varies considerably. These variations are generally associated with two factors: 1) the length of time a state has been a member of the WYC program, and 2) the nature of resources to which each member state has access. States that have been in the program longer and that have access to more resources are logically more likely to have advanced database systems.

In the area of application processing, two processes bear mentioning. First, Arizona's highly automated application processing system is notable in that their system is capable of reading hand-written applicant information from a standardized application. This aspect of their system greatly reduces the time needed to enter application information. Their system also automatically cross-checks WYC applicant data with Arizona DMV records to ensure the WYC applicant is actually registered as the owner of the vehicle. The system brings to the attention of the system's administrator applications that do not make it past this check. Once the applicant's information has been verified, the system transfers an applicant's mailing address to another

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system that creates mailing labels for use in mailing decals to new members. The system Arizona has in place is also capable of processing withdrawals from the WYC program in a similarly automated fashion. The end result of this high level of automation is a reduction in the time and cost needed to process WYC applications, an increase in the accuracy of data entry, and an increase in the ease with which the WYC applicant database can be managed.

Some WYC programs (i.e., Arizona, Maryland, Massachusetts, & Utah) also have developed the ability to register drivers through their program's websites. Certain programs (e.g., Colorado) also provide current WYC members the option of updating their membership information through their program's website. Enrollment in the WYC program is also offered through the websites of other WYC programs by providing a printable WYC registration form that can be mailed in for processing. This option saves applicants time because the applicant can enroll in the WYC program entirely through the mail versus having to be present at an enrollment event.

Another characteristic of the more developed WYC database systems is the ability to readily provide WYC registration data directly to patrol officers directly or to dispatchers at any time. For instance, the system in use by Maryland's WYC program allows officers to check WYC registration information using the existing computer system they have in their patrol cars. This aspect of certain WYC databases makes the WYC program much more practical and useful to the individual who is called upon most often to check on a driver's status, the police officer.

New York's WYC program has automated their enrollment process to some degree by incorporating the use of hand-held barcode readers into the registration process. The barcode readers are used to translate the information contained in the two-dimensional barcodes that are printed on the registration and insurance cards for drivers in New York state. The barcodes contain information about the driver's address and vehicle. By using the barcode readers, information about the vehicle and the driver's can be quickly verified. Moreover, through the use of the barcode readers and specially created registration software, the information needed to enroll a driver into the WYC program automatically populates the WYC registration form. The only piece of information that is not automatically transferred is the applicant's current phone

number. This system significantly reduces the time need to enroll a driver and the system significantly increases the accuracy and timeliness of applicant data.   New York's Division of Criminal Justice Services developed this software in cooperation with the NICB. Therefore, it would seem that other WYC programs could avail themselves of this effective tool by working with the NICB.

3.7   Innovative Practices in Auto Theft Prevention outside of WYC

License plate readers are being used in border states such as California and Arizona to identify vehicles at border crossings that have been reported stolen. The marking of specific vehicle parts with VIN numbers (VIN marking) was reported as being used in California, Indiana and Florida. Inspection of salvaged vehicles was also mentioned as another vehicle theft prevention program in use by several states. Such programs curtail the transfer of VIN numbers from salvaged vehicles to stolen vehicles.

Because California has both international borders and ports, it has implemented a foreign export and recovery program and cargo theft interdiction program to combat the exportation of stolen vehicles. The Cargo Theft Interdiction Program is a multi-jurisdictional task force that was created in 1994. It designated purpose is to combat cargo theft in Los Angeles County and Southern California. The Foreign Export and Recovery (FEAR) Task Force was created in 1995. The FEAR task force works with government agencies and private industry to combat the illegal export of vehicles.

Arizona, in addition to their license plate reader system, is using the Border Auto Theft Information Center (BATIC) program to reduce the number of stolen vehicles crossing the border with Mexico and to increase the recovery rate of stolen vehicles that are in Mexico. The BATIC program provides 24 hour access to bi-lingual information about stolen vehicles. The BATIC program also provides training to Mexican law enforcement authorities on how to identify stolen vehicles.

   Other suggestions for ways to combat vehicle theft were made in the non-member surveys. One suggestion concerned the need to improve the way in which vehicle titles are handled across all states to decrease the ability of titles from salvaged or stolen cars to be "washed". Two other suggestions were to continue with and expand the use of multi-jurisdictional vehicle theft prevention efforts and to increase the use of vertical prosecution efforts to combat vehicle theft.

V. COST EFFECTIVENESS

V. COST-EFFECTIVENESS

This part of the report presents the results of a preliminary cost-effectiveness analysis for the Watch Your Car program, relying, in the absence of actual program outcomes from participating WYC states, on a mathematical model that projects cost outcomes under a set of hypothetical, but reasonable assumptions. The chapter is presented in accordance with the following framework:

- Introduction
- Motor vehicle theft incidence and recent trends
- Comparison of WYC and non-WYC states
- Theft targets and recovery analysis
- Costs associated with motor vehicle theft
- Availability of outcome data among WYC states
- Preliminary cost-effectiveness model
- Data requirements for cost-effectiveness analysis.

While outcome data essential to the analysis are currently unavailable, this model, once fully developed, can become a useful estimating and planning tool for ongoing program management.

1. INTRODUCTION

Motor vehicle theft becomes an increasingly costly crime each year. In 2002, the value of all stolen motor vehicles was approximately $8.4 billion, up 2.4 percent from $8.2 billion in 2001. The dollar value of claims is increasing, driven up by the higher value of new cars on the road vulnerable to theft, the cost of automobile repair, and a recent court decision that has discouraged insurers from using generic auto parts (Insurance Information Institute, 2004). With recognition of the increasing costs associated with vehicle theft, jurisdictions have struggled to develop and implement measures to effectively safeguard vehicles and prevent loss. Grants under the Watch Your Car program beginning in FY1997, administered by the Bureau of Justice Assistance (BJA), illustrate the federal effort to provide incentives to states to raise awareness

about vehicle theft and to actually deter theft on the ground. Through FY2002, approximately $4.1 million had been allocated to 11 states, the District of Columbia, and the Virgin Islands.

The effectiveness of the Watch Your Car program lies in its capacity to prevent vehicle theft or, in the event a protected vehicle is stolen, then to reduce the elapsed time between theft and recovery. More rapid recovery, in theory, reduces the amount of incurred damage, damage costs, and other personal losses specifically attributable to the theft incident. Thus, the primary measure of performance for the program is the number of prevented thefts, and the avoided costs and losses associated with those thefts. This value might be expressed as the difference between the observed incidence rate (actual incidents) and the expected incidence rate (incidents that would reasonably have been expected in the absence of the program).

Prevention programs are inherently difficult to evaluate because they are successful, by definition, when some phenomenon does not happen in the future. In other words, if a program to prevent motor vehicle theft is successful, incidents of theft will be reduced below expected levels or not observed at all. This is further complicated by the fact that it is not possible to assert that incidents of motor vehicle theft would have been observed in the first place. In addition, it is extremely difficult to isolate the effects of a motor vehicle theft prevention program from the effects of other factors that influence the rate of theft, the likelihood of recovery, and the elapsed time between the moment of theft and the point of recovery.

Establishing the benefits of a prevention program, with a reasonable measure of confidence, requires a sufficiently rigorous research design. When there is an interest in establishing causality, (i.e., determining whether a prevention program causes some outcome or outcomes to occur), it is essential to utilize a design that can rule out alternative explanations for observed outcomes. This is typically accomplished through an experimental design, with random assignment to "treatment" and "control" conditions, or a quasi-experimental design, which establishes a reasonable point of comparison without randomization and applies statistical methods to control for group differences that might threaten the study's conclusive validity.

Once specific outcomes (benefits) of an intervention are conclusively established, benefit-cost analysis is a technique that can determine whether those benefits outweigh the costs and thus whether the intervention is worthwhile in an absolute sense. A well constructed benefit-cost analysis will: 1) utilize a framework that assesses benefits and costs from a number of perspectives, reflecting the fact that some stakeholders can gain, while others can lose, 2) consider possible unintended consequences or byproducts of a program, both positive and negative, 3) incorporate future, or downstream, benefits and costs, and 4) test the sensitivity of the analysis to its underlying assumptions, typically by estimating the probability that those assumptions will occur. There are three principal methods of combining costs and benefits, including the benefit-cost ratio, net present value, and internal rate of return.

In accordance with the Department of Justice's Annual Performance Report and Plan, as required by the Government Performance and Results Act (GPRA) of 1993, measures of cost effectiveness or cost avoidance have been established as an important component of a meaningful and coherent performance monitoring capability. To assess best practices related to prevention of motor vehicle theft under BJA's Watch Your Car program, the National Institute of Justice therefore included in this task order a cost-effectiveness component. Following an examination of available data on theft rates, the model presented herein uses a framework for projecting potential savings from the Watch your Car program under various assumptions.

2.   MOTOR VEHICLE THEFT INCIDENCE AND RECENT TRENDS

Motor vehicle theft is defined in the Uniform Crime Reporting Program as the theft or attempted theft of a motor vehicle, among which are included automobiles, trucks, buses, motorcycles, motor scooters, snowmobiles, etc. Theft also includes the temporary possession of a vehicle by persons not having lawful access and joy riding. With 1,246,096 reported incidents of motor vehicle theft in 2002, this problem is again on the rise following years of steady declines since 1991. The rate of motor vehicle theft incidents adjusted to the population is likewise increasing again, with 432.1 incidents per 100,000 persons reported in 2002.

Exhibit 5 presents trends in reported motor vehicle theft incidents and rates of theft incidents per 100,000 persons from 1991-2002. As the exhibit demonstrates, the annual number

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of motor vehicle theft incidents steadily fell each year from 1991 (1,661,738) through 1999 (1,152,075), then began increasing again through 2002 (1,246,096). Still, despite recent increases, there were 25 percent fewer incidents of motor vehicle theft in 2002 than in 1991. The rate of motor vehicle theft incidents increased from 412 incidents per 100,000 persons in 2000 to 431 incidents per 100,000 persons in 2001, and to 432 incidents per 100,000 persons in 2002. Still, since 1991, the rate of motor vehicle theft incidents decreased 34 percent from 1991 (659 incidents per 100,000 persons) to 2002 (432 incidents per 100,000 residents).

EXHIBIT 5						
TRENDS IN REPORTED THEFT INCIDENTS AND RATES						
YEAR	**THEFT INCIDENTS**	**ANNUAL CHANGE**	**PERCENT CHANGE**	**RATE PER 100,000**	**ANNUAL CHANGE**	**PERCENT CHANGE**
1991	1,661,738	–	–	659.0	–	–
1992	1,610,834	-50,904	-3.1%	631.6	-27.4	-4.2%
1993	1,563,060	-98,678	-5.9%	606.3	-52.7	-8.0%
1994	1,539,287	-122,451	-7.4%	591.3	-67.7	-10.3%
1995	1,472,441	-189,297	-11.4%	560.3	-98.7	-15.0%
1996	1,394,238	-267,500	-16.1%	525.7	-133.3	-20.2%
1997	1,354,189	-307,549	-18.5%	505.7	-153.3	-23.3%
1998	1,242,781	-418,957	-25.2%	459.9	-199.1	-30.2%
1999	1,152,075	-509,663	-30.7%	422.5	-236.5	-35.9%
2000	1,160,002	-501,736	-30.2%	412.2	-246.8	-37.5%
2001	1,228,391	-433,347	-26.1%	430.5	-228.5	-34.7%
2002	1,246,096	-415,642	-25.0%	432.1	-226.9	-34.4%

Source: Federal Bureau of Investigation, Uniform Crime Reports, Index of Crime (1991-2002).

Distribution of funding to support implementation of the Watch Your Car program began in FY1997. The trend in motor vehicle theft incidents over this period provides an interesting backdrop. Exhibit 6 illustrates the percent change in motor vehicle theft over the 6-year period from 1997-2002, using motor vehicle theft incidents in 1997 as the baseline. As the exhibit demonstrates, annual incidents of motor vehicle theft over the period follow a hyperbolic pattern, with annual decreases in incidents from 1997-1999, followed by annual increases from 1999-2002. Even with a trend since 2000 toward increasing incidents, the number of incidents of motor vehicle theft in 2002 is 8.0 percent lower than in 1997, while the rate of motor vehicle theft incidents per 100,000 persons in 2002 is 14.6 percent lower than in 1997.

EXHIBIT 6
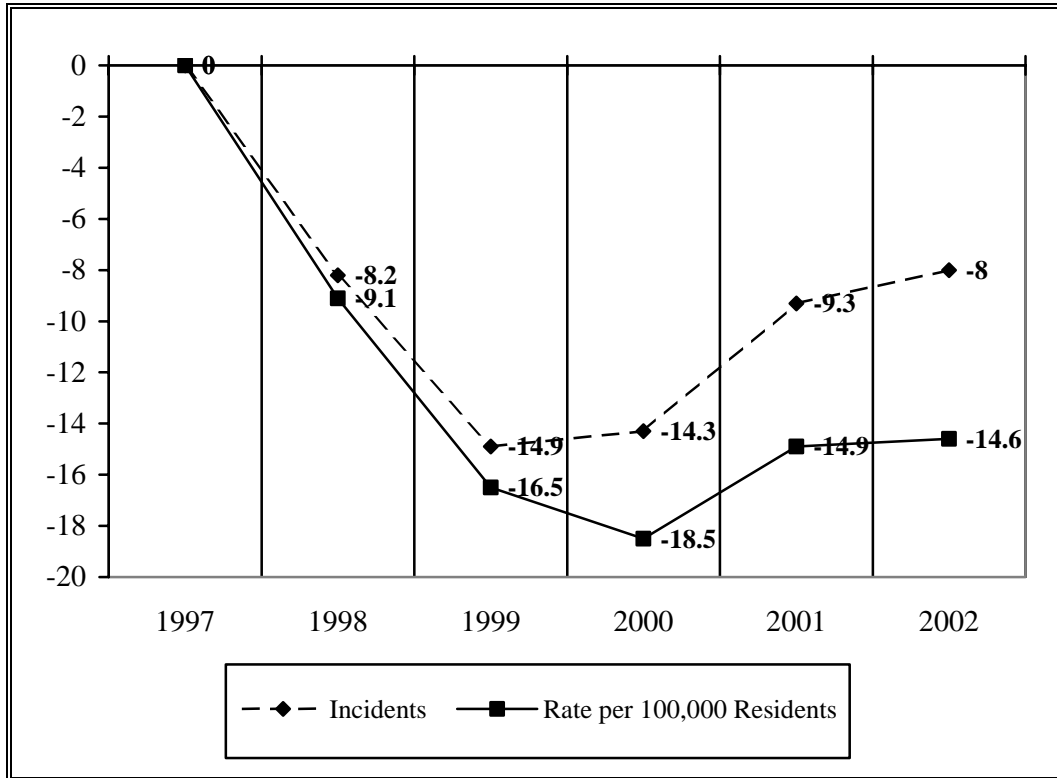
While current rates of motor vehicle theft remain well below levels seen in 1990 and 1991, the recent reversal of the decade-long decline in motor vehicle theft incidents is a source of considerable concern among law enforcement agencies. NICB suggests that among the factors contributing to the reversal are the economic downturn beginning in 2000, reassignment of law enforcement officers from auto theft task forces to other priorities, and open international borders that are difficult to monitor for stolen vehicles.

3.   COMPARISON OF WYC STATES AND NON-WYC STATES

Exhibit 7, on the following page, presents state-by-state trends in motor vehicle incidents for the period 1997-2002, while Exhibit 8 presents state-by-state rates of motor vehicle incidents per 100,000 persons over the same period. States receiving federal WYC grants are highlighted (theft data not available for Virgin Islands). In 2002, the number of theft incidents was highest

in California (222,364) and Texas (102,680), followed by Florida (88,516), Arizona (57,668), Michigan (49,723), New York (47,366), Illinois (44,857), Ohio (42,767), and Washington (40,493). The rate per 100,000 persons in 2002 was highest in the District of Columbia (1,681 theft incidents per 100,000 persons) and Arizona (1,057), followed by Nevada (805), Hawaii (796), Washington (667), California (633), and Maryland (623).

It is possible, using these state-specific data, to compare and contrast observed incidents and rates per 100,000 persons for the subset of states participating in WYC with the subset of states not participating in WYC, over the specific period during which federal grants to states have been allocated. These outcomes are presented in Exhibits 9 and 10, respectively. As Exhibit 9 demonstrates, vehicle theft incidents for both the WYC states and the non-WYC states decreased between 1998 and 1999, then increased in each year from 1999 to 2002. The rates of theft per 100,000 between the subsets of WYC and non-WYC states (which, incidentally, are much higher in the WYC states) follow a similar pattern.

EXHIBIT 7
Motor Vehicle Thefts by State, 1998-2002

STATE	NUMBER OF THEFTS EACH YEAR					AVERAGE
	2002	**2001**	**2000**	**1999**	**1998**	
ALABAMA	13,890	12,619	12,809	13,134	14,871	13,465
Alaska	2,471	2,618	2,350	2,658	2,607	2,541
Arizona	57,668	52,203	43,204	38,247	40,391	46,343
Arkansas	6,813	7,320	6,932	6,664	7,187	6,983
California	222,364	204,033	182,035	168,480	195,517	194,486
Colorado	23,183	20,994	16,961	14,795	16,087	18,404
Connecticut	11,572	12,378	13,099	11,297	12,705	12,210
Delaware	3,057	2,779	3,151	3,043	3,186	3,043
District of Columbia	9,599	7,670	6,600	6,652	6,501	7,404
Florida	88,516	89,917	89,181	93,191	104,250	93,011
Georgia	38,036	37,589	38,702	40,120	42,538	39,397
Hawaii	9,910	6,743	6,114	4,660	5,594	6,604
Idaho	2,627	2,389	2,086	1,898	2,282	2,256
Illinois	44,857	48,784	56,143	52,114	52,932	50,966
Indiana	20,287	21,499	21,090	20,290	21,187	20,871
Iowa	5,823	5,505	5,374	5,135	5,974	5,562
Kansas	7,212	7,985	6,496	6,048	5,988	6,746
Kentucky	8,750	9,344	9,274	8,631	8,573	8,914
Louisiana	20,186	21,687	21,270	21,695	23,661	21,700
Maine	1,429	1,671	1,322	1,694	1,509	1,525
Maryland	34,020	32,025	28,573	25,447	28,212	29,655
Massachusetts	26,588	27,828	25,876	25,628	26,403	26,465
Michigan	49,723	53,607	55,724	56,800	58,338	54,838
Minnesota	13,842	15,031	13,432	13,275	15,366	14,189
Mississippi	9,523	9,473	6,968	13,532	9,322	9,764
Missouri	27,878	28,014	24,695	22,984	24,466	25,607
Montana	1,783	1,821	1,956	1,896	2,014	1,894
Nebraska	6,409	6,490	5,230	5,440	5,788	5,871
Nevada	17,486	14,702	13,172	13,094	13,766	14,444
New Hampshire	1,944	2,140	2,148	1,354	1,474	1,812
New Jersey	35,739	37,708	34,151	35,357	35,185	35,628
New Mexico	7,437	7,137	7,341	8,126	10,767	8,162
New York	47,366	48,287	54,231	58,261	68,171	55,263
North Carolina	24,866	24,647	25,266	25,577	24,616	24,994
North Dakota	1,018	1,086	986	1,036	1,127	1,051
Ohio	42,767	42,229	39,026	39,192	43,021	41,247
Oklahoma	12,772	12,569	12,348	12,132	13,565	12,677
Oregon	16,524	14,842	13,932	13,633	17,262	15,239
Pennsylvania	32,817	35,713	36,325	39,234	42,668	37,351
Rhode Island	4,876	5,043	4,665	4,032	3,829	4,489
South Carolina	16,867	14,760	15,207	14,445	15,948	15,445
South Dakota	819	815	798	861	763	811
Tennessee	26,541	28,272	27,530	25,255	28,099	27,139
Texas	102,680	102,667	93,161	92,037	96,646	97,438
Utah	7,722	6,513	6,461	7,382	7,700	7,156
Vermont	769	758	809	912	874	824
Virginia	18,478	18,842	17,813	17,953	18,355	18,288
Washington	40,493	39,077	35,018	33,807	35,200	36,719
West Virginia	3,898	3,216	3,315	3,762	3,390	3,516
Wisconsin	13,458	14,722	14,636	13,819	14,210	14,169
Wyoming	743	696	573	596	669	655

Source: Federal Bureau of Investigation, Uniform Crime Reports, Index of Crime (for years 1998-2002).

EXHIBIT 8
Motor Vehicle Theft Rates by State, 1998-2002

STATE	THEFTS PER 100,000 INHABITANTS EACH YEAR					AVERAGE
	2002	**2001**	**2000**	**1999**	**1998**	
ALABAMA	309.6	282.7	288.0	300.5	341.7	304.5
Alaska	383.8	412.4	374.8	429.4	424.6	405.0
Arizona	1056.9	983.6	842.1	800.5	865.1	909.6
Arkansas	251.4	271.9	259.3	261.2	283.2	265.4
California	633.2	591.4	537.4	508.3	598.5	573.8
Colorado	514.4	475.2	394.3	364.8	405.1	430.8
Connecticut	334.4	361.4	384.6	344.2	388.1	362.5
Delaware	378.6	349.0	402.1	403.6	428.2	392.3
District of Columbia	1681.4	1341.3	1153.7	1281.7	1243.0	1340.2
Florida	529.6	548.4	558.0	616.7	698.0	590.3
Georgia	444.3	448.3	472.8	515.2	556.6	487.4
Hawaii	796.0	550.7	504.6	393.2	468.9	542.7
Idaho	195.9	180.8	161.2	151.6	185.7	175.0
Illinois	356.0	390.8	452.1	429.7	439.5	413.6
Indiana	329.4	351.6	346.8	341.4	359.2	345.7
Iowa	198.3	188.3	183.6	179.0	208.7	191.6
Kansas	265.5	296.3	241.6	227.9	227.8	251.8
Kentucky	213.8	229.8	229.5	217.9	217.8	221.8
Louisiana	450.3	485.7	475.9	496.2	541.6	489.9
Maine	110.4	129.9	103.7	135.2	121.3	120.1
Maryland	623.3	595.8	539.5	492.0	549.4	560.0
Massachusetts	413.6	436.2	407.6	415.0	429.5	420.4
Michigan	494.7	536.6	560.7	575.8	594.3	552.4
Minnesota	275.8	302.3	273.0	278.0	325.2	290.9
Mississippi	331.6	331.5	245.0	488.7	338.7	347.1
Missouri	491.5	497.6	441.4	420.3	449.8	460.1
Montana	196.1	201.3	216.8	214.7	228.9	211.6
Nebraska	370.6	378.8	305.6	326.5	348.0	345.9
Nevada	804.5	698.1	659.2	723.8	788.0	734.7
New Hampshire	152.5	170.0	173.8	112.7	124.4	146.7
New Jersey	416.0	444.4	405.9	434.2	433.6	426.8
New Mexico	400.9	390.2	403.6	467.0	619.9	456.3
New York	247.2	254.0	285.8	320.2	375.1	296.4
North Carolina	298.9	301.1	313.9	334.3	326.2	314.9
North Dakota	160.5	171.2	153.5	163.4	176.6	165.0
Ohio	374.5	371.3	343.7	348.2	383.8	364.3
Oklahoma	365.6	363.3	357.8	361.3	405.3	370.7
Oregon	469.2	427.4	407.2	411.1	526.0	448.2
Pennsylvania	266.0	290.7	295.8	327.1	355.5	307.0
Rhode Island	455.8	476.2	445.0	406.9	387.6	434.3
South Carolina	410.7	363.3	379.0	371.7	415.7	388.1
South Dakota	107.6	107.7	105.7	117.5	103.4	108.4
Tennessee	457.8	492.5	483.9	460.5	517.4	482.4
Texas	471.4	481.4	446.8	459.2	489.1	469.6
Utah	333.4	286.9	289.3	346.6	366.7	324.6
Vermont	124.7	123.6	132.9	153.5	147.9	136.5
Virginia	253.3	262.1	251.6	261.2	270.3	259.7
Washington	667.2	652.6	594.1	587.3	618.7	624.0
West Virginia	216.3	178.5	183.3	208.2	187.2	194.7
Wisconsin	247.3	272.5	272.9	263.2	272.0	265.6
Wyoming	149.0	140.8	116.0	124.2	139.1	133.8

Source: Federal Bureau of Investigation, Uniform Crime Reports, Index of Crime (for years 1998-2002).

	VEHICLE THEFT INCIDENTS		RATE OF THEFT PER 100,000 PERSONS	
YEAR	**WYC States (n-12)**	**Non-WYC States (n=39)**	**WYC States (n=12)**	**Non-WYC States (n=39)**
1998	288,021	952,733	582.0	363.7
1999	263,089	884,216	544.2	340.5
2000	274,136	891,423	504.2	328.4
2001	293,057	933,400	507.9	342.0
2002	301,651	944,445	542.6	346.1
Average	283,991	921,243	536.2	344.1

EXHIBIT 9
COMPARISON OF TRENDS FOR WYC STATES AND NON-WYC STATES

Note: Subset of WYC states excludes the Virgin Islands, since UCR data do not include data specific to the Virgin Islands; this analysis includes only the 50 states and the District of Columbia.

Exhibit 10 plots the percent change in motor vehicle theft incidents using 1998 as a baseline, juxtaposing the patterns for the WYC states and the non-WYC states, respectively. As the exhibit demonstrates, the pattern of motor vehicle theft incidents in the subset of states receiving WYC grants generally mirrors the pattern of theft incidents in the subset of states not receiving WYC grants, though with some observable deviations. For both the WYC states and the non-WYC states, incidents of motor vehicle theft begin by falling, then increase in each of the next three years, from 1999-2002. Interestingly, the rate of increases in motor vehicle thefts is more pronounced in the WYC states than in the non-WYC states. In fact, by 2002, motor vehicle theft incidents were 4.7 percent higher than in 1998 for the WYC states, and 0.9 percent lower than in 1998 for the non-WYC states.

EXHIBIT 10
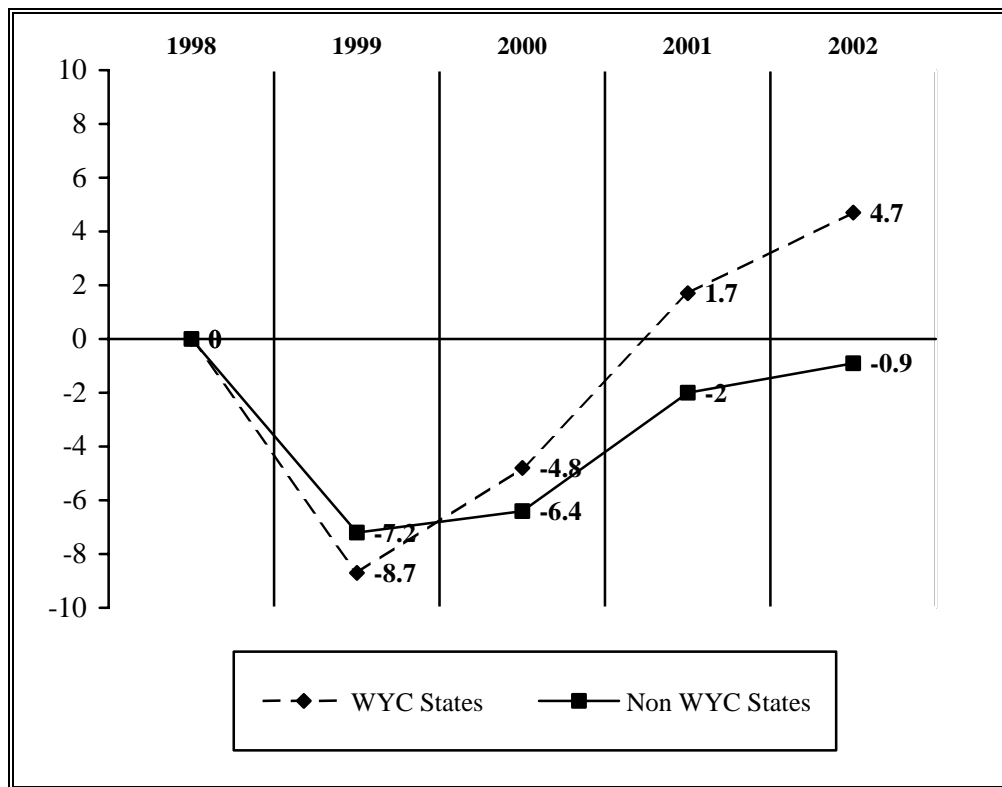
Thus, a rudimentary analysis of raw motor vehicle theft incidents for the respective subsets of WYC states and non-WYC states does not demonstrate a discernible macro-level effect of the Watch your Car program on vehicle theft. Such an analysis, however, cannot begin to account for all the factors that are influencing motor vehicle theft outcomes over time. More discussion of these issues appears later in this chapter.

4.   THEFT TARGETS AND RECOVERY ANALYSIS

Information available from the National Insurance Crime Bureau suggests that thieves target particular types of motor vehicles for theft. Based on motor vehicle theft data reported by law enforcement agencies nationwide to the National Crime Information Center (NCIC) in 2001, the ten most frequently stolen vehicles in the U.S. are: Toyota Camry, Honda Accord, Oldsmobile Cutlass, Honda Civic, Jeep Cherokee/Grand Cherokee, Chevrolet Full Size C/K pick-up, Toyota Corolla, Chevrolet Caprice, Ford Taurus, and Ford F150 pick-up (NICB, 2002).

According to NICB, there is some regularity in these targets over time, with Toyota Camrys and Honda Accords being at or near the top consistently over the last few years (NICB, 2002).

There has also been extensive analysis of metropolitan statistical areas (MSAs) to determine where vehicle theft is most common. NICB reports that motor vehicle theft was most common in the following 10 metropolitan areas in 2002: Phoenix, Fresno, Modesto, Stockton-Lodi, Las Vegas, Miami, Sacramento, Oakland, Seattle, and Tacoma. Thus, eight of the 10 metropolitan areas where motor vehicle theft is most common are in coastal states, while the other two states are in the southwest, one immediately on the U.S.-Mexico border. With five of the 10 high-theft metropolitan areas located in the state of California, and another two in Washington state, these metropolitan areas where motor vehicle theft is most common are, with the exception of Miami, in the far west (NICB, 2002).

Further analysis of vehicle theft patterns suggests that tastes for stolen cars can vary across geographic areas. NICB found that American cars are more attractive to thieves in Chicago, for example, while pick-ups are more frequently stolen in Dallas, and Japanese models are more commonly stolen in Los Angeles (Bryant, 2001).

Recent analysis of existing data on motor vehicle theft by the FBI, using a survival analysis methodology, also yields interesting and potentially useful information related to the probability of recovery. The Uniform Crime Report Program's National Incident-Based Reporting System (NIBRS) is a reporting system for which data are collected on each single episode, or incident of crime, as the name implies. Using a sample of 70,196 incidents of motor vehicle theft in 1999, the FBI conducted an analysis of the subset of 37,271 theft incidents that resulted in a vehicle recovery (53.1 percent rate of recovery). The analysis yielded a set of elapsed time measures for recovered vehicles, as well as a set of conditional probabilities that vehicles are recovered within specific intervals of time.

Exhibit 11 presents the FBI's analysis of elapsed time and recovery. As the exhibit demonstrates, the first several days after the theft incident are absolutely critical to recovery. Approximately 57 percent of all stolen but successfully recovered motor vehicles are recovered

within one day of the theft incident, while nearly 80 percent of stolen but recovered vehicles are recovered within one week of the theft incident. Approximately 95 percent of stolen but recovered vehicles are recovered within 50 days of the theft incident, or a period of approximately 7 weeks (U.S. Department of Justice, 2000a).

EXHIBIT 11		
CUMULATIVE RECOVERY PATTERN OF RECOVERED VEHICLES		
AFTER SPECIFIED DAYS	PERCENT NOT RECOVERED	PERCENT RECOVERED
0 days	100.00%	0.00%
1 day	42.92%	57.08%
6 days	20.57%	79.43%
20 days	10.12%	89.88%
50 days	5.38%	94.62%
140 days	2.03%	98.97%
320 days	0.44%	99.56%
680 days	0.00%	100.00%

Source: U.S. Department of Justice (2000a). "Analysis of motor vehicle theft using survival model." *Crime in the United States – 2000*. Washington, DC: Federal Bureau of Investigation.

The FBI's analysis of the probabilities for vehicle recovery is presented in Exhibit 12. As the exhibit demonstrates, of the 37,271 stolen vehicles that were recovered, 21,274 of the recoveries occurred with one day of the theft incident, meaning that the probability of recovery within 24 hours is (consistent with Exhibit 11) approximately 57 percent (U.S. Department of Justice, 2000a).

EXHIBIT 12			
RECOVERY PATTERN OF STOLEN MOTOR VEHICLES			
ELAPSED TIME (IN DAYS)	VEHICLES TO BE RECOVERED	NUMBER RECOVERED	CONDITIONAL PROBABILITY OF RECOVERY
0-1	37,271	21,274	0.5708
2-6	15,997	8,329	0.5207
7-20	7,668	3,896	0.5081
21-50	3,772	1,766	0.4682
51-140	2,006	1,250	0.6231
141-320	756	591	0.7817
321-680	165	164	0.9939
Over 680	1	1	1.0000

Source: U.S. Department of Justice (2000a). "Analysis of motor vehicle theft using survival model." *Crime in the United States – 2000*. Washington, DC: Federal Bureau of Investigation.

It is intuitive that there should be a positive relationship between the length of time

between theft and recovery and the cost/losses associated with theft. A positive relationship between the two variables would suggest that as the elapsed time between theft and recovery increases, so too does the total cost of theft in damage and other related costs. However, there is apparently no analysis available that has actually attached the incremental increase in costs of theft to increments of additional elapsed time (e.g., each day or week that a car is not recovered).

5.   COSTS ASSOCIATED WITH MOTOR VEHICLE THEFT

Motor vehicle theft generates a range of direct and indirect losses that are understood in theory, but not well enumerated to date, and these losses vary depending on whether the vehicle is ever recovered. The direct losses associated with motor vehicle theft, in the case of unrecoverable vehicles, are borne by both the theft victim as well as society as a whole. For the theft victim, there is the immediate cost of replacing the lost vehicle, with additional costs in lost personal property, lost time/productivity, potential work absenteeism, and general inconvenience and aggravation. The replacement cost is represented by the "blue-book value" of the vehicle at the moment of theft, paid by the insurance company, plus any out-of-pocket costs represented by the difference between the blue-book value of the vehicle and any remaining loan principal.

Personal property may include cell phones and compact discs, but may also include purses/wallets containing information that can be used to perpetrate additional crimes (e.g., unauthorized use of credit cards or bank accounts, identity theft for financial fraud). Losses of personal time may be considerable, including the effort required to pursue insurance claims, file police reports, and find a new vehicle. Victims may also need to use leave from work, whether paid or unpaid, in the aftermath of a theft incident. There may be costs related to securing a temporary rental vehicle or other temporary transportation, as well as other incidental costs.

In the case of a stolen vehicle that is successfully recovered, the immediate cost is one of repair rather than replacement, but also may include, other personal property in the vehicle at the time of the theft, personal losses in time, absenteeism from work, and aggravation. The extent of all these costs may depend considerably on whether the vehicle is ever successfully recovered, and, if so, on the elapsed time between the theft incident, repair of the recovered vehicle, and return of the repaired vehicle to the owner.

Beyond the immediate direct losses associated with motor vehicle theft are significant indirect, downstream costs. These costs would include burdens on law enforcement and the criminal justice system, including for apprehending suspects and prosecuting cases, as well as for punishment or other intervention imposed upon convicted offenders (i.e., incarceration, probation/parole). Motor vehicle theft also eventually results in increasing insurance premiums that are borne both by the theft victim and all insured drivers, as premiums are set on the basis of pooled risk. Finally, with the increasing threat of theft, felt by actual victims and perceived by potential victims, spending on vehicle security measures has increased considerably in the last decade. According to the Consumer Electronics Association, consumers spent about $227 million in 2001 for electronic devices to protect their vehicles from theft.

Exhibit 13 presents a framework for organizing the theoretical per-incident costs associated with motor vehicle theft. With exception of some of the immediate vehicle replacement costs (the average value of stolen cars is estimated and updated annually by the National Insurance Crime Bureau), most of these per-incident costs have simply not been specifically enumerated in any formal study. The average value of motor vehicles reported stolen in 2002 was $6,701, compared with $6,646 in 2001. This figure represents the average "blue book" value of stolen vehicles, or the replacement cost of an unrecovered vehicle. However, owners often owe more to lenders than the actual replacement value of the stolen vehicle, paid to the owner by the insurance company. The difference in the replacement value and the insurance settlement is estimated to be approximately $2,000-$3,000.

Costs associated with purchasing new license plates and vehicle registration is estimated to be approximately $150-$300, while the average cost of rental car coverage is estimated to be approximately $100-$500. Each of these values is shown in Exhibit 13 as the approximate midpoints of these respective ranges. Thus, based on those costs for which there has been some independent estimation, the direct per-incident cost of vehicle theft is approximately $9,726.

EXHIBIT 13					
THEORETICAL PER-INCIDENT COSTS ASSOCIATED WITH MOTOR VEHICLE THEFT					
PER-INCIDENT THEFT COSTS	**PERSPECTIVE**				**TOTAL**
	Theft Victim	Insurance Company	Insured Drivers	Government	
Direct					
- Replacement	$2,500	$6,701			$9,201
- Repair/maintenance	4				unknown
- Personal property (non-vehicle)	4				unknown
- Time/productivity	4				unknown
- Absenteeism	4				unknown
- Temporary transportation	4				$300
- New plates and registration fees	$300				$225
- Out-of-pocket incidentals	$225				unknown
TOTAL	4				**$9,726**
Indirect					
- Insurance premium increases*			4		unknown
- Law enforcement/apprehension				4	unknown
- Court/prosecution				4	unknown
- Incarceration/probation/parole				4	unknown
- Vehicle security devices	4	4	4	4	unknown
- Prevention initiatives				4	unknown

Note: Includes increases in the cost of basic insurance premiums, as well as any additional cost if vehicle owners elect comprehensive coverage due to past victimization or sense of increasing theft risk.

This estimate represents the average cost of a motor vehicle theft in those incidents in which the vehicle is never recovered. No known estimates are available for the average cost of a theft incident in which the vehicle is later recovered.

The least is known about the indirect costs of motor vehicle theft, which are incurred by various systems in the aftermath of theft, including the insurance industry, law enforcement, courts, and corrections. The average per-incident costs are represented by the estimated total costs to these systems due specifically to motor vehicle theft over a defined period, divided by the number of motor vehicle theft incidents.

Programs or measures that prevent theft, or contribute to more rapid recoveries, enable vehicle owners and government to avoid these considerable downstream costs. Calculable savings would accrue to the insured driver, who avoids the theft of his/her vehicle, as well as to

society as a whole, including other drivers who face higher general rates of insurance, and government, which incurs significant system costs related to apprehension of theft suspects, prosecution, and corrections. Intangible benefits of effective theft prevention programs would include an enhanced sense of personal and neighborhood security, as well as increased confidence in law enforcement and local government.

6. AVAILABILITY OF OUTCOME DATA AMONG WYC STATES

Caliber explored the issue of data collection during interviews with WYC state representatives, focusing on the extent to which states are collecting data that would be useful for ongoing program monitoring and evaluation. The following are the responses from the states with WYC programs to specific questions about data collection and any future plans for data collection:

- ■ **Arizona**, tracks program enrollment, traffic stops by law enforcement due to the WYC decal, and vehicle recoveries.

- ■ **Colorado**, tracks some basic program enrollment information.

- ■ **Connecticut**, tracks some basic program enrollment information.

- ■ **Delaware**, tracks some basic enrollment information.

- ■ **District of Columbia**, tracks some basic enrollment information.

- ■ **Maryland**, collects data on how many vehicles are enrolled, their method of enrollment (Internet, mail, etc.), and breakdown by county. No system is in place for collecting data on how many registered vehicles have been stolen or recovered.

- ■ **Massachusetts**, no data reported

- ■ **Minnesota**, tracks basic enrollment information and costs associated with enrollment.

- ■ **New York**, tracks number of vehicles in WYC and VIN programs.

- ■ **Tennessee**, tracks basic enrollment data, theft and recovery rates of vehicles in the WYC program, and the number of vehicles stolen in the state.

- ■ **Utah**, tracks some basic enrollment data. The state also assesses demographics in communities, using the information to tailor approaches to specific needs.

- **Washington,** no data reported

- **U.S. Virgin Islands**, track some basic enrollment data.

In summary, due largely to varying levels of commitment, funding, and staffing for the Watch Your Car program, the member states differ in the amount and type of information they collect. Most states have found that the data that could be most helpful in determining the effectiveness of the WYC program are too costly or labor-intensive to obtain.

Ideally, states would collect data such as the make, model, and year of vehicles enrolled; the theft rate of a particular type of vehicle not enrolled in the program versus the theft rate for the same vehicle enrolled in the program; and the number of WYC-enrolled vehicles stolen and the rate of recovery versus the rate of recovery for non-WYC vehicles as well as the elapsed time between theft and recovery.

7.   PRELIMINARY MATHEMATICAL MODEL

The process of model building in the social and behavioral sciences begins with identification of critical intervention points. Developing a model for the Watch Your Car program presents several significant challenges:

- Watch Your Car grants have been utilized by the states in different ways, with many of the states apparently coupling the grants with other funding streams to implement multiple theft prevention strategies simultaneously. Therefore, each state environment, where one to several prevention strategies may be in place simultaneously, is idiosyncratic and presents an absolutely unique set of conditions.

- Because states vary in the resources they have available for traffic stops, it is safe to assume that WYC operates, on the ground, with extraordinary variation from state to state, from city to city, and perhaps even from precinct to precinct.

- While the grant amounts to each state are known, actual enrollment and ongoing operating and management costs of the program are not. There is the grant amount, but there may also be a workload cost that is not covered by the grant, but rather absorbed into state and local payrolls. Therefore, using the grant amount by itself may underestimate the total cost of the WYC program.

■ There is no information available on the profile of the owner who elects to enroll his/her vehicle, including:

- Extent to which owners of vehicles that are enrolled in WYC are also utilizing other theft prevention devices (e.g., disabler, alarm, club), and how that compares with use of devices by owners of vehicles not enrolled in WYC

- Rates at which various vehicle makes/models are being enrolled, and how these vehicles-specific rates compare to what is known about actual theft targets (i.e., whether the program enrolls vehicles that are most at risk)

- Locations of enrolled vehicles, and how these locations compare to what is known about rates of theft in these locations (i.e., whether the program enrolls vehicles that are located in high-risk theft areas).

■ Most importantly, no state is able to provide actual outcome data obtained under controlled study conditions, neither on the comparative frequency of theft for participating and non-participating vehicles, nor on the comparative rate of recovery and elapsed time between theft and recovery.

To meet these challenges, we present a model of Watch Your Car that can be generalized to many different types of interventions, affords flexibility in application, and provides useful information in its various applications.

Generalizability. To maximize generalizability, the model does not focus on the specific interventions and conditions prevailing in a particular state. It does, however, focus on theft dynamics that are probably common across states.

Flexibility. In the absence of definitive data on program effectiveness and some of the component costs of theft, the model relies on a series of assumptions of unknown actual validity. As each of these assumptions is refined with new information, that information can be added to the model and it can therefore be updated continuously over time.

7.1 A Mathematical Example

If an intervention is to be cost effective, it must produce savings that will at least balance its costs. These savings consist of the direct and indirect costs of motor vehicle theft described earlier. If an intervention deters a theft that otherwise would have been committed, then all the costs associated with that prevented theft incident are savings from the intervention. This

concept can be expressed mathematically using an example with two intervention points in a simple flow model:

- Assume that a certain percentage of motor vehicles will be stolen over some finite period of time (e.g., in a given year), and that rate of theft is the expected rate of theft in the absence of the Watch Your Car program.

- Assume an intervention designed to prevent motor vehicle theft that is, in effect, a sequence of 2 stages. A first stage prevents the theft from happening at all, and a second stage leads to a more rapid recovery of the stolen vehicle than would happen without the intervention.

These assumptions are then the foundation for the model.

If we know what percentage of motor vehicles would have been stolen without WYC, and we know the downstream per-incident cost of theft, we can determine the savings of the program by knowing how effective it is in preventing theft from occurring.

To demonstrate this relationship mathematically, let:

N   equal the number of thefts that are expected without the intervention. For purposes of illustration, assume 1,000 incidents of theft.

$C1   equal the average downstream costs associated with a theft incident. For purposes of illustration, assume $10,000 per incident.

m%   (or .m) equal the effectiveness rate of the first intervention. For purposes of illustration, assume 5%.

Therefore, if this intervention did not exist, then m%, or 5% of the 1,000 incidents of theft would occur and society would incur the subsequent downstream per-incident costs of theft.

We can conclude that an m% prevention rate (e.g., 5%) prevents .m * N (e.g., .05 * 1000 = 50) potential incidents of theft.[1] Multiplying this number of avoided theft incidents by the per-incident downstream costs of theft, we obtain the first savings ($S1) equation.

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[1] A note on symbols used to represent arithmetic operations: The (*) is used to represent multiplication. The (/) is used to represent division. The (+), (-), and (=) signs are used as they would ordinarily be used. Parentheses () are

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$S1 = .m * N * $C1

Applying this formula, we find:

$S1 = .05 * 1,000 * $10,000 = $500,000   In this example, 5% (.m) of the 1,000 expected incidents of theft did not occur, thereby saving an average of $10,000 per incident. The means a total savings of $500,000.

For the intervention to cover its costs, its savings must equal these costs. Let:

$A   equal the cost of the intervention per fiscal year. For purposes of illustration, assume $100,000.

$S1   equal the savings of the intervention ($500,000)

If the program is to break even, then,

$S1 = $A

By adding the cost of an intervention to all the above information, we can determine the "break-even point" of the intervention, which is to ask: How effective must an intervention be to return the cost of the intervention? The following equation establishes this break-even point:

$A = $S1 = .m * N * $C1, which can also be expressed as:

.m = $A / (N * $C1)

Applying this formula, we find:

.m = $100,000 / (1,000 * $10,000) = 0.01   In this example, if an intervention operates on $100,000 ($A) per year, and the downstream costs of theft average $10,000 ($C1) per incident, then the intervention must be 1% effective in reducing theft below the 1,000 incidents of theft that are expected without the intervention.

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used in calculations to facilitate computer- or calculator-based operations. Levels of brackets are used in symbolic formulae {, {, (.

This states that the intervention must have a prevention rate of at least .m to cover its costs of $A. As the equation demonstrates, the higher the costs of the intervention, the higher the prevention rate must be to break even. For example, assuming a theft incident costs an average of $10,000 and the intervention costs $1 million, then to break even it would have to be 10% effective in reducing theft below the 1,000 incidents of theft that are expected without the intervention. The inverse relationship holds with regard to the number of expected incidents of theft and the per-incident costs of theft. The higher these figures are, the less the prevention rate must be to break even.

7.2   Application to Watch Your Car Program

Real data for the State of Maryland can be used to project potential savings under the Watch Your Car program. In 2002, there were approximately 3.8 million vehicles registered in Maryland, not including commercial and fleet vehicles. The FBI's state data on motor vehicle theft incidents indicate there were 34,020 theft incidents in Maryland in 2002. That translates to a rate of approximately 9 thefts per 1000 registered vehicles in Maryland.

There were approximately 30,000 vehicles enrolled in the Watch Your Car program in Maryland in 2000, with zero reported thefts of cars protected by Watch Your Car. The prevailing rate of thefts per 1000 registered vehicles in Maryland provides a basis for estimating the expected number of thefts for vehicles enrolled in Watch Your Car that would have happened without the program in place. Based on a rate of theft of approximately 9 thefts per 1000 vehicles, we assume that, without Watch Your Car, the expected number of theft incidents for the 30,000 enrolled WYC vehicles would be 270 thefts (30,000 * .009). Thus, we assume that there were 270 fewer thefts than would be reasonably expected.

Data are not sufficiently available to project, definitively, how many of those 270 fewer thefts can be specifically attributed to participation in the Watch Your Car program. There are numerous factors that are uncontrolled. Therefore, some reasonable assumptions become necessary. Exhibit 14 projects savings in Maryland due to the Watch Your Car program under three assumptions, including that: 1) 25 percent of the theft reduction is due to WYC, 2) 50 percent of the theft reduction is due to WYC, and 3) 100 percent of the theft reduction is due to

WYC. As the exhibit demonstrates, at 25 percent, WYC resulted in savings in Maryland in 2002 of an estimated $675,000. At 50 percent, WYC resulted in savings of an estimated $1.4 million. At 100 percent, WYC resulted in savings of an estimated $2.7 million.

EXHIBIT 14 **AVOIDED COSTS DUE TO WATCH YOUR CAR**			
	ASSUMED RATES OF EFFECTIVENESS (.M)		
INPUTS	25 Percent	50 Percent	100 Percent
Expected theft incidents (N)	270	270	270
Downstream costs ($C1)	$10,000	$10,000	$10,000
Savings ($S1)	$675,000	$1,350,000	$2,700,000

Applying the equation:

$S1 = .m * N * $C1

$S1 = .10 * 270 * $10,000 = $270,000
$S1 = .25 * 270 * $10,000 = $675,000
$S1 = .50 * 270 * $10,000 = $1,350,000
$S1 = 1.0 * 270 * $10,000 = $2,700,000

Exhibit 15 summarizes the break-even effectiveness rate. The value of the grant to Maryland for Watch Your Car in 2001 was $240,000. Assuming that 270 of the 30,000 enrolled WYC vehicles would have been stolen in 2002 without WYC, then WYC becomes cost effective if participation in the program accounts for at least 9 percent of the 270 expected thefts that did not occur. At an assumed rate of 50 percent, as highlighted in Exhibit 15, investment in WYC in Maryland yields a benefit-cost ratio of 5.625, meaning that the program returned $5.63 in savings (avoided costs) for every dollar invested.

	ASSUMED RATES OF EFFECTIVENESS (.M)		
EXHIBIT 15 **AVOIDED COSTS DUE TO WATCH YOUR CAR**			
INPUTS	25 Percent	50 Percent	100 Percent
Cost of intervention ($A)	$240,000	$240,000	$240,000
Downstream costs ($C1)	$10,000	$10,000	$10,000
Expected theft incidents (N)	270	270	270
Savings ($S1)	$675,000	$1,350,000	$2,700,000

Applying the equation:

.m = $A / (N * $C1)

.m = $240,000 / (270 * $10,000) = .089

benefit-cost ratio: $1,350,000 / $240,000 = 5.625

The previous analysis is a simplified version of a model that could be employed by the Watch Your Car program with more definitive data on program effectiveness. This simplified analysis rests on several assumptions whose validity is not clearly known. Is it reasonable to assume an expected number of thefts for vehicles enrolled in WYC based on the prevailing rate of theft in Maryland per 1000 registered vehicles (9 thefts per 1000)? This assumes that the pool of vehicles enrolled in WYC is identical to the pool of all registered vehicles in Maryland, and that there are no systematic differences that would render the WYC vehicles either more or less vulnerable to theft than the general population of other vehicles.

In addition, the analysis assumes that all 270 avoided thefts were total losses, utilizing the full, per-incident burden of $10,000. In fact, some unknown proportion of those expected thefts would have resulted in recoveries, meaning that the average cost of each of the 270 thefts would be lower than $10,000. On the other hand, the per-incident cost of $10,000 only accounts for some of the known direct costs. What would the effect be if the other direct costs per incident, and all of the indirect costs, as illustrated earlier in Exhibit 13, could be enumerated and included? As we know, the lower the cost per incident of motor vehicle theft (i.e., the less that is saved by deterring each expected theft), then the higher the effectiveness rate must be for the program to break even. If the average downstream per-incident cost of vehicle theft were $20,000, for example, WYC could yield fewer deterred thefts and still remain cost effective.

8.   ISSUES AND DATA REQUIREMENTS FOR A REAL ANALYSIS

There is insufficient evidence available on the effectiveness of the Watch Your Car program on which to base a definitive benefit-cost analysis. Participating states are not collecting evaluation data on the program that would be necessary to understand the specific role played by Watch Your Car in the dynamics of theft and theft prevention. This may be due, in large part, to the labor intensity of data collection. Nonetheless, there are some basic questions that the states ought to be asking. These questions include the following:

- What do enrollment data tell us about the vehicle types (make/model, MSA/neighborhood) that are most commonly registered? Is WYC enrolling vehicles that are most commonly stolen in this location or is the program enrolling vehicles that are less likely to be theft targets in the first place?

- What is the profile of the owner who enrolls his/her vehicle in the Watch Your Car program? WYC is a voluntary program, and therefore the issue of self-selection may be a material one. It may be true that people most likely to enroll their cars are also more likely than others to be cognizant of theft. They may be significantly more likely to take one or more of a host of other preventive measures that reduce their risk of becoming a theft victim, below the risk faced by the general population.

- How effective are other anti-theft devices (e.g., steering wheel lock, alarm), and how do these respective rates of effectiveness compare to Watch Your Car? It is possible that Watch Your Car produces cost-effective results, but that investment in other anti-theft devices produces even better results? So, the real difficult question is not whether investment in Watch Your Car is cost-effective, but whether investment in Watch Your Car is more cost-effective than alternative policies and options.

A final question to be considered is whether the program is truly reducing the overall opportunity for theft, which is the desirable outcome and would be observed in actual decreases in theft incidents, or whether it is merely having a displacement effect. In the latter case, WYC is not reducing overall theft, but simply transferring the opportunity to other target vehicles.

To answer these questions more definitively would require controlled study conditions. One of the difficulties to be faced in designing a rigorous evaluation of WYC is the challenge of measuring the relative contributions to the incidence of motor vehicle theft that are made by a variety of anti-theft devices now on the market. These include visible deterrents such as a steering wheel lock, an alarm, a starter of fuel disabler, or a tracking device. It is probably also

true that two or more of these devices, utilized together, may have a deterrent effect that is, collectively, greater than the deterrent effects of the devices considered individually. We do not currently know how many of the enrolled cars are combining that WYC participation with other anti-theft measures.

A reasonable approach would be to utilize a comparison group of vehicles, not enrolled, that are similar in composition by vehicle make, model, and year, preferably in the same jurisdiction and, if not, in contiguous jurisdictions. It would also be essential to control for utilization across the two groups of other anti-theft measures that would confound the study and reduce the study's conclusive validity. Finally, variations in patrol practices and outcomes across jurisdictions may also be an important factor, since interruptions of thefts in progress ultimately rely on detection and interference by a patrol officer.

VI.   CONCLUSIONS

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In conducting an assessment of trends and best practices in motor vehicle theft prevention, Caliber Associates researched materials related to vehicle theft prevention, created and administered surveys to auto theft prevention authorities both within and outside the WYC program, and surveyed motor vehicle theft prevention experts in the 10 U.S. cities that had the highest motor vehicle theft prevention rates according the 2002 Uniform Crime Report. Caliber also conducted a cost effectiveness analysis of the WYC program. These evaluations were conducted between October of 2002 and March of 2004. A summary of the findings from these efforts is provided below.

1. WATCH YOUR CAR - MEMBER SURVEY

Most current administrators reported that the WYC program was initially attractive because of its apparent national scope and because the WYC program provided a means to educate citizens about vehicle theft prevention. We found that the WYC program was often used in concert with other theft prevention and public awareness efforts in a "layered approach" to vehicle theft prevention. The most often cited example of such a complementary program was vehicle identification (VIN) etching. Several different advertisement methods had been used to promote the WYC program. Inclusion of a WYC application with DMV registration notices was cited as a particularly effective method of promoting the WYC program by the administrators from Maryland and Arizona.

Most programs reported that they did not receive goals from BJA for performance, but would have benefited from such benchmark goals. In the same vein, most administrators reported that they would have appreciated guidance on how to implement their program in the areas of: database development, marketing and promotion, data collection, and assistance in assessing impact. The majority of administrators favored the idea of having a nationwide WYC database rather than having each state develop its own database. States that had a vehicle theft prevention authority or theft prevention council were more likely to have the ability to sustain the WYC program once support form BJA ended.

Some states had specific goals for performance while other WYC programs were operating under more general objectives such as increasing enrollment and reducing auto theft. As expected from this diversity in goal type and level of specificity, the collection of data related to program effectiveness was not uniform across programs.

Outcome data of the quality needed for rigorous assessment of the effectiveness of the WYC program were not being collected by the majority of member programs. Administrators cited several reasons why they had not been able to collect information that could be used to assess impact. The most prominent reason cited was not having a formal means to track police stops or vehicle recoveries related to the WYC program. Two other reasons given for lack of outcome data collection were: 1) difficulty in getting participating agencies to collect and return data so that databases could be "populated", and 2) not having the ability to collect data due to lack of funds or the low status of the WYC program within the WYC program's state/department.

When asked for suggestions on how to improve the WYC program, several administrators commented that guidance from established programs on implementation and administration matters would be helpful. The creation of a national WYC database was also suggested as a way to facilitate the implementation of the WYC program. The lack of national-level support for many aspects of the WYC program was cited by administrators as an area of needed improvement. The desire for more guidance from BJA related to all aspects of the WYC program expressed by many administrators.

2. NON - MEMBER SURVEY

While several non-participating states reported having auto theft prevention authorities, Modesto, CA was the only city that reported having this type of organization. Several theft prevention programs were mentioned as being officially supported by a state government, state agency, or city government. The most often mentioned programs were: VIN etching, parts marking, public awareness, and decal programs similar to Watch Your Car. When asked to rank

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order programs by effectiveness, public awareness and parts marking were rated as the more effective programs. Other theft prevention efforts/initiatives that were mentioned by particular states or cities as being effective, but not officially endorsed in their states or cites, were multi-jurisdictional auto theft prevention task forces, juvenile repeat offender programs, law enforcement training programs, and various private sector methods such as LoJack. Only two states reported that they assessed the effectiveness of their theft prevention efforts in some way.

The majority of respondents reported that the WYC program was perceived as effective by people working in their departments. Respondents thought that the WYC program was effective for the following two reasons: 1) it provided a means to check on a vehicle during program hours without needing probable cause, and 2) the WYC program provided a means to increase public awareness about auto theft prevention. When explaining why the WYC program had not been adopted the following responses were given: 1) the requirement of creating a database; 2) already had programs similar to WYC; and 3) the lack of interest at the local agency level. The following reasons were often cited as reasons the WYC program was not effective: 1) the inability to easily check WYC records in other jurisdictions, 2) the lack of funding to administer the program, 3) too many guidelines, and 4) difficulty in getting local law enforcement agencies to participate in the program.

Most respondents from the non-participating state and city agencies, thought that a federally funded, nationally organized auto theft prevention program was a good idea. Reasons given for this endorsement were: 1) that such a program would help combat a problem that exists across state and local jurisdictions, and 2) that federal funding would help with staffing, equipment, and administration needs. Those respondents from states and cities that did not think such a program was a good idea justified their opinions by stating that auto theft is best handled at the local level.

3.   **BEST PRACTICES**

Watch Your Car programs that are part of vehicle theft prevention authorities/councils are more likely than independent WYC programs to be successful due to better access to funding and other resources. The WYC programs in Arizona, Maryland, and New York exemplify this point. The cost and time associated with the start-up of new WYC programs could be reduced to some degree if a readily accessible method for the sharing of information between established WYC and newer WYC programs was available. A number of WYC administrators indicated that WYC-related meetings that were held at BJA conferences were very helpful. Overall, establishing a means for regular communication between WYC programs could prove beneficial by providing a venue for the sharing of new ideas, approaches, and best practices.

The most developed WYC databases are housed in computer systems that provided a straightforward means of data entry, data management, and data recall. The more developed systems typically had interfaces that allowed for either staff or automated entry of WYC applicant records. Some of these systems also had the ability to automatically check application information against DMV records. One of the most advantageous aspects of these types of databases is the ability to provide ready access to WYC registrant data at all hours to patrol officers and/or dispatchers. Some of the more advanced systems had Internet-based enrollment and account management capabilities that allowed citizens to maintain their own WYC information. Example database systems with one or more of these characteristics have been created by the WYC programs in Maryland, New York, Arizona, Colorado, and Tennessee.

One shortcoming found with all the databases systems is the trouble the databases present when law enforcement agents need to gain access to WYC data from another state. The time it would take to contact a dispatcher or other such person that has access to WYC data for non-residents is most likely so lengthy as to make the process impractical during a routine traffic stop. An additional challenge that will become more of an issue as WYC member data ages is the accuracy in vehicle ownership data. As WYC members buy new vehicles and sell their older vehicles, some means of tracking changes in vehicle ownership is needed. When a car is sold or

the authorized driver(s) of a vehicle changes, the WYC programs need to have some functional ability to update this type of information in their databases.

The WYC program has been successfully incorporated with VIN etching and public education programs in several states. Several administrators reported that the WYC program served very well as a mechanism to increase public awareness about vehicle theft prevention. The WYC program in Maryland has actually conducted research (i.e., focus groups) to best determine how to promote their program. The WYC program was also mentioned as an effective "good will" tool that could be used by law enforcement as a means to interact in a positive way with the local community. Two of the more effective methods cited by WYC members for increasing public awareness of vehicle theft prevention and the WYC program were, 1) including WYC applications with DMV registration mailings, and 2) enrollment blitzes held in various locations within a community. One criticism raised by several WYC member states was that more promotion of the WYC program was needed at a national level.

In the area of application processing, two processes bear mentioning. First, Arizona's highly automated application processing system is notable in that their system is capable of reading hand-written applicant information from a standardized application. This aspect of their system greatly reduces the time needed to enter application information. Their system also automatically cross-checks WYC applicant data with Arizona DMV records to ensure the WYC applicant is actually registered as the owner of the vehicle. Some WYC programs (i.e., Arizona, Maryland, Massachusetts, & Utah) have also developed the ability to register drivers through their program's websites. Certain programs (e.g., Colorado) also provide current WYC members the option of updating their own membership information through their program's website.

Several examples of innovative technical advances used to combat auto theft included the use of license plate readers in border states such as California and Arizona to identify vehicles at border crossings that have been reported stolen. The marking of specific vehicle parts with VIN numbers (VIN marking) was reported as being used in California, Indiana and Florida. Inspection of salvaged vehicles was also mentioned as another vehicle theft prevention program in use by several states. Such programs curtail the transfer of VIN numbers from salvaged

vehicles to stolen vehicles. Due to the fact that California has both international borders and ports, programs such as their foreign export and recovery program, and their cargo theft interdiction program were being used in that state to combat the exportation of stolen vehicles. In addition to this license plate reader system, Arizona is also using the Border Auto Theft Information Center (BATIC) program to reduce the number of stolen vehicles crossing the border with Mexico and to increase the recovery rate of stolen vehicles that are in Mexico. The BATIC program provides 24 hour access to bi-lingual information about stolen vehicles. The BATIC program also provides training to Mexican law enforcement authorities on how to identify stolen vehicles.

4.   COST EFFECTIVENESS

There is insufficient evidence available on the effectiveness of the Watch Your Car program on which to base a definitive benefit-cost analysis. Participating states are not collecting the kind of information and data that would allow for an understanding of the specific role played by Watch Your Car in the dynamics theft prevention. Some basic questions that the states ought to be asking that would support a rigorous program evaluation include the following:

- What do enrollment data tell us about the vehicle types (make/model, MSA/neighborhood) that are most commonly registered? Is WYC enrolling vehicles that are most commonly stolen in this location or is the program enrolling vehicles that are less likely to be theft targets in the first place?

- What is the profile of the owner who enrolls his/her vehicle in the Watch Your Car program? WYC is a voluntary program, and therefore the issue of self-selection may be a material one. It may be true that people most likely to enroll their cars are also more likely than others to be cognizant of theft. They may be significantly more likely to take one or more of a host of other preventive measures that reduce their risk of becoming a theft victim, below the risk faced by the general population.

- How effective are other anti-theft devices (e.g., steering wheel lock, alarm), and how do these respective rates of effectiveness compare to Watch Your Car? It is possible that Watch Your Car produces cost-effective results, but that investment in other anti-theft devices produces even better results? So, the real difficult question is not whether investment in Watch Your Car is cost-effective, but whether investment in Watch Your Car is more cost-effective than alternative policies and options.

■ Is WYC truly reducing the overall opportunity for theft, which is the desired outcome, or is the program merely having a displacement effect? In the latter case, WYC is not reducing overall theft, but simply transferring the opportunity to other target vehicles.

More data are needed to be able to determine the cost effectiveness of the WYC program. However, even if a great deal more impact data were available for analysis there are still overwhelming challenges to determining the cost effectiveness of the WYC program to a high degree of absolute certainty. One of the major difficulties to overcome in designing a rigorous evaluation of WYC program is the difficulty of measuring the relative contributions to the incidence of motor vehicle theft that are made by a variety of anti-theft devices now on the market. These include visible deterrents such as a steering wheel lock, an alarm, a starter of fuel disabler, or a tracking device. It is probably also true that two or more of these devices, utilized together, may have a deterrent effect that is, collectively, greater than the deterrent effects of the devices considered individually. We do not currently know how many of the enrolled cars are combining that WYC participation with other anti-theft measures.

VII. REFERENCES

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APPENDIX A

CUMULATIVE ACTIVITY SUMMARY

Cumulative Activity Summary

October, 2002

The Caliber team working on the project attended a kickoff on October 1, 2002, with Rosemary Murphy, Greg Morris, and Bob Brown. We also met briefly with Bryan Vila. Based on comments made by Greg Morris and Bob Brown at the kickoff meeting, we understood that a two-faceted evaluation was desired: one facet to assess innovative and effective automobile theft prevention strategies with a focus on the Watch Your Car program and another facet to assess the cost effectiveness of the Watch Your Car program. After the kickoff meeting, we increased our research efforts in preparation for creating the format and content of the survey and interview instruments.

November, 2002

Based on our background research and literature reviews, we developed two draft lists of survey questions: one for the states that are participating in the program, and one for the states and cities that are not participating in the Watch Your Car program. To refine these draft lists, Dr. Curtin met with Major Ray Presley of the Maryland Vehicle Theft Prevention Council. Based on Mr. Presley's comments, the draft lists were revised and then sent to Rosemary Murphy, Greg Morris, and Bob Brown for further review. We revised the question lists and put them into final, working questionnaire/interview forms.

In addition to the question lists, we also drafted a letter of introduction to be sent to motor vehicle theft prevention authorities in the non-participating states/cities. We submitted this letter to Rosemary Murphy and Bryan Vila for review and endorsement. We also made progress on the OMB submission package for the non-participating state survey.

Based on our visit with Ray Presley, we learned that the availability of data regarding the direct impact of the Watch Your Car program on motor vehicle theft would not be readily available from any participating program. We explored the utility of data from other sources such as the National Insurance Crime Bureau and the FBI's Uniform Crime Reports to determine if a valid proxy for such data could be found.

December, 2002

We submitted our project plans and survey instruments to Caliber's Institutional Review Board for approval.

January, 2003

We sent the draft version of the OMB submission package to Rosemary Murphy for review. This OMB package contained the survey to be sent to the states that were *not* participating in the Watch Your Car (WYC) program. We understood from Rosemary that she was handling the final review and submission of the package. Due to delays in OMB processing,

this process fell considerably behind our planned schedule; however, we conducted other project activities during this time.

We began our site visits to participating Watch Your Car states; we visited with the director of the Delaware WYC program, Matt Ebling, on January 29th.

We began discussions with Caliber's Information Services department regarding the development of a on-line version of the survey to be sent to the non-participating states. The final format of this option was to be determined by feedback from OMB.

February, 2003

We received a draft version of the OMB submission package with some comments regarding revisions to the supporting materials from Rosemary Murphy. No comments regarding the content of the survey itself were received. We made revisions to the supporting materials and resubmitted the OMB package to NIJ. We communicated with Rosemary Murphy and understood that she was handling the submission of the package. Further delays in this process placed us farther behind schedule for the non-member surveys.

We continued our work with Caliber's Information Services department concerning the on-line alternative for the survey to be sent to the non-participating states.

We conducted site visits with Watch Your Car programs in New York, Connecticut, and Massachusetts. We met with Eileen Langer and several other members of the Office of Funding and Assistance for the state of New York on February 26th. We met with Sergeant Tim Nolan of Connecticut in Meriden, CT on the 27th. We concluded the trip by meeting with Catherine Obert and Detective Paul Jarosiewicz of the Law Enforcement Programs Department for the state of Massachusetts on the 28th.

We collected initial data for the impact analysis portion of this project and began the early stages of data analysis.

March and April, 2003

We met with Rosemary Murphy and the Department Clearance Officer for the Department of Justice, Robert Briggs, on March 18th to review the OMB submission package for the non-member Watch Your Car (WYC) survey. This meeting was extremely informative and Mr. Briggs provided us with guidance regarding what should be in our application and how our application should be formatted. Subsequent to this meeting, we created example screen shots of our on-line survey, as requested by Mr. Briggs, and we revised our application and re-submitted it to Rosemary Murphy for further processing on the 28th of March.

We submitted the six-month preliminary report on March 24th as required by the project contract.

On April 28th and 29th, we conducted a site visit with the Arizona WYC program administrators. We met with Mike Longman, Paul Boelhuf, and Ann Armstrong to discuss the Arizona Automobile Theft Authority (AATA) and how the Watch Your Car program is used within the AATA.

We continued with our data entry and initial analyses of the WYC member survey data.

May, 2003

We collected data from all of the Watch Your Car member states except Washington, DC. We continued with our data entry and initial analyses of the WYC member survey data.

We determined that we had to request a time extension for the project, due to the extensive delays caused by having to process the non-member, Motor Vehicle Theft Prevention survey through the OMB approval process.

June, 2003

We continued with our data entry and initial analyses of the WYC member survey data.

July and August, 2003

Due to the extensive delays caused by the OMB approval process, Caliber requested a six-month time extension for this project. Because of these delays and with the concurrence of the COTR, we created regionalized versions of the non-member survey along with a new survey distribution plan that did not require OMB approval. We submitted these new surveys and our distribution plan to the COTR at NIJ and to Caliber's institutional review board (IRB) for review and approval.

September and October, 2003

We distributed the approved non-member surveys via postal mail and we began to receive completed surveys. We entered the information from the surveys into our database.

November and December, 2003

In an effort to increase the representatives of our non-member sample, we sent out an email version of the surveys. These electronic versions of the surveys were identical in content and format. In addition to providing an alternative response format, the electronic surveys were intended to serve as a reminder to states and cities that had not returned a completed survey.

January and February, 2004

We received data from 11 of the 13 Watch Your Car member states. We received data from 16 of the 36 non-member states surveyed. We have data from 5 of the 10 cities with the highest motor vehicle theft rates.

We were still receiving data in late in this project, so we asked for a no-cost extension to the end of March, 2004. This was done to ensure that we could receive as much data as was possible before we finalized the summary report.

March, 2004

During the period of time, we completed all project deliverables.

APPENDIX B

EXAMPLE SURVEY QUESTIONNAIRES

For the Watch Your Car member states, only one version of the survey was created. However, several regionalized versions of the survey for the non-member states and cities were created. This appendix contains example copies of the surveys that were used in this study. The surveys in this appendix are grouped in the following manner:

- Survey for Watch Your Car member states
- Surveys for Non-member states
- Surveys Top ten cities for motor vehicle theft

WYC Member States

The following survey was sent to the
WYC member states

CALIBER
A S S O C I A T E S

Motor Vehicle Theft Prevention Survey for Participating States

Caliber Associates
10530 Rosehaven Street, Suite 400, Fairfax, VA 22030
Phone: 703-385-3200   Fax: 703-219-3777

As you know, we are conducting an impact evaluation and best practices analysis on the Watch Your Car program for the National Institute of Justice (NIJ). In order to provide the NIJ with the most complete picture as possible with regards to best practices and the impact of the Watch Your Car Program, we need information about your particular Watch Your Car program. We are interviewing each state that is participating in the Watch Your Car program to gather information about what has been done locally with the program. This interview should take about an hour. This questionnaire provides a preview of the topics we will be covering in our interview. Your individual responses will not be reported to the NIJ. Individual responses will be combined before information is reported.

Thank you for your participation, if you have any questions regarding your participation, contact:

Pat Curtin, Ph.D.   Eric Weingart
Caliber Associates   Caliber Associates
(703) 219-4394 (phone)   or   (703) 279-6289 (phone)
(703) 219-3777 (fax)   (703) 219-3777 (fax)
curtinp@calib.com   weingare@calib.com

INITIAL INFORMATION

Before we begin with questions about your Watch Your Car Program, we would like to get some information about you and double-check our contact information.

Agency: _____

Your Title: _____

Time in Profession: _____

Time in Current Position: _____

Address: _____

                           _____

Phone number: _____

Fax number: _____

Email address: _____

SECTION 1
General Questions

1. How did you or the person(s) who started your Watch Your Car (WYC) program first learn of the program?

_____
_____
_____
_____

2. Why did your state decide to use the WYC program?

_____
_____
_____
_____
_____

3. When did your WYC program receive funds?

_____
_____
_____

4. When did your agency actually commence the WYC program?

_____
_____
_____

5. Has your program received more than one grant from the Bureau of Justice Affairs (BJA)?
   YES   **NO**

6. In general, how is motor vehicle theft prevention organized in your state (i.e., under a council or within an established department)?

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

7. Which cities/counties in your state use the WYC program?

_____

_____

_____

_____

_____

8. Please describe your WYC program.

    For example: How is your program staffed?
                     Who provides oversight, leadership?
                     Who is involved with the day-to-day functioning of the program?

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

9. To the best of your knowledge, what about your WYC program makes it different from other WYC programs?

_____

_____

_____

_____

_____

_____

_____

10. Is the WYC program a high priority in your agency/department?
    YES   **NO**

Collaboration

11. Does your WYC program work with other organizations, agencies, or groups?
     (Skip this question if answered in question 6)
         YES   **NO**
     If YES, please describe the relationships between your WYC program and these other
     agencies.

     _____
     _____
     _____
     _____
     _____
     _____
     _____

Goals

12. What are the goals for your state's WYC program (e.g., increase awareness and enrollment)?
     _____
     _____
     _____

13. Are data being collected to assess these goals?
         YES   **NO**
     Please explain your answer.

     _____
     _____
     _____

14. Is the WYC program in your state meeting its goals?
         YES   **NO**
     If NO, what is causing it not to meet the goals?

     _____
     _____
     _____
     _____
     _____
     _____
     _____
     _____

15. Has the focus of the WYC program in your state changed since it was started?
   YES   **NO**
   Please explain how and why.

_____
_____
_____
_____
_____

16. Did BJA provide goals or expectations for your WYC program?
   YES   **NO**
   If YES, please explain, then skip to question 18.

_____
_____
_____
_____

17. Would your WYC program benefit from BJA providing you with benchmark goals or standards?
   YES   **NO**
   If YES, please describe how BJA could assist you in this manner.

_____
_____
_____
_____

SECTION 2: INPUTS
Implementation

18. Please describe some of the more memorable positive and negative experiences during the implementation of your WYC program?

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

BJA Guidance

19. Did you or your department receive guidance or training from BJA regarding the implementation of the WYC program?
    YES   **NO**
    If NO, skip to question 21.

20. Did you benefit from guidance or training from BJA?
    YES   **NO**
    Please explain then skip to question 23.

    _____
    _____
    _____

21. Would you or your department have benefited from guidance or training from BJA?
    YES   **NO**
    Please explain your answer.

    _____
    _____
    _____

22. What specific type(s) of guidance or training would you have liked?

    _____
    _____
    _____
    _____
    _____
    _____

Funding

23. Was the funding provided by BJA sufficient to get a WYC program up and running?
    YES   **NO**
    Please explain your answer.

    _____
    _____
    _____
    _____

24. Was the funding sufficient to maintain the program?
    YES   **NO**

Please explain your answer.

_____

_____

_____

25. What resources other than those provided by BJA have been used for your WYC program?

_____

_____

_____

_____

_____

26. What has been done by your department to ensure the financial sustainability of the WYC program beyond BJA funding?

_____

_____

_____

_____

_____

_____

SECTION 2: ACTIVITIES
Databases

27. Has your department created a database to track WYC members?
    YES   **NO**

If YES, please describe the system.
If NO, please explain why such a system does not exist within your WYC program.

_____

_____

_____

28. Was your department given guidance by BJA in the development of a WYC database?
    YES   **NO**

29. Is your database linked to other DMV or police databases?

    YES   **NO**

    Please explain your answer.

_____

_____

_____

_____

_____

_____

_____

30. In your opinion, would a nationwide system of linked Watch Your Car databases be useful?

    YES   **NO**

    Please explain your answer.

_____

_____

_____

_____

31. In your opinion, would a national database that is shared by all states and is managed by a Federal department be more functional than having each state create its own WYC database?

    YES   **NO**

    Please explain your answer.

_____

_____

_____

_____

32. Other than WYC, are any other motor vehicle theft prevention programs or strategies operating within your state?

    YES   **NO**

    If YES, please list and briefly describe them.

_____

_____

_____

_____

_____

_____

_____

_____

_____

Public Awareness

33. Have you or someone in the WYC program conducted some sort of analysis (e.g., focus groups) to determine where best to apply and/or promote the WYC program?
    YES   **NO**
    Please explain your answer.

    _____

    _____

    _____

    _____

34. What has been done to increase public awareness of and enrollment in the WYC program in your state?

    _____

    _____

    _____

    _____

    _____

35. What is your ideal plan of action to increase public awareness and enrollment?

    _____

    _____

    _____

    _____

    _____

36. What resources has your WYC program used toward public awareness and enrollment (e.g. staff, funding, etc.)?

    _____

    _____

    _____

    _____

    _____

37. Was your program given guidance in how to increase public awareness and enrollment by BJA?

YES   **NO**

Please explain your answer.

_____

_____

_____

_____

_____

_____

_____

SECTION 3: OUTCOMES/IMPACT

Earlier we asked you about data collection related to the WYC car program. We would now like to get some more specific information about your data collection efforts.

38. Is the impact of the WYC program on motor vehicle theft rates in your area currently being tracked (i.e., cars returned directly because of the WYC sticker/program)?

YES   **NO**

If YES, what sort of data do you have that demonstrates the effectiveness of your program?
If NO, why not, and do you plan to start tracking the impact of the program?

_____

_____

_____

_____

_____

39. Is the effectiveness of your WYC program being assessed against other programs?

YES   **NO**

_____

_____

_____

_____

_____

40. What sort of obstacles have you or your WYC program encountered during data collection and how were these obstacles dealt with?

_____

_____

_____

_____

_____

_____

_____

_____

41. Would you appreciate some guidance/instruction on impact tracking methods from other WYC programs or BJA?

  YES   **NO**

Please explain your answer.

_____

_____

_____

SECTION 4: IMPROVEMENT

42. If you had things to do over again, how would you suggest the methods used for WYC be improved in the following areas?

  Start-up / Implementation

_____

_____

_____

_____

  Visibility/public or agency awareness/enrollment status

_____

_____

_____

_____

_____

Day-to-day functioning (e.g. database, staffing, etc.)

_____
_____
_____
_____
_____

Sustainability (e.g. financial, staffing, etc.)

_____
_____
_____
_____
_____

Other?

_____
_____
_____
_____
_____
_____
_____

SECTION 5: SUMMARY OPINION QUESTIONS
Now we would like to get your opinions about the **entire** Watch Your Car Program.

43. In general, what about the WYC program <u>does and does not</u> work well?

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

44. From your experience, what have been some <u>good and bad</u> decisions made with regards to the <u>implementation</u> of the WYC program overall?

_____
_____
_____
_____
_____
_____
_____

45. From your experience, what have been some <u>good and bad</u> decisions with regards to the day-to-day administration (i.e., increasing awareness and maintaining) of the WYC program overall?

_____
_____
_____
_____
_____
_____
_____

46. Do you view the WYC program as effective?
   YES   **NO**

47. Do you think there are other programs that accomplish the goals of the WYC program and do so more effectively/efficiently?
   YES   **NO**
   Please explain.

_____
_____
_____
_____

48. Please use the lines below for general comments.

_____
_____
_____
_____
_____
_____

Non-member States

The following example survey was
sent to the non-member states

CALIBER

Motor Vehicle Theft Prevention Survey

Central Region

Caliber Associates
10530 Rosehaven Street, Suite 400, Fairfax, VA 22030
Phone: 703-385-3200   Fax: 703-218-6930

Motor Vehicle Theft Prevention Survey

INSTRUCTIONS

This survey contains two sections. The first section presents general questions that ask about the motor vehicle theft prevention activities in your city or state. The second section presents questions that ask about your familiarity with the national motor vehicle theft prevention program - <u>Watch Your Car</u>. This survey will take less than 30 minutes to complete. Your participation is voluntary and greatly appreciated. Your individual responses will not be reported to the National Institute of Justice (NIJ). Individual responses will be combined before information is reported to NIJ. Please read each question carefully and respond by either marking the circle that best represents your opinion or by writing a response where indicated.

- Use pencil or pen. Make heavy dark marks that fill in the circles completely and write legibly in the spaces provided. If you wish to change an answer, erase cleanly or put an "X" over the incorrect response.
- Fill in only <u>one</u> answer circle for each question unless it tells you to "*mark all that apply*."

Example:
21. Over the past 4 years, has your state experienced a decrease in automobile thefts?

    ● Yes

    ○ No

<u>PLEASE WATCH FOR "SKIP" INSTRUCTIONS — THEY TELL YOU WHEN TO SKIP OVER A GROUP OF QUESTIONS THAT YOU DO NOT NEED TO ANSWER.</u>

Please return the survey using the postage-paid envelope or return your survey by fax at

the following number 703-218-6930 - care of Eric Weingart.

<u>Thank you for your participation</u>, if you have any questions regarding your participation, contact:

Pat Curtin, Ph.D.		Eric Weingart
Caliber Associates		Caliber Associates
(703) 219-4394 (phone)	or	(703) 219-3790 (phone)
(703) 218-6930 (fax)		(703) 218-6930 (fax)
curtinp@calib.com		weingare@calib.com

Section 1: Motor Vehicle Theft Prevention

1. Is there an agency, such as a Motor Vehicle Theft Prevention Authority, that addresses motor vehicle theft prevention in your state?

   ○ Yes (Please answer question 1A)

   ○ No (Please answer question 1B)

       1A. What is the name of the agency and where does it fall within the state's organizational structure?

   _____

   _____

   _____

       1B. How is motor vehicle theft prevention addressed in your state?

   _____

   _____

   _____

2. Please indicate and describe, as appropriate, the motor vehicle theft prevention methods that are officially endorsed by your state or agency.

   ○ V.I.N. etching

   ○ Parts marking

   ○ Motor vehicle theft sticker/decal program

   ○ Theft prevention public awareness campaigns

   ○ Other _____

   ○ Other _____

   ○ Other _____

   ○ Other _____

3. Using your answers to # 2, list the methods in order of effectiveness (most effective to least).

   _____

   _____

   _____

4. If there are other particularly effective methods that help prevent motor vehicle theft other than what your state or agency is currently endorsing, list and describe them below.

    _____

    _____

    _____

    _____

5. Do you assess the effectiveness of the motor vehicle theft prevention methods used in your state?

    ○ If Yes (Please describe below the measures and methods you use to assess effectiveness)

    ○ If No (**SKIP** to question 9)

    _____

    _____

    _____

    _____

6. If you are using more than one method of data tracking, in your opinion is one method superior?

    ○ Yes (Please elaborate below)

    ○ No

    _____

    _____

    _____

    _____

7. Is there collaboration between different state agencies with regard to tracking motor vehicle theft?

    ○ Yes (Please elaborate below)

    ○ No

    _____

    _____

    _____

    _____

8. Are you assessing other factors that may be driving the rate of motor vehicle theft or causing changes in the rate of motor vehicle theft over time in your area (e.g., economic trends)?

○ Yes (Please elaborate below)

○ No

_____

_____

_____

_____

9. In your opinion, what were some good decisions made in your state regarding the choice and use of motor vehicle theft prevention methods?

_____

_____

_____

_____

10. In your opinion, what were some bad decisions made in your state regarding the choice and use of motor vehicle theft prevention methods?

_____

_____

_____

_____

11. To the best of your knowledge, how much funding is allotted to motor vehicle theft prevention in your state per fiscal year (e.g., expenditure-per-resident or expenditure-per-registered automobile)?

_____

_____

_____

12. Given your state is located in the Central region of the United States and is largely rural, are there approaches to motor vehicle theft prevention that are particularly effective or you think would be particularly effective in your state/region?

_____

_____

_____

13. Please indicate and describe, as appropriate, the methods used by your state to increase public awareness about motor vehicle theft prevention? (*mark all that apply*)

   ○ Pamphlets/brochures

   ○ Newspaper ads/inserts

   ○ Flyers

   ○ Radio public service announcements

   ○ Television public service announcements

   ○ Presentations to clubs/groups

   ○ Presentations to law enforcement agencies

   ○ Other _____

   ○ Other _____

14. Using your answers to #13, list the methods in order of effectiveness (most effective to least).

   _____

   _____

   _____

Section 2: The Watch Your Car Program

15. Are you aware of the Federally funded *Watch Your Car (WYC)* motor vehicle theft prevention program?

   ○ Yes

   ○ No (**SKIP** to question 21)

16. Do you and/or the people in your department or agency view the *WYC* program as effective?

   ○ Yes

   ○ No

17. In your opinion, why has your state decided **not** to adopt the *WYC* program?

   _____

   _____

   _____

   _____

18. From your knowledge, what about the *WYC* program works well?

_____

_____

_____

_____

19. From your knowledge, what about the *WYC* program <u>does not</u> work well?

_____

_____

_____

_____

20. What would need to change/occur for your state to implement the *WYC* program?

_____

_____

_____

_____

21. Do you think that a Federally funded, nationally organized motor vehicle theft prevention program is a good idea?

○ Yes (Please elaborate below)

○ No (Please elaborate below)

_____

_____

_____

_____

Please take the time to double check the contact information on the next page.

The information will be kept confidential and is for data analysis purposes only.

Contact Information

Please use the space below to update our contact information.

Name: _____   State: _____

Title/position: _____   Agency: _____

Address: _____   Phone number: _____

_____   Fax number: _____

_____   Email address: _____

_____

Years associated with motor vehicle theft prevention: _____

Please return the survey using the postage-paid envelope or return your survey by fax at

the following number 703-218-6930 - care of Eric Weingart.

Thank you for completing our survey. Your input is valuable and appreciated.

Once again, if you have any questions regarding your participation, please contact:

Pat Curtin, Ph.D.   Eric Weingart
Caliber Associates   Caliber Associates
(703) 219-4394 (phone)   or   (703) 219-3790 (phone)
(703) 218-6930 (fax)   (703) 218-6930 (fax)
curtinp@calib.com   weingare@calib.com

City Surveys

The following example survey was sent to the ten cities with the highest vehicle theft rates

Pat Curtin, Ph.D.,
Senior Associate
Caliber Associates
Fairfax, VA
Ph #: 703-385-3200
Fax 703-218-6930

Re: Best Practices in Motor Vehicle Theft Prevention Programs.

The United States Department of Justice is exploring ways to improve the prevention of motor vehicle theft. The National Institute of Justice (NIJ), the research and evaluation agency of the Bureau of Justice Assistance, is assessing trends and best practices in motor vehicle theft prevention. Toward this end, the NIJ has commissioned Caliber Associates, an independent research organization, to canvass all states and a number of cities to determine what sort of motor vehicle theft prevention methods are currently being employed. The NIJ also would like to determine the familiarity of motor vehicle theft prevention authorities with the Watch Your Car program that is sponsored by the Bureau of Justice Assistance.

The short survey that accompanies this letter contains questions about motor vehicle theft prevention efforts in your city. The survey should take less than 30 minutes to complete. The information you provide will help the NIJ to make recommendations to the Bureau of Justice Assistance regarding how to better guide and support motor vehicle theft prevention on a national level. Please return the survey using the postage-paid envelope or return your survey by fax at the following number 703-218-6930 - care of Eric Weingart. I appreciate your time and consideration with this matter.

Best regards,

Pat Curtin

CAL**I**BER

Motor Vehicle Theft Prevention Survey

Northwestern Region- Cities

Caliber Associates
10530 Rosehaven Street, Suite 400, Fairfax, VA 22030
Phone: 703-385-3200   Fax: 703-218-6930

Motor Vehicle Theft Prevention Survey

This survey contains two sections. The first section presents general questions that ask about the motor vehicle theft prevention activities in your city. The second section presents questions that ask about your familiarity with the national motor vehicle theft prevention program - <u>Watch Your Car</u>. This survey will take less than 30 minutes to complete. Your participation is voluntary and greatly appreciated. Your individual responses will not be reported to the National Institute of Justice (NIJ). Individual responses will be combined before information is reported to NIJ. Please read each question carefully and respond by either marking the circle that best represents your opinion or by writing a response where indicated.

- Use pencil or pen. Make heavy dark marks that fill in the circles completely and write legibly in the spaces provided. If you wish to change an answer, erase cleanly or put an "X" over the incorrect response.
- Fill in only <u>one</u> answer circle for each question unless it tells you to "*mark all that apply*."

Example:
21. Over the past 4 years, has your state experienced a decrease in automobile thefts?

   ● Yes
   ○ No

<u>PLEASE WATCH FOR "SKIP" INSTRUCTIONS — THEY TELL YOU WHEN TO SKIP OVER A GROUP OF QUESTIONS THAT YOU DO NOT NEED TO ANSWER.</u>

Please return the survey using the postage-paid envelope or return your survey by fax at

the following number 703-218-6930 - care of Eric Weingart.

<u>Thank you for your participation</u>, if you have any questions regarding your participation, contact:

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curtinp@calib.com		weingare@calib.com

Section 1: Motor Vehicle Theft Prevention

1. Is there an agency, such as a Motor Vehicle Theft Prevention Authority, that addresses motor vehicle theft prevention in your city?

○ Yes (Please answer question 1A)

○ No (Please answer question 1B)

    1A.   What is the name of the agency and where does it fall within the city's organizational structure?

    _____

    _____

    _____

    1B.   How is motor vehicle theft prevention addressed in your city?

    _____

    _____

    _____

2. Please indicate and describe, as appropriate, the motor vehicle theft prevention methods that are officially endorsed by your city or agency.

○ V.I.N. etching

○ Parts marking

○ Motor vehicle theft sticker/decal program

○ Theft prevention public awareness campaigns

○ Other _____

○ Other _____

○ Other _____

○ Other _____

3. Using your answers to # 2, list the methods in order of effectiveness (most effective to least).

_____

_____

_____

4. If there are other particularly effective methods that help prevent motor vehicle theft other than what your city or agency is currently endorsing, list and describe them below.

    _____

    _____

    _____

    _____

5. Do you assess the effectiveness of the motor vehicle theft prevention methods used in your city?

    ○ If Yes (Please describe below the measures and methods you use to assess effectiveness)

    ○ If No (**SKIP** to question 9)

    _____

    _____

    _____

    _____

6. If you are using more than one method of data tracking, in your opinion is one method superior?

    ○ Yes (Please elaborate below)

    ○ No

    _____

    _____

    _____

    _____

7. Is there collaboration between different city/state agencies with regard to tracking motor vehicle theft?

    ○ Yes (Please elaborate below)

    ○ No

    _____

    _____

    _____

    _____

8. Are you assessing other factors that may be driving the rate of motor vehicle theft or causing changes in the rate of motor vehicle theft over time in your area (e.g., economic trends)?

○ Yes (Please elaborate below)

○ No

_____

_____

_____

_____

9. In your opinion, what were some <u>good</u> decisions made in your city regarding the choice and use of motor vehicle theft prevention methods?

_____

_____

_____

10. In your opinion, what were some <u>bad</u> decisions made in your city regarding the choice and use of motor vehicle theft prevention methods?

_____

_____

_____

11. To the best of your knowledge, how much funding is allotted to motor vehicle theft prevention in your city per fiscal year (e.g., expenditure-per-resident or expenditure-per-registered automobile)?

_____

_____

_____

12. Given your city is located in the Northwest region of the United States and contains international ports, are there approaches to motor vehicle theft prevention that are particularly effective or that you think would be particularly effective in your city?

_____

_____

_____

13. Please indicate and describe, as appropriate, the methods used by your city to increase public awareness about motor vehicle theft prevention? (*mark all that apply*)

○ Pamphlets/brochures

○ Newspaper ads/inserts

○ Flyers

○ Radio public service announcements

○ Television public service announcements

○ Presentations to clubs/groups

○ Presentations to law enforcement agencies

○ Other _____

○ Other _____

14. Using your answers to #13, list the methods in order of effectiveness (most effective to least).

_____

_____

_____

Section 2: The Watch Your Car Program

15. Are you aware of the Federally funded *Watch Your Car (WYC)* motor vehicle theft prevention program?

○ Yes

○ No (**SKIP** to question 20)

16. Do you and/or the people in your department or agency view the *WYC* program as effective?

○ Yes

○ No

17. If your city is not using the WYC program, why, in your opinion, has your city decided **not** to adopt the *WYC* program?

_____

_____

_____

18. From your knowledge, what about the *WYC* program works well?

_____

_____

_____

_____

19. From your knowledge, what about the *WYC* program <u>does not</u> work well?

_____

_____

_____

_____

20. Do you think that a Federally funded, nationally organized motor vehicle theft prevention program is a good idea?

○ Yes (Please elaborate below)

○ No (Please elaborate below)

_____

_____

_____

_____

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Title/position: _____   Agency: _____

Address: _____   Phone number: _____

    _____   Fax number: _____

    _____   Email address: _____

    _____

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