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Final Report

Occupant Protection Special Traffic Enforcement Program Evaluation

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16. Abstract Occupant Protection Special Traffic Enforcement Programs (OP sTEP) are periods of highly visible seat belt law enforcement combined with extensive media support. The objective of the present study was to describe NHTSA grant funded OP sTEP programs in terms of implementation and evaluate results achieved. Summary and final reports submitted by states (20) to NHTSA were collected. Case studies were conducted in Indiana, Iowa and New Jersey. Results indicate that OP sTEP program grants generated incremental enforcement efforts that were well publicized. Over one-quarter of a million seat belt citations (273,437) and close to one million various other citations (963,895) were issued. Over 300,000 public information and education items were aired, printed or distributed. Seat belt use rates increased with subsequent waves. Increases in seat belt use were greatest after the first wave, less thereafter. Belt use increases among participating communities in secondary law states averaged +5.6 percentage points compared to +16.8 percentage points for primary law states.					
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TECHNICAL SUMMARY

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Background

Occupant Protection Special Traffic Enforcement Programs (OP sTEP) are periods of highly visible seat belt law enforcement combined with extensive media support. Beginning in the last calendar quarter of 1995, twenty states participated in National Highway Traffic Safety Administration (NHTSA) funded OP sTEP programs. States awarded a demonstration grant were required to carry out periodic waves of highly visible law enforcement coupled with extensive media support. Seat belts, child restraints and impaired driving were to be emphasized. Participants were asked to follow a five-step demonstration model as a guide and asked to report on activities. At the conclusion of all activities, states were to provide a final report that comprehensively documented all program activity over the grant period and related outcomes. State programs varied, but all committed to periodic waves of increased publicity and enforcement. Activity was generated from both state and local levels. The goal was a coordinated, multi-agency effort indicating a unified state concern for occupant and occupant protection issues.

Objective

The objective of the present study was to describe NHTSA funded OP sTEP programs in terms of implementation and evaluate results achieved.

Method

Participating states submitted summary and final reports to NHTSA. Information contained in these reports were described by calendar year quarter and by order of occurrence. Case studies were conducted in Indiana, Iowa and New Jersey.

Results

The height of OP sTEP activity was during the middle months of 1996. Fewer programs were reported during 1997. Some OP sTEP programs were still being reported through the summer of 1998.

(Continued on additional pages)

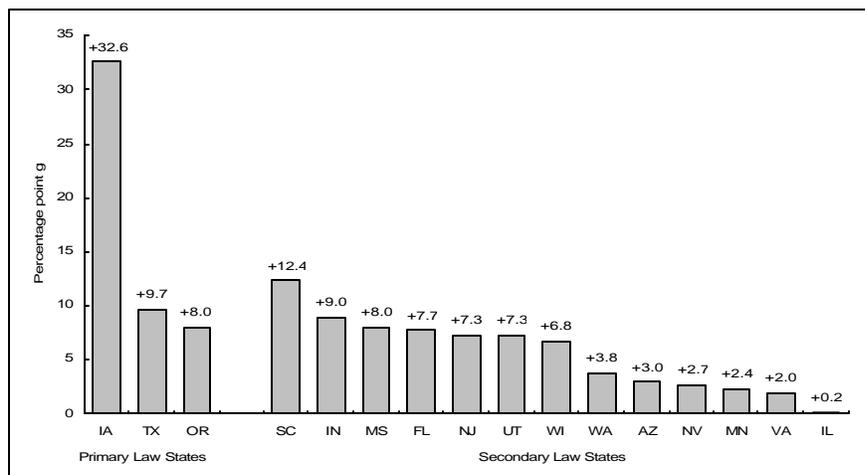
HS Form 321
July 1974

Thoroughness of reporting improved as quarters progressed. Coordinators explained that it took time to learn the program requirements and how to report them. Report descriptions usually included details on enforcement, public information and education, and changes in seat belt use. Citation data and seat belt use rates were reported most of the time while public information and education received less detailed attention.

The foremost focus for OP sTEP programs was seat belt use. During periods of wave enforcement one-quarter of a million seat belt citations (273,437) were issued; only speeding citations were more numerous (391,605). Additionally, over half a million other citations were issued. Secondary law states issued proportionately fewer seat belt citations than primary law states, 21% versus 46% respectively. Nevertheless, case studies found that programs were noticeably effective in changing police officers' practices regarding seat belt enforcement, especially in secondary law states.

Widespread publicity efforts usually accompanied periods of enforcement. Nearly 300,000 various PI&E items were printed, aired or distributed to the public, a number known to underestimate what actually occurred. Press releases appearing in newspapers were most common. Other PI&E items described in reports included public service announcements, interviews, handouts and billboards. Local law enforcement agencies generated a significant proportion of the publicity.

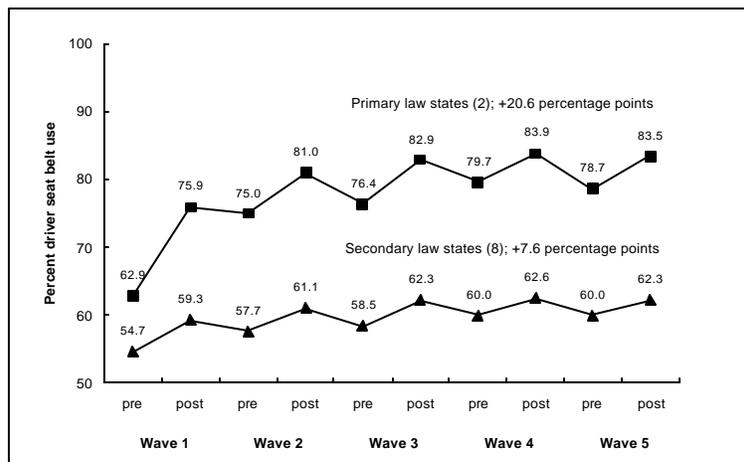
Seat belt use rates improved every calendar quarter with the greatest gains in the first three-quarters. Secondary law states did not achieve the same level of positive change as primary law states. The mean average for percentage point differences across secondary law states was +5.6 percentage points compared to +16.8 percentage points for primary law states.



Percentage point difference in seat belt use rates (First pre-wave to final post-wave measure)

Theoretically, a pre-to-post increase in seat belt use should be measurable across a wave when adequate enforcement and PI&E are carried out. Prior to a subsequent wave (if in relative proximate time), some slippage in use will likely occur, so that, when a subsequent pre-measurement is taken, use will be lower than the previous wave’s post measurement. At the end of the subsequent wave, if adequate enforcement and PI&E are carried out, post measurements should be higher than the last wave’s post measurement. This pattern should continue for some number of successive waves. If this were truly the case, when graphed the pattern might look like a tilted “saw blade.” The pattern was evident only some of the time when looking at individual states. Inconsistencies were likely the result of new recruitment and loss of participating communities that changed the mix of agencies from which state averages were calculated. Reaching a “ceiling” in seat belt use was another possible factor.

Tracking primary and secondary law states separately allowed for wave-to-wave comparisons over an extended period of time. Seat belt use was tracked over consecutive waves for both primary (2) and secondary (8) law states completing at least five or more waves – only the first five waves are included in the figure below. A “saw blade” pattern is evident. The primary law states began the program with a higher use rate (62.9%, first wave pre-observation) than the secondary law states (54.7%). Seat belt use rose immediately as the first OP sTEP waves were carried out. The effects were greater for primary law states (+13.0 percentage points) than for secondary law states (+4.6 percentage points). Seat belt use continued to increase across all states over the next three successive waves during which pre-to-post gains were greater each wave in the primary law states. Post-measurement increases were not seen following the fifth wave. After five waves, the total increase for secondary law states (+7.6 percentage points) was not as large as in primary law states (+20.6 percentage points).



Primary law states versus secondary law states participating in five or more waves

Conclusions

OP sTEP program grants generated incremental enforcement efforts against seat belt violations supported by extensive publicity efforts.

Primary law states, as a group, achieved higher increases in belt use than secondary law states. Stricter laws supported with serious enforcement and publicity send the motorists a stronger message that the state is concerned for the motorist's risk of injury and results in higher belt use.

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I. INTRODUCTION

This is the final report for a study entitled *Occupant Protection Special Traffic Enforcement Program Evaluation*. The work covered in this final report was authorized under Contract Number, DTNH22-94-D-05044.

The National Highway Traffic Safety Administration awarded 19 Occupant Protection Special Traffic Enforcement Program (OP sTEP) demonstration grants (403 grants) to 20 states in late 1995. The grants were awarded in order to improve occupant protection and reduce impaired driving under the umbrella program Campaign Safe & Sober (CS&S).

States awarded a demonstration grant were required to carry out periodic waves of highly visible law enforcement coupled with extensive media support. Seat belts, child restraints and impaired driving were to be emphasized. Participants were asked to follow a five-step demonstration model as a guide and asked to report on activities. The five-step model included: 1) pre-observational survey; 2) public information and education; 3) media/press event announcing upcoming enforcement; 4) intensified enforcement period; and 5) post-observational survey and media/press announcement of results. At the conclusion of all activities, states were asked to provide a final report that would comprehensively document all program activity over the grant period and related outcomes.

This report covers the use and effectiveness of the 403 grants towards increasing seat belt use. The report provides an evaluation of data submitted by grantee states in activity reports and final reports. Case studies in three states, Indiana, Iowa and New Jersey, focus on the approach each state took to carry out their OP sTEP waves.

II. BACKGROUND

This section describes Occupant Protection Special Traffic Enforcement Programs (OP sTEP) including the 403 OP sTEP grant requirements.

Definition of an Occupant Protection Special Traffic Enforcement Program (OP sTEP)

The Office of Occupant Protection of the National Highway Traffic Safety Administration (NHTSA) provided grantee states a document containing “tips” to follow when developing their 403 grant funded programs. In that document, the concept of an OP sTEP is explained beginning with the characteristics listed below.

- A focus on some combination of the following enforcement areas: speed, impaired driving, seat belts and child passenger safety.
- A coordinated statewide, multi-agency effort supported by a statewide public information and education campaign that can add validity and credibility to agency efforts, show a unified law enforcement position on an issue and reach more people in the community. Ideally, sTEPS are conducted by many agencies focusing on the same issue, at the same time and following the same format.
- A schedule of unified periodic enforcement blitz periods that can provide better opportunities to conduct a multi-agency program, focus administrative planning and enhance concentrated enforcement.

The document explains that an OP sTEP program should incorporate the characteristics above into a “five-step formula” that includes: 1) pre-observational survey; 2) public information and education; 3) media/press event announcing upcoming enforcement; 4) intensified enforcement period; and 5) post-observational survey and media/press announcement of results.

OP sTEP Enforcement

Canada was first to demonstrate that periodic waves of highly publicized occupant protection enforcement increase compliance with occupant safety laws. In the mid-1970s mandatory seat belt use laws were passed in Canadian provinces. In the months immediately following the law change, seat belt use surged as high as 71%. However, shortly thereafter, use rates declined dramatically and stayed that way for a number of years. Then widespread enforcement and publicity programs were conducted in several Canadian provinces. These well designed sTEP programs led to sharp increases in occupant restraint use. Through continued use of OP sTEPs, Canada achieved an 87% national use rate by the early 1990s (IIHS, 1993).

When belt use laws went into effect in New York in the mid-1980s, belt use surged at first, then declined. Like in Canada, sTEPs were used in Elmira, NY to reverse the trend. Williams et al., (1987), evaluated the effects of periodic OP sTEP waves in Elmira and found that belt use rose during program waves, that it then declined shortly thereafter but that it remained at a level well above the pre-wave use rate. Through sTEP activity, Elmira’s pre-program belt use of 49% rose to 77% by the end of the first program wave. Two months afterwards, 66% belt use was measured.

North Carolina has a primary seat belt law (a motorist can be stopped for a belt violation alone). The law was enacted in 1986. Shortly after the law was enacted, police officers began issuing tickets and belt use rose to 78%, higher than anywhere else in the country. By the middle of 1993 the rate had dropped to 65%. North Carolina decided to embark on a long-term program to increase safety belt use rates. North Carolina began by using a sTEP model resembling what was used in Canada and Elmira. With the strength of a primary enforcement law, high levels of safety belt and child restraint use were achieved using enhanced enforcement, increased publicity and widespread public information and education. By July 1994, sTEPs in North Carolina had achieved an 81% driver belt use rate (IIHS, 1994).

In 1994, NHTSA provided funding to New Mexico, South Carolina, Vermont, Oregon and Washington to test statewide applicability for an OP sTEP demonstration model. Each state conducted four waves of enforcement and publicity over a 12-month period. Half the states' law enforcement agencies participated and at least 80 percent of the population in each state was under enforcement coverage. In general, the public information campaigns were widespread. Overall, an increase in belt use (4 percentage point increase) was achieved by participating communities. Success in these communities led NHTSA to believe that if other states would be willing to commit to high visibility enforcement campaigns they would achieve positive results (NHTSA, 1995).

NHTSA OP sTEP Grant Program

Distribution of 403 grants was intended to increase occupant protection and reduce impaired driving under the umbrella program, Campaign Safe & Sober (CS&S). Each state (20) that received a 403 grant was to encourage state and local level groups (primarily local law enforcement agencies) to participate in CS&S.

By 1995, CS&S had become NHTSA's community-based strategy promoting and supporting national traffic safety programs. The program was designed to encourage nationally developed programs without preempting state and local efforts and initiatives. Components of the program include:

- Public information and education to increase public awareness of the risks and costs of traffic crashes and to support enforcement efforts;
- Improving legislation to provide enforceable traffic laws;
- Enhancing enforcement to reduce impaired driving and increase compliance with seat belt use laws.

The CS&S strategy encourages states to set goals for reducing alcohol-related fatalities and increase seat belt use. NHTSA provides states with necessary resources and encourages states and communities to conduct periodic highly visible, enhanced enforcement of impaired driving and seat belt use laws. National, state and local organizations are encouraged to work with health care providers and to combine programs (impaired driving and occupant protection, media and enforcement) wherever possible to enhance efficiency and impact. By design, NHTSA provides general directions and materials to support state efforts, however, states are free to develop their own program initiatives and materials.

In order to have received the 403 grant money, a state had to have a belt use law and must have demonstrated active participation in the CS&S program. The award was also contingent on the agreement that statewide programs of periodic, highly publicized enforcement would be conducted and reported according to the following five elements: 1) pre belt use observations to provide baseline data; 2) public information campaign; 3) wave publicity; 4) enforcement emphasis period; and 5) post belt use observations and publicity on program results.

Pre-campaign seat belt use observations – Agencies at the local level must conduct informal surveys of seat belt use before any OP sTEP wave activities. The result of these surveys would be used to measure change achieved over the course of an OP sTEP wave. Observations from concurrent waves would be used to compare patterns of belt use over multiple waves and periods time.

Public information campaign – A statewide public information campaign must make agencies and communities aware and supportive of the program and its goals. Educational materials and programs would be used to garner interest and participation from the local law enforcement agencies, media groups and other community organizations.

Wave publicity – Assorted media outlets must publicize wave efforts before, during and after they occur. Through these outlets waves would be announced and public knowledge and awareness of the program would be promoted.

Enforcement emphasis period – State and local law enforcement agencies must cooperate and participate in highly visible seat belt, DWI and speed enforcement. Enforcement would be statewide and in waves. Checkpoints, saturation patrols or other methods of strict enforcement would be used. Participating sites would collect citation and arrest data.

Post-campaign seat belt use observations and publicity on program results – Agencies at the local level must conduct informal surveys of seat belt use at the end of OP sTEP wave activities. The result of these surveys would be used to measure change achieved over the course of an OP sTEP wave. Observations from subsequent waves would be used to compare patterns of belt use over multiple waves and longer periods of time. The continued use of media should be used to remind the public that the state is seriously interested in promoting seat belt use and decreasing driving under the influence of alcohol. The results of surveys in combination with alcohol, citation and arrest data could inform state and local level participants of the enforcement activity results.

Within each state, a focal point was to provide statewide program coordination and lead state and community level organizations into periodic OP sTEP activities according to the CS&S schedule. Focal points would solicit and work with political leaders, traffic safety groups, local law enforcement and other community based organizations. With the cooperation of these groups, model elements were administered with the goal to increase seat belt use, reduce alcohol-related crashes and decrease speed-related fatalities using highly visible enforcement. Enforcement and publicity coverage was to reach at least 80% of the states' population.

NHTSA requested that an evaluation be conducted that would describe the 403 grant-funded activities and provide program results. More specifically, the evaluation would describe program processes and contributions, evaluate program effectiveness in increasing seat belt use and analyze differences between states in terms of changes in occupant protection use rates.

III. METHODS

The purpose of this section is to describe the methods and procedures used during this project for collecting data. Data were obtained from:

- Summary and final report collection – submitted by program administrators;
- Case study in three states – Indiana, Iowa and New Jersey.

Summary and Final Report Collection

As a grant requirement, program administrators submitted reports describing their OP sTEP activities. The elements in Table 1 were requested from program administrators. Most reported information pertained to local activity. Program administrators needed to aggregate data from all local participants. Aggregating data provided a “statewide” account for much of what occurred. To do this, program administrators created a standardized form that local agencies completed at the end of wave activities. Forms similar to the sample provided in Figure 1 were used.

Table 1. Summary Report Requirements for 403 Grantee States

Number of sTEPs – Give the number of OP sTEP waves that occurred during the report period and provide required information per each.

Date of Enforcement – Give the start and end dates for each OP sTEP wave that occurred during the report period.

Number and Type of Agencies – Give the number and type of enforcement agency that participated and explain to what capacity.

Type of Enforcement – List the type(s) of enforcement used (checkpoints, routine or “saturation” patrols, or some other).

Enforcement Emphasis – List the selected enforcement target(s) (belts only or in combination with child restraints, speed, alcohol or other violations).

Number and Type of Citations & Warnings – Report the total number of tickets and warnings given by violation type during enforcement activities.

Number of Other Arrests – In addition to traffic citations and warnings, report any arrests resulting from enforcement activities.

Alcohol-Related Crash Data – Provide available alcohol-related crash data.

Pre and Post Safety Belt Observations – Provide pre and post-enforcement informal, seat belt, use observation results.

Public Information Activity Descriptions – Tabulate public information and education activity including the number of press releases, public service announcements and interviews.

Number of Media Events Conducted – Give details on state and local level media events such as “kickoffs” and other press conferences.

CAMPAIGN SAFE & SOBER REPORT

sSTEP Activity August 1997

Agency Name _____ Contract # _____
 Contact Person _____ Phone # _____ Fax # _____

SURVEY RESULTS: Please enter the number of persons... NOT %

	BELTED	UNBELTED
Pre-sSTEP	<input type="text"/>	<input type="text"/>
Post-sSTEP	<input type="text"/>	<input type="text"/>

PUBLIC INFORMATION & EDUCATION: (attach clippings)

1. Number of media interviews given regarding this activity?
 1-3 ___ 4-10 ___ 11-20 ___ more than 20 ___
2. Number of news releases distributed to local media?
 1-3 ___ 4-10 ___ 11-20 ___ more than 20 ___
3. Number of articles and TV/radio news stories printed or aired as a result of this activity and/or news releases distributed?
 1-3 ___ 4-10 ___ 11-20 ___ more than 20 ___
4. Number of Public Service Announcements (PSA's) distributed? ___

Enforcement results will include the 24-hour/seven-day one week sSTEP enforcement.

ENFORCEMENT RESULTS:	CITATIONS	WARNINGS
Seat belt		
Child safety seat		
DWI/OWI		XXXXXXXXXX
Other alcohol		
Speed		
Other traffic		
Non-traffic violations/criminal*		

*Specific types of criminal activity:

Traffic Safety Champion Nominated:

Full Name _____
 Rank _____
 Working Hours _____

Figure 1. A sample local agency program information form.

When complete, summary and final reports would indicate if all five elements of the demonstration model were conducted. As part of this evaluation, a register was kept and reported to NHTSA. The register listed which states were reporting and what they were reporting according to the 403 grant requirements. The register was included in quarterly evaluation reports and provided to NHTSA. For each quarter, the summary evaluation report detailed the activities within grantee states. The first was provided to NHTSA just after March 1996, the last January 1998.

Data in the states' summary reports were a primary source of information for this report. These data were used to describe the OP sTEP program and present program results. State reported results are presented by calendar year quarter. All quarters include three months except for the first and last quarters reported (Table 2). The first quarter includes November 1995 through the last day of March 1996. The last quarter includes October 1997 through August 1998. Reports were received from fewer states during the months before and after the first and last quarters because some states started activity before others and some ended activity after others. Therefore, the months were added to increase the level of information received.

Table 2. Calendar Quarters Evaluated

<i>Period of time</i>	<i>Series order</i>
November 1995 through March 1996	1
April 1996 through June 1996	2
July 1996 through September 1996	3
October 1996 through December 1996	4
January 1997 through March 1997	5
April 1997 through June 1997	6
July 1997 through September 1997	7
October 1997 through August 1998	8

Some data were aggregated and reported in numeric format. Because no two states reported entirely the same way, other types of data could not be aggregated. None of the aggregated data should be accepted as universally comprehensive, and even if a state did not report on a requested data item, it still may have conducted the activity.

Case Study

NHTSA was interested in learning more about approaches that work best in increasing safety belt use and in reducing alcohol-impaired driving. Therefore, NHTSA requested that more detailed information be collected from three states.

Candidate states were recommended to NHTSA for case study. Selection of states was partially dependent upon the indication that the sTEP model was being carried out. After reviewing all of the states' grant proposals and in some cases first wave reports, a short list of candidate states was established for further consideration. The list included three first choices, Indiana, Iowa and New Jersey.

Indiana – Indiana was producing detailed evaluation data in support of CS&S. Recommending Indiana was mostly based on the existing data collection systems already in place and the expected

high level of continued sTEP activity. The sTEP focal point requested that the state be considered a case study site.

Iowa – It was felt that at least one of the case study states should have a primary law for belt use enforcement. Iowa’s grant request and first quarterly report were clear and detailed about objectives and informative about outcomes from what was expected to be a solid sTEP program. The project administrator indicated that the state would welcome the idea of being a case study site.

New Jersey – New Jersey represented a unique opportunity among the demonstration states. It had begun its sTEP program under conditions of secondary enforcement and was expected to get primary enforcement sometime later that year. While change from secondary to primary within the context of the sTEP program did not occur, it would have been of great interest. Both the Operation Buckle Down spokesperson for New Jersey and the sTEP focal point endorsed the idea of New Jersey as a case study site.

Candidate states were discussed with each corresponding regional NHTSA Contracting Officer Technical Representative. Contact was made with each state’s sTEP spokesperson. Each of the recommended states indicated a willingness to participate and an ability to provide the required data. NHTSA approved the use of the first choice states for case study.

Each case study focused on the approach the state took to carry out the OP sTEP demonstration model. Activities were documented through topical interviews with project administrators and local level coordinators, site-visit observations at local agencies and events and the collection of state reported data.

Topical interview is a form of data collection in which general areas of interest are presented to interviewees. Discussion is intended to be unstructured and informal. It is similar to a focus group in that respondents are free to pursue avenues of interest and provide information in their own way at their own pace. The discussion is complete when all topics have been covered and all desired information has been obtained. Topical interviews were conducted with program administrators, participants at a number of local law enforcement agencies and participants of program related events.

First, project administrators were interviewed. The general topics of discussion were:

- History of program and like programs;
- Promotion;
- Administration;
- Program Results.

The specific objective for topical discussion with project administrators was to identify:

- How activities at the administrative level were carried out; how activities were funded, organized and completed; how effective the leadership was at administering the project, providing assistance and monitoring activity;

- Methods used to achieve participation from law enforcement agencies, media groups, and other community based people and organizations;
- The scope of the public information and education activities, including how the scheduled statewide public information campaign was implemented;
- What sTEP wave activities "in the field" were performed and by whom; where and when activities were completed and specific details of how the activities were executed; the extent to which communication was maintained between those who were participating and program coordinators;
- Results from activities initiated as a result of the grant program and the impact activities had on use rates and alcohol impaired crashes.

Two in-state visits per state were used to conduct topical discussions with program administrators. In all three states, initial visits were made to become better oriented with the state programs, introduce goals, discuss methods and plan dates and times for a future case study visit.

Within each state, a number of local law enforcement agencies, enforcement personnel and local organizers were visited. Participants on the local level are a "front line" for OP sTEP projects. In most cases, they not only carry out the OP sTEP enforcement, but also conduct the pre- and post-enforcement observations and have various media and education duties. Topical discussions with these people included, but were not limited to, the following general topics:

- History of participation in this and similar programs;
- Motivation;
- Coordination;
- Participation;
- Results.

The specific objective for each local level participant topical discussion was to identify:

- Agency size and scope (size, role, jurisdiction, relationship to other proximate agencies);
- Reasons for participation in activities;
- What OP sTEP model elements were performed;
- Agency perception of the sTEP demonstration model;
- Changes, if any, there were after the inception of the OP sTEP effort; including changes in community support, public behavior, and inter-agency relations;
- The impact of activities on seat belt use rates, alcohol impaired crashes and other traffic related occurrences;
- Opinions about program coordination, directions, materials and requirements.

For each state, topical discussions with participants at local agencies took place during site observation visits. Topical discussions depended not only on the availability and willingness of those asked to participate, but also on the level of participation and success they were able to accomplish. In order to assure that agencies with high levels were participating in the case studies, focal points were asked to make the selections. The selections were then cross-checked with news-clippings and wave statistics to insure the quality of the chosen group.

Since any one agency spends only a fraction of its staff-hours doing OP sTEP related activity, planning the visit ahead of time was crucial. Scheduled visits corresponded with OP sTEP activity so that the maximum number of OP sTEP related activities could be observed including: kickoff events; press conferences; media interviews; and other public information and education and enforcement activities.

Local agencies that were visited should not be interpreted as typical nor generalized to the other participating agencies. These agencies were chosen because of their “exemplary” status. It should also be noted that only a small number of “exemplary” agencies could be included in each case study; many others were not visited or contacted.

IV. RESULTS – REPORTING REQUIREMENTS

Data presented in Table 3 pertain to reporting requirements and are given by quarter. The number in each cell represents total states (20). To count, a state had to report either seat belt observations or enforcement activity and provide some other evidence of wave activity. Most activity occurred over the first four quarters. The second and third quarters were the busiest. By the beginning of 1997, relatively fewer states continued to report. Only nine different states reported wave activity across 1997 quarters. This drop in participation was expected because not all states received continuation funding covering all of 1997.

Table 3. Number of States (20) Providing Quarterly OP sTEP Wave Data

	<i>1996</i>				<i>1997</i>			
	<i>calendar quarters</i>				<i>calendar quarters</i>			
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>
<i>Number of states reporting waves</i>	12	18	16	12	4	7	7	6
<i>Enforcement</i>								
Number of agencies/hours	9	15	15	12	3	7	6	6
Type of enforcement	10	15	13	11	2	5	5	6
Enforcement emphasis	11	15	16	10	4	7	5	6
Number of citations/warnings/arrests	11	18	16	12	4	7	6	6
<i>Public information, education and media</i>								
PI&E descriptions	9	12	15	10	4	7	6	6
Number of media presentations	6	7	14	10	3	4	3	4
<i>Change in seat belt use</i>								
Safety belt observations	9	14	13	11	4	7	6	6

Inclusion of requested data improved as quarters progressed, fewer states were reporting however. Several program coordinators indicated that in the beginning, it took time to learn what the program required in terms of reporting and even longer to impart this knowledge to the local level where much of the data collection was to occur. This was a “trial and error” process in some states. Still, some types of data requested by NHTSA continued to receive less attention than other types of data. Alcohol crash data (not shown in Table 3) were totally ignored by all but one state. In some states, program coordinators did not know how to provide these data in a relatively short span of time. Some explained that they would have to wait until crash files were “closed-out” in their state before they could obtain such information, a process which can have a one-to-two year lag time. Other possible solutions remained unknown or were believed too difficult to achieve. Media data, especially tabulations of presentations were not always included in reports. A number of reports explained that using many types of media and changing them often made tabulating occurrences virtually impossible. Even so, a small number of states still provided details and summations of what was aired, printed or distributed.

Enforcement

Most states reported the extent of their enforcement efforts. Only three states indicated that they attained enforcement coverage for 80% of their population. Some states explained that non-participation from as few as one large urban area blocked their 80% goal. Reporting extent of OP sTEP wave enforcement efforts usually included number of agencies/hours involved. Extent was most often reported as number of participant enforcement agencies. Extent was also, but less

often, reported as the number of staff-hours put into enforcement. Some reports in the first four quarters omitted these data. However, as 1997 progressed, no reports left it out.

Type of enforcement varied from state to state mostly depending on what agency type(s) was participating, size of agency type(s) and often had to do with laws in the state. Large agencies or close cooperative agencies were more likely to have adequate staffing to conduct checkpoints or saturation patrols. Small remote agencies were much more likely to carry out enforcement objectives through routine patrol. A majority of states indicated that local agencies made their own decision as to what type of enforcement to use. They explained that letting agencies choose enforcement tactic made the program more attractive. As a result, there was a variety of enforcement tactics carried out within most states. Regular patrol focused on seat belt use was the foremost mentioned enforcement tactic followed by checkpoint and saturation patrol.

Regular Patrols

Regular patrol was a convenient wave enforcement tactic. Nearly all agencies already committed at least one officer to patrol duties and were able to direct the staff resources towards program objectives. Still some agencies reported problems completing all the program requirements including informal seat belt observations and making contact with the local media. This was probably more of a problem for smaller agencies that couldn't provide staff resources over and beyond the call of normal operations – for all enforcement agencies, emergency service is the priority.

Checkpoints

An average sized municipal or county enforcement agency working alone normally would not commit the coordinated staffing required for a checkpoint. States having good communication between agencies and agency types were more likely to use checkpoint enforcement. Some agencies in a few states took it upon themselves to contact neighboring agencies so to work together. Many other agencies were too remote and some locations just did not have existing relations to act in unison. Program coordinators and high-level government command sometimes were able to propagate necessary communications prerequisite for a checkpoint. Regional pre-wave meetings were one way that program coordinators advanced partnerships. Having high-level government action, like a governor's proclamation or Commander's order was another. A small number of states used checkpoints as the sole tactic for wave enforcement. These waves were most common in states that used only state police enforcement or a small number of enforcement agencies. Additionally, program coordination that could coordinate and synchronize all the participating agencies had to be present. Checkpoints could not be used in some states because state law forbids them.

Saturation Patrols

A saturation patrol occurs when an area is blanketed with a unified enforcement effort targeted at the same goal. Like a checkpoint, a saturation patrol usually requires more staff than available by any single agency's regular patrol. And like checkpoints, saturation patrol requires more enforcement officers and vehicles on the street at the same time. Some large agencies had the staffing and resources to work a saturation patrol alone, yet most had to coordinate and synchronize with other neighboring enforcement agencies.

While regular patrol was the most common tactic, most states reported a combination of tactics per wave. This appeared to work well because it let enforcement agencies make their own decision as to how enforcement would be carried out.

Enforcement Emphasis

Enforcement emphasis was indicated by states most of the time across all quarters. All waves focused on occupant restraint, most on seat belts in particular. A few waves, however, focused on other related issues including alcohol, speed and child restraints while emphasizing seat belts less. Explanations why belts were sometimes a secondary focus included that enforcement agencies and the media grew tired focusing on the seat belt issue after repetitive waves and that other areas of interest were a priority. Some program coordinators focused on a different issue each wave to add diversity to the program without ever leaving the topical area of occupant restraint even though, seemingly, they were doing something different. Changing wave emphasis from seat belts to areas like child restraints, holiday belt use and targeting youths helped enforcement and media retain interest without losing the occupant restraint focus. Agencies in primary belt law states emphasized occupant protection foremost every wave. Secondary states emphasized occupant protection most of the time but not always.

Some enforcement agencies, at the local level, believed the program required too much work. Issuing seat belt citations and obligations to do informal seat belt surveys and work with local media were cited as reasons for absence from the program. Lack of manpower was the most common reason for departure from and disregard for the program. Others cited political pressure, different priorities and lack of interest as reasons for non-participation.

Citations

Number of citations/arrests was reported for nearly every wave carried out. Number of seat belt tickets was reported most of the time and nearly always if other citation/arrest types were given. Reporting speeding tickets received the same level of attention. DUI, child restraint and other types of citations/arrests received less attention. The reporting of citations/arrests was not uniform across state reports and sometimes was not uniform report-to-report for individual states. Citation totals likely underestimate the totality of enforcement results because of reporting inconsistencies.

Table 4 shows that speeding was the most common violation cited (32% of all citations given) although speeding was rarely explained as a wave focus. More often, speeding was cited as a secondary emphasis. Seat belt citations were the second most common violation cited (22%). Although DUI arrests made up a relatively small percentage of overall activity (3%), 40,763 is a relatively large number of arrests considering most wave activity reportedly occurred during daylight hours. If more activity occurred during nighttime hours, the number of DUI arrests more likely would have been higher. Over one-half million (504,682) various other citations/arrests were cited. These represent a myriad of enforcement results including: driving without a license; driving under suspension; driving a stolen vehicle; drug possession or use; and warrants for past crimes. These types of violations resulted in 41% of citations given.

Table 4. Reported Enforcement Activity Across all Waves; Across all States

<i>Citation/arrest type</i>	<i>Total reported</i>	<i>Pct.</i>
Seat belt	273,437	22%
Speed	391,605	32%
DUI	40,763	3%
Child restraint	26,845	2%
Other citations/arrests	504,682	41%

Total 1,237,332 100%

Cells in Table 5 include the total number of seat belt citations issued for a quarter. Over one-quarter of a million seat belt citations (273,437) were issued over the grant period. Nearly every state reported issuing citations in the second and third quarters of 1996. The large number of citations issued in the eighth quarter has to do more with the longer time-period it spanned in the Spring and Summer of 1998.

Table 5. Seat Belt Citations Issued by Calendar Quarter

State	1996				1997			
	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 5	Quarter 6	Quarter 7	Quarter 8
Arizona		270						
Florida	13,240	12,062	10,579	7,401		4,496	5,940	18,237
Illinois	3,790	6,697	3,210	4,063				
Indiana	3,271	10,430	5,297	3,613				
Iowa	3,097	4,817	2,585	1,817				
Kentucky		856		189				
Maryland		1,567	3,977					
Minnesota	1,074	1,234	5,382	787		1,563	4,152	958
Mississippi		810	1,039	655				1,259
Nevada	1,155	3,999	2,473	978	1,878	1,067	814	
New Jersey	911	2,504	1,164	1,530				
Oregon		1,112		1,479	1,600	1,816	2,284	1,617
South Carolina	5,003	5,640	9,624	4,058		4,045	9,884	15,714
Tennessee	365	406	540					
Texas		1,258	592					
Utah	822	1,907	1,976			774		
Vermont								
Virginia		2,836	2,702					
Washington			2,677		1,977			
Wisconsin	6,805	2,608	2,355	1,449	514	517	615	447
*Summations	39,533	61,013	56,172	28,019	5,969	14,278	23,689	38,232

*Summations do not include seat belt citations reported with unknown calendar period.

Table 6 shows that secondary law states issued proportionately fewer seat belt citations than primary law states did, the occurrence of DUI and child restraint were nearly the same, and that secondary law states issued more “other” citations/arrests. Seat belt citations made up 46% of all types given across the primary states compared to 21% across the secondary states. An even larger discrepancy was found between the median percentage of seat belt citations issued in primary states versus those issued in secondary states, 54% versus 18% respectively. Across all states, seat belt enforcement was stressed, at least nominally as a wave emphasis, however, the contrast in the proportion of seat belt citations issued indicates that seat belt laws caused differences in enforcement activity.

Table 6. Reported Enforcement Activity Across all Waves; Primary Versus Secondary States

Citation type	Primary states		Secondary states	
	total reported	Pct.	total reported	Pct.
Seat belt	24,074	46%	249,363	21%
Speed	17,045	33%	374,560	32%

DUI	815	2%	39,948	3%
Child restraint	744	1%	26,101	2%
Other citations/arrests	9,767	19%	494,915	42%
<hr/>				
Total	52,445	100%	1,184,887	100%

Public Information & Education and Media

Description and enumeration of PI&E and media activity improved as quarters progressed, although standardization was mostly absent in what was reported between states and sometimes even within a state. Table 7 shows the number of states participating in particular PI&E or media activities during their period of program activity.

Table 7. PI&E and Media Data

<i>PI&E and media activity</i>	<i>Number of states</i>
Media firms	5
Kickoff events	15
Governor’s support	5
Statewide press releases	20
Fill-in-the-blank press releases	16
Public service announcements	16

Media Firms and Kickoff Events

Media firms were used in five states. All were hired within the first two waves of sTEP activity. Media firms were mostly used to develop and produce program and PI&E materials like: wave planner kits; radio and television PSAs; and various other printed materials.

With or without a media firm, all states had to remind agencies that a wave was nearing and help them organize. Kits were used in most states to provide agencies with schedules, directions, press releases and data collection forms needed to conduct the necessary local activity. Some states mentioned that wave kits were more useful when they were to the point and not full of superfluous and ancillary materials – keeping focus was most important.

Kickoff events were used by 15 states to announce the beginning of their OP sTEP programs. Over half (8) of these states used kickoff events to announce more than one wave. Kickoff events were used to attract attention to overall program intent, show statewide support for the program and announce how and when a state’s program would occur. Kickoff events were successful at attracting both print and electronic media. Most had a number of VIPs as speakers, including (but not necessarily always): Governors; enforcement officials; NHTSA regional staff; crash victims; law enforcement officers from various offices; and in some cases even celebrities.

The Governors of five states were reported to be actively involved in the program. Their activity ranged from issuing a proclamation, appearing at one or more kickoff events or appearing in print and recorded media showing support for improved occupant protection.

Press Releases

All states (20) described the use of press releases to announce wave activity. The releases almost always announced the use of stepped up law enforcement and when and where it would

occur. Press releases usually were issued from two levels, state and local. At the state level, coordinators would release wave information to major print, radio and television media in the state. In some states, comprehensive coverage was sought from every print and electronic news source in the state. News media, sometimes referred to as “earned media,” was most beneficial for OP sTEP in that it offered widespread coverage without cost.

Reports from most states (16) described sending fill-in-the-blank press releases to local agencies. These were used more often prior to stepped up enforcement and less often immediately afterwards. More often than not, the local contact would fill in their agency’s name then deliver it to the local newspaper or radio or television station. In some cases, agencies would tailor their own message. A tailor made message appeared useful for providing specific details on local efforts thus helping to stimulate even more public interest.

Local agencies had more success receiving media coverage during the first few waves and less during the last. Interest in the media to print or broadcast an occupant protection message usually waned after a few waves. The less time between successive waves, the more likely the interest would decrease. On the other hand, a traumatic event related to occupant protection tended to generate more interest, especially if the event hit close to home.

Public Service Announcements

Most states (16) reported using Public Service Announcements (PSA) at some point. Most states created new PSAs, some reused ones that already existed. New PSAs took time to develop, therefore use was not widespread until after the first program quarter. By the end of the first quarter, several states were developing PSAs for the coming quarters.

PSAs can be an expensive technique for broadcasting a message. Expense lies not only in production cost but also in bought airtime. A radio PSA is less expensive than a television PSA and accordingly, radio PSAs were more common. Radio PSAs received more airtime and had the added value of reaching people while they were in a motor vehicle. In a number of states, radio PSAs were aired during rush hours when more people travel in motor vehicles. Most television PSAs provided viewers with visual images with the occupant protection messages. More often than not, television PSAs suggested the unforgiving and destructive forces of a crash.

Several states were able to obtain airtime paying partial or no cost. In some cases, media stations donated airtime, and in some other cases, airtime was bought under a leverage agreement.

Printed Materials

Distributing printed PI&E materials to the public was very common. Handouts were used in every OP sTEP state. Handout types varied but all included an occupant protection message. Common types included mock tickets, translations of the state’s seat belt law, coupons and vouchers and statistical information on crashes and their costs. Handouts were distributed at checkpoints, motor vehicle offices and in other public places like state fairs and shopping malls.

Other techniques to reach the public were used. Five states developed billboards with occupant protection messages. Billboards were often moved to different locations from wave to wave and were sometimes targeted to reach motorists in locations judged most in need of occupant protection improvement.

The OP sTEP program propagated partnerships in a number of states. Partnerships were helpful in a number of ways. For example, they would often provide location, service and in some cases funding for PI&E activities. Businesses reaped benefits from partnerships too, not only because they appeared interested in safety for the public, but also because they received press and advertisement too.

PI&E had many forms and not all were quantifiable, few were tracked and no standard reporting format existed for those that could be tracked. Still a relatively small number of states were able to provide comprehensive reporting even though reporting was either sporadic or non-existent for the rest. Numbers of newspaper articles printed was the most common enumeration of media data that was reported. Some states didn't report this at all. Airings of PSAs seemed even harder to quantify. A few states tracked the number of airings for their PSAs, however most did not report totals. More states only mentioned the development of PSAs. Quantities of handouts were rarely reported although the numbers produced would likely be known. Over 300,000 PI&E items were reported, printed or aired and countless others were mentioned.

Seat Belt Use

The cells in Table 8 show informal pre- and post-enforcement observation measurements and the difference achieved by calendar quarter. In some cases, states reported pre- and post-enforcement observations for more than one wave within the same quarter. If this was the case, measurements were stacked in top-to-bottom order for that quarter. Averages across states are provided in the bottom row.

Table 8. Pre- and Post-Enforcement Seat Belt Use by Quarter

State	Quarter 1			Quarter 2			Quarter 3			Quarter 4			Quarter 5			Quarter 6			Quarter 7			Quarter 8			
	Pre	Post	Diff	Pre	Post	Diff	Pre	Post	Diff	Pre	Post	Diff	Pre	Post	Diff	Pre	Post	Diff	Pre	Post	Diff	Pre	Post	Diff	
AZ				61.8	66.7	+4.9																			
				57.7	64.8	+7.1																			
FL	58.3	62.9	+4.6	60.0	64.3	+4.3	60.7	64.6	+3.9	62.4	66.1	+3.7			64.9	65.6	+0.7	62.2	63.6	+1.4	61.0	67.0	+6.0		
																					60.0	64.0	+4.0		
																					61.0	66.0	+5.0		
IL	64.0	66.9	+2.9	66.2	68.9	+2.7	66.3	68.2	+1.9	60.4	64.2	+3.8													
IN	55.0	61.0	+6.0	56.0	63.0	+7.0	63.0	68.0	+5.0	62.0	65.0	+3.0													
				63.0	68.0	+5.0				60.0	64.0	+4.0													
IA	46.4	66.6	+20.2	72.7	80.0	+7.3	77.0	81.3	+4.3	73.4	79.0	+5.6													
	66.0	75.0	+9.0																						
KY																									
MD																									
MN	60.6	63.1	+2.5	62.0	65.0	+3.0	64.0	65.0	+1.0	62.0	63.0	+1.0			63.0	65.0	+2.0	66.0	68.0	+2.0	60.0	63.0	+3.0		
							64.0	67.0	+3.0									65.0	69.0	+4.0					
MS				41.0	52.0	+11.0	50.0	54.4	+4.4	56.0	52.0	-4.0											37.7	49.0	+11.3
							47.0	48.0	+1.0	50.0	56.0	+6.0													
NV				63.8	63.4	-0.4	62.0	73.0	+11.0	59.0	64.0	+5.0	59.0	64.0	+5.0	62.0	60.0	-2.0	60.7	66.5	+5.8				
				66.0	69.0	+3.0																			
NI	52.3	55.3	+3.0	52.5	56.6	+4.1	56.7	60.3	+3.6	56.3	59.6	+3.3													
				55.3	57.5	+2.2																			
OR				79.3	85.1	+5.8				84.0	87.0	+3.0	80.0	85.7	+5.7	82.3	86.4	+4.1	84.0	88.0	+4.0	83.4	87.3	+3.9	
SC	57.3	61.5	+4.2				62.4	60.9	-1.5	60.3	66.5	+6.2			62.9	66.2	+3.3	66.5	65.6	-0.9	66.7	66.7	+0.0		
																		65.6	66.9	+1.3	60.7	65.5	+4.8		
																					66.2	66.2	+0.0		
																					64.7	69.7	+5.0		

TN																		
TX				69.6	78.2	+8.6	59.2	79.3	+20.1									
UT	55.6	52.2	-3.4	55.6	60.1	+4.5	55.6	64.3	+8.7				55.6	62.9	+7.3			
VT																		
VA				65.0	68.0	+3.0	65.0	67.0	+2.0									
WA										73.0	76.8	+3.8						
WI	49.6	54.8	+5.2	55.3	55.8	+0.5	55.8	56.9	+1.1	58.9	59.7	+0.8	57.2	57.2	+0.0	57.1	57.7	+0.6
	52.6	55.7	+3.1													59.2	59.4	+0.2
Avg.	56.2	61.4	+5.2	61.3	65.9	+4.6	60.6	65.2	+4.6	61.9	65.1	+3.2	67.3	70.9	+3.6	64.0	66.3	+2.3
																66.2	68.4	+2.2
																61.3	65.5	+4.2

Figure 2 shows the pre-to-post gain in seat belt use across all states and waves per calendar quarter. Gains in seat belt use were achieved every calendar quarter. Gains were greatest in the first three-quarters. Waves four through seven had smaller increases only to rise again in the eighth quarter. Quarterly pre-to-post wave increases averaged +3.7 percentage points.

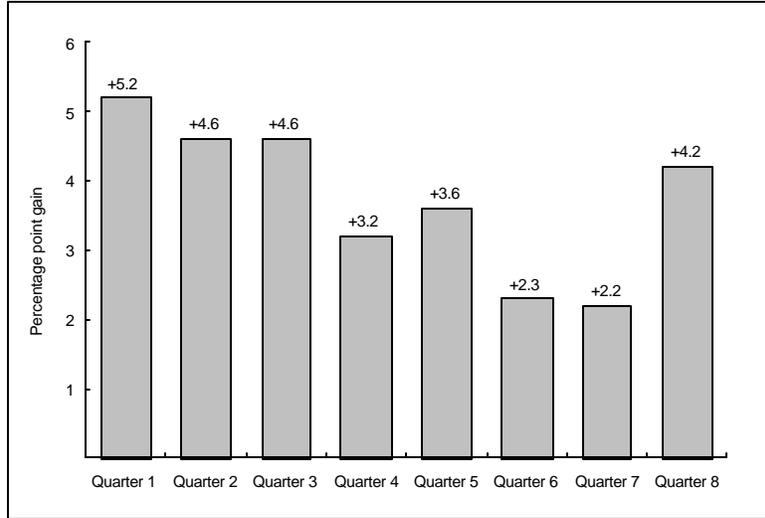


Figure 2. Pre-to-post measurement gain in seat belt use per wave

Figure 3 shows first pre-to-final-post percentage point differences in belt use achieved per state. Primary and secondary enforcement states are grouped accordingly. Collectively, secondary states did not achieve the same level of change as primary states did. The mean average for point differences across secondary law states was +5.6 percentage points compared to +16.8 percentage points for primary law states.

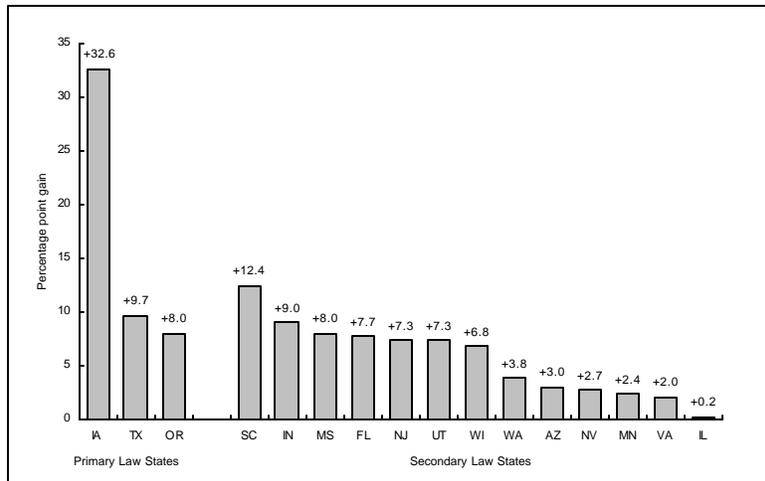


Figure 3. First pre to final post percentage point difference

Theoretically, a pre-to-post increase in seat belt use should be measurable across a wave when adequate enforcement and PI&E are carried out. Prior to a subsequent wave (if in relative proximate time), some slippage in use likely will occur, so that, when a subsequent pre-measurement is taken, use will be lower than the previous wave's post measurement. At the end of the subsequent wave, if adequate enforcement and PI&E are carried out, post measurements should be higher than the last wave's post measurement. This pattern should continue for some number of successive waves. If this were truly the case, when graphed the pattern might look like a tilted "saw blade." The pattern was evident only some of the time when looking at an individual state or across states by consecutive waves (Table 9). Inconsistencies were likely the result of new recruitment and loss of participating communities that changed the mix of agencies from which state averages were calculated. Reaching a "ceiling" in seat belt use was another possible factor.

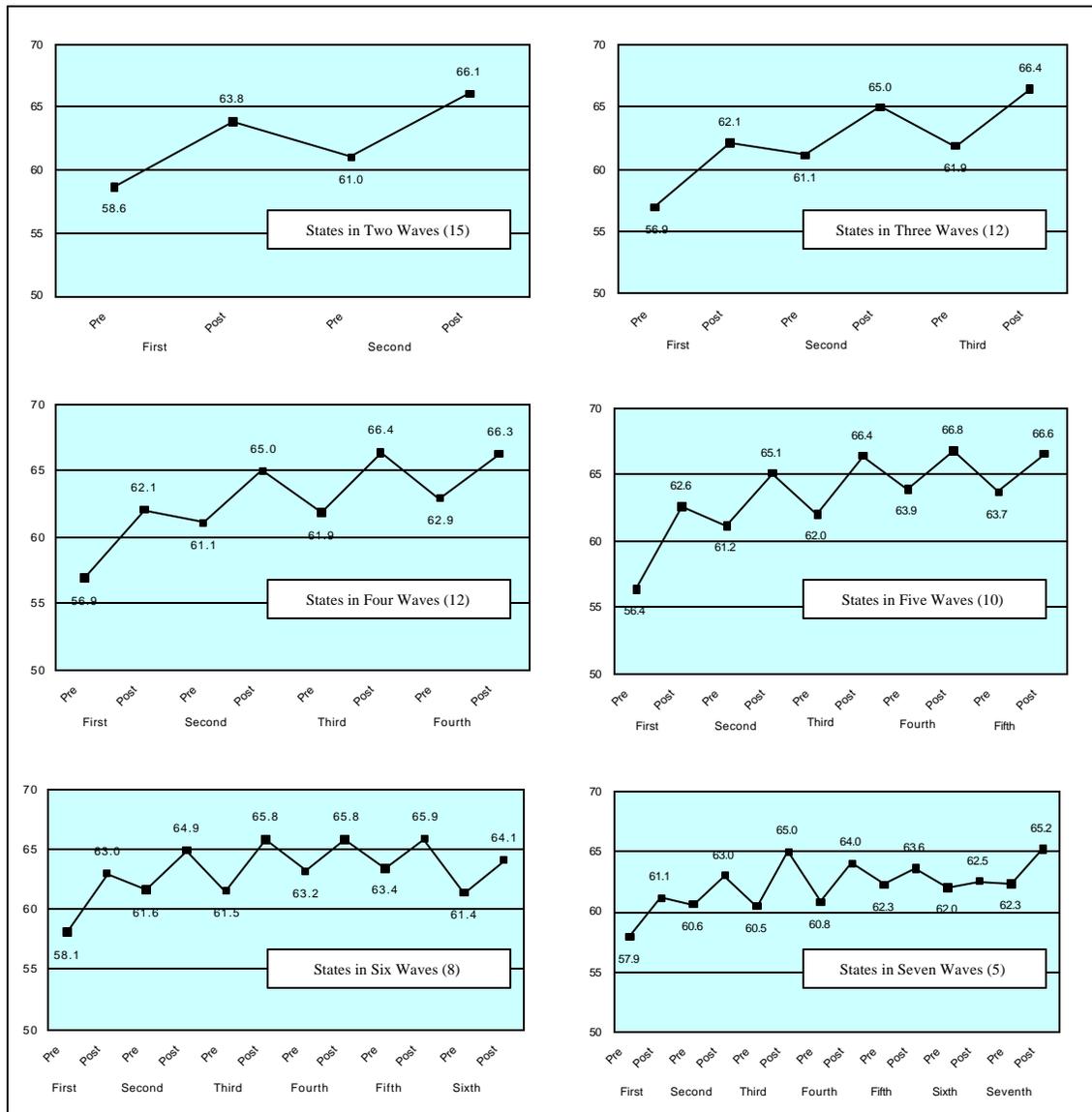
Table 9. Pre- and Post-Enforcement Seat Belt Use by Wave Order

	First		Second		Third		Fourth		Fifth		Sixth		Seventh		Eighth		Ninth		Tenth		
	Pre	Post																			
Secondary																					
KY																					
MD																					
TN																					
VT																					
WA	73.0	76.8																			
AZ	61.8	66.7	57.7	64.8																	
VA	65.0	68.0	65.0	67.0																	
UT	55.6	52.2	55.6	60.1	55.6	64.3	55.6	62.9													
IL	64.0	66.9	66.2	68.9	66.3	68.2	60.4	64.2													
NJ	52.3	55.3	52.5	56.6	55.3	57.5	56.7	60.3	56.3	59.6											
IN	55.0	61.0	56.0	63.0	63.0	68.0	63.0	68.0	62.0	65.0	60.0	64.0									
MS	41.0	52.0	50.0	54.4	47.0	48.0	56.0	52.0	50.0	56.0	37.7	49.0									
NV	63.8	63.4	66.0	69.0	62.0	73.0	59.0	64.0	59.0	64.0	62.0	60.0	60.7	66.5							
FL	58.3	62.9	60.0	64.3	60.7	64.6	62.4	66.1	64.9	65.6	62.2	63.6	61.0	67.0	60.0	64.0	61.0	66.0			
MN	60.6	63.1	62.0	65.0	64.0	65.0	64.0	67.0	62.0	63.0	63.0	65.0	66.0	68.0	65.0	69.0	60.0	63.0			
WI	49.6	54.8	52.6	55.7	55.3	55.8	55.8	56.9	58.9	59.7	57.2	57.2	57.1	57.7	59.2	59.4	52.7	56.4			
SC	57.3	61.5	62.4	60.9	60.3	66.5	62.9	66.2	66.5	65.6	65.6	66.9	66.7	66.7	60.7	65.5	66.2	66.2	64.7	69.7	
Average	58.3	61.9	58.8	62.5	59.0	63.1	59.6	62.8	60.0	62.3	58.2	60.8	62.3	65.2	61.2	64.5	60.0	62.9	64.7	69.4	
Primary																					
TX	69.6	78.2	59.2	79.3																	
IA	46.4	66.6	66.0	75.0	72.7	80.0	77.0	81.3	73.4	79.0											
OR	79.3	85.1	84.0	87.0	80.0	85.7	82.3	86.4	84.0	88.0	83.4	87.3									
Average	65.1	76.6	69.7	80.4	76.4	82.9	79.7	83.9	78.7	83.5	83.4	87.3									
Total Avg.	59.5	64.7	61.0	66.1	61.9	66.4	62.9	66.3	63.7	66.6	61.4	64.1	62.3	65.2	61.2	64.5	60.0	62.9	64.7	69.7	

Data received December 1995 through August 1998.

States were grouped and graphed according to a minimum number requirement for waves completed (Figure 4). Each graph in the figure represents average seat belt use across all states completing an indicated number of waves and shows consecutive pre- and post-enforcement measurements of seat belt use for those states for all waves leading up to that indicated number. For example, the upper-left graph represents 15 states completing at least two OP sTEP waves and shows measured seat belt use over waves one and two. Take for another example the lowest right graph – this graph represents the five states completing seven waves and shows measured seat belt use over waves one through seven for those states only. Collectively the graphs map measurement of seat belt use for states completing as few as two waves and as many as seven waves. Less than five states reported more than seven waves, a sample believed too small to graph.

A “saw blade” pattern is evident in each of the six graphs. Fifteen states reported seat belt measurements for two waves. Seat belt use increased across the first wave then lost some of the gain in between waves before increasing once again for a net increase of +7.5 percentage points. Twelve states reported measurements for at least three waves. Each wave produced an increase in seat belt use and between each wave seat belt use slid a fraction – the net increase after three waves equaled +9.5 percentage points. The same 12 states reported four waves of activity. A “gain then lose a little” pattern existed throughout the waves. Seat belt use was at its highest (66.4%) by the third wave, the fourth wave kept it near that level (66.3%), a +9.4 percentage point gain. Half of the 403 funded states (10) reported five waves of seat belt measurement. Seat belt use increased until the fourth wave (66.8%) whereupon it nearly remained after the fifth wave (66.6%).



(66.6%). A 10.2%

Figure 4. Pre- post measurements of seat belt use across all waves and all states by number of wave involvement

percentage point increase was accomplished in these states. Eight states in six waves had increases in seat belt use up until the fifth wave, then lost ground that wasn't fully recovered in the sixth wave. Even still, seat belt use increased +6 percentage points. All but one state completing six waves completed seven waves – so it would be expected that the graphs would have some level of similarity. However, the state that dropped out is a primary law state with higher than average use rates. When removed the line mapped very differently. Nevertheless, the five secondary law states in seven waves reported that seat belt use increased the first three waves only to lose some of the increase achieved for three consecutive waves. Seat belt use was highest (65.2%) by the end of the seventh and final wave. These states achieved a +7.3 percentage point increase.

Seat belt use was tracked over consecutive waves for both primary (2) and secondary (8) law states (Figure 5). The graph lines in Figure 5 represent only those states that completed five or more waves – only the first five waves are included.

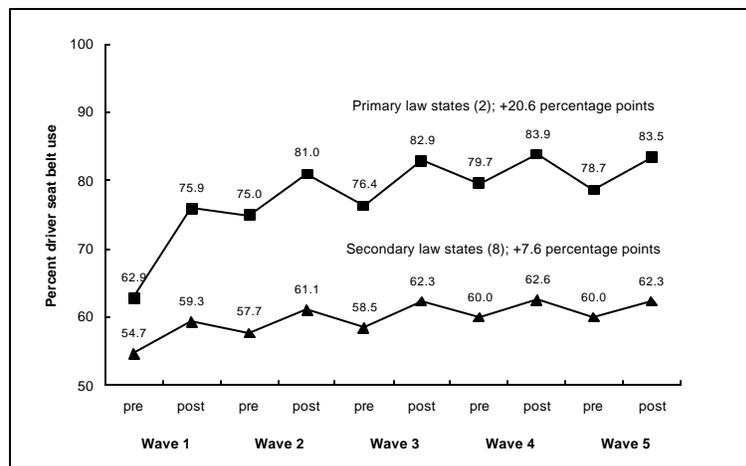


Figure 5. Primary law states versus secondary law states participating in five or more waves

Tracking primary and secondary law states separately allowed for wave-to-wave comparisons over an extended period of time. Primary law states began the program with a higher use rate (62.9%, first wave pre-observation) than the secondary law states (54.7%). Seat belt use rose immediately as the first OP sSTEP waves were carried out. The effects were greater for primary law states (+13.0 percentage points) than for secondary law states (+4.6 percentage points). Seat belt use continued to increase across all states over the next three successive waves during which pre-to-post gains were greater each wave in the primary law states. By the start of the fifth wave, post-measurement increases had ceased. After five waves, the total increase for secondary law states (+7.6 percentage points) was not as large as in primary law states (+20.6 percentage points).

Only one state provided alcohol related crash statistics. Reports from a number of states indicated that they knew no way to access the data other than state crash files and that these data would not be available until e years after ending their program. This may be solvable and NHTSA may consider helping states find ways to overcome this problem. As such, without alcohol related crash data relative to participating communities, it was impossible to measure the differences OP sSTEP may have had.

V. RESULTS – CASE STUDY

Background

The 403-funded occupant protection special traffic enforcement programs of Indiana, Iowa and New Jersey were selected for detailed evaluation.

One of the three case study states (Iowa) has a primary seat belt law that provides that officers may stop unbelted drivers to issue citations, even if there is no other offense. New Jersey has a secondary law, where seat belt citations may be issued only when a driver has been stopped for violation of another traffic law. At the time site visits were made, Indiana had a secondary law. Indiana's secondary seat belt law complicated enforcement efforts for it exempted pickup trucks and vans registered as trucks.

All three states had previous experience conducting special traffic enforcement programs prior to the initiation of the 403-funded effort. All had previously conducted special enforcement efforts targeted against drunk driving and countermeasure programs to promote seat belt use.

Indiana had the earliest start on the program, conducting the first wave of enforcement in September 1994. At the time site visits were made, August 1996, Indiana was implementing wave eight enforcement efforts. Iowa and New Jersey began their programs in the second half of 1995. Iowa's fifth wave was observed in August 1996 and New Jersey's fifth wave was observed in October 1996.

Indiana chose to combine the 403-funded enforcement waves with other special enforcement efforts and promote all of them under an umbrella campaign known as "Operation Pull-Over." Iowa kept the identity of the program (OP-sTEP) separate, but coordinated the timing of the effort with its pre-existing "Campaign Safe and Sober" cycle. Both Iowa and Indiana gave more or less equal emphasis to impaired driving and seat belts. New Jersey completely segregated the effort from other special enforcement programs and focused the program entirely on seat belts.

Organization

In all three states, the program was planned and administered by an existing Governor's Traffic Safety organization. In Iowa, The Governor's Traffic Safety Bureau (GTSB), an agency of the Department of Public Safety, directed the program. In New Jersey, the program was directed by the Division of Highway Traffic Safety, a component of the Department of Law and Public Safety. The Indiana program was conducted by the Governor's Council on Impaired and Dangerous Driving (GCIDD), which shares offices and some staff members with the Governor's Commission for a Drug-Free Indiana, within the Criminal Justice Institute.

Local law enforcement agencies did the bulk of the grant-funded enforcement in all three of the states. Most of the federal funds for the program were re-distributed to the local agencies to reimburse them for overtime costs paid to officers participating in extra patrols.

Indiana officials said they probably would have implemented "Operation Pull-Over" whether the 403 grant funds were available or not (only \$175,000 of "Operation Pull-Over's" \$2 million annual cost was funded by the 403 grant). However, the additional funding permitted the state to extend enforcement into 30 counties, which wouldn't have been covered if the 403 grant had not

been available. Iowa also appeared to use this program to establish additional outreach to agencies that would not have been reached by their Campaign Safe & Sober and Operation Buckle Down efforts financed by 402 and 410 funding. As a stand-alone program, New Jersey's 403 grant efforts were entirely incremental.

In all three states, the local law enforcement agencies that received grant funding were required to implement all of the basic elements of the sSTEP demonstration model. The requirements included timing of extra patrols, local publicity, seat belt use surveys and reporting of citation activity.

Law Enforcement Participation

Iowa's OP sSTEP enforcement waves involved 22 local law enforcement agencies that received 403 funded mini-grants of \$2,100 each. The efforts also included participation by other state and local agencies including many funded from other sources. It has been estimated that over 70% of the state's population reside in jurisdictions covered by participating agencies.

Indiana claims that 325 law enforcement agencies have participated in Operation Pull-Over since 1994. Initial participation was 118 agencies, growing to about 200 by wave five and stabilizing at about 200 after that. Relatively few of these agencies, however, were directly funded by the 403 grant. Most of them fulfilled the requirements of the sSTEP demonstration model as a condition of receiving grant funds for other programs such as alcohol enforcement or speed enforcement. The total program easily encompassed over 80% of the state's population, but the efforts of 403 funded agencies probably covered much less, since participation of the most populous counties (Marion and Lake) was funded by alcohol and community traffic safety programs. Indiana did not segregate the results of agencies funded by 403 from those funded by other programs.

New Jersey's program funded 37 local law enforcement agencies. Eight of the participating police agencies were added after the initial enforcement wave. The state did not achieve its goal to cover jurisdictions encompassing 80% of the states population due to difficulty in recruiting large municipal police agencies. The participants tended to be located in suburban and rural communities. New Jersey's reported results include only the activities of funded agencies and only the results of patrols funded directly by the grant.

State Police participation in the OP sSTEP was minimal in New Jersey, but quite extensive in Iowa and Indiana. In New Jersey, the State Police helped to publicize OP sSTEP enforcement waves by issuing "mock tickets" to all motorists stopped at State Police DUI checkpoints during the enforcement periods. The Superintendent of State Police also made public appearances at kick-off events preceding each wave. State Police received no 403 funding for these efforts.

Iowa State Police played a very active supporting role. Often, they provided aircraft and manpower to augment local activities such as safety checkpoints. State Police facilities also were utilized as command centers for multi-agency corridor enforcement activities. The state Department of Transportation and Department of Agriculture also staffed checkpoints with truck inspectors. These state agencies received no 403 funding for their contribution to the effort.

The Indiana State Police participated in Operation Pull-Over since its inception, increasing the agency's traffic patrols during each enforcement wave. They used all kinds of tactics, including checkpoints, saturation patrols and roving patrols. The State Police often participated in checkpoints organized by local law enforcement agencies and sometimes initiated checkpoints by organizing local

participation. Although the State Police did not conduct seat belt observations at the beginning and end of enforcement waves, they did report citation activity and manpower statistics. The Indiana State Police effort was not 403 funded.

Training

In all three states, specific training for the OP sTEP consisted mainly of familiarizing participating agencies with the requirements of the demonstration model and administrative procedures necessary to comply with the terms of the grant. All three states offer police officers in-service training on seat belt and child restraint use through other programs, but special training was not required as a condition of the grant.

Motivation

The law enforcement agencies visited during the case studies tended to be proactive regarding traffic enforcement. Most had officers dedicated to traffic enforcement on a full time basis, and almost all said that a major proportion of patrol officers' time is spent on traffic patrols or responding to traffic related calls. Some police agencies in every state made a point of mentioning that they regarded traffic patrol as a primary element in their crime-prevention strategy, especially agencies located in suburbs of large cities.

There is no question that the availability of grant funding was a positive motivation for participating in the program. All of the patrol manpower charged to the program by grant funded agencies was for overtime, incremental effort that the agencies could not have afforded if the program did not exist. In all three states, grants were structured in a way that required in-kind support from the participating agencies. They did not get any compensation for time spent on publicity, seat belt surveys, administration or court time. Several of the participating police agencies were planning to support significant locally funded seat belt education and enforcement efforts.

Enforcement Activity

The three case study states differed from one another with regard to the types of activity funded by the grant. New Jersey's program was tightly structured, while Indiana and Iowa were more flexible.

The New Jersey program reimbursed agencies at the rate of \$35 per hour for overtime patrols during each two week wave. The basic structure of the grant called for eight four-hour patrols during each wave. However, in the fifth and final wave, agencies were authorized to put on extra patrols to use up any authorized funding they had not expended due to late starts on the program or patrols that had been canceled for one reason or another. Although the terms of the grant did not specify time of day, most of the patrols were done during the daytime, since the singular objective of the program was clearly understood to be seat belt enforcement. The rationale for daytime patrols was that it is easier to spot seat belt violations in daylight.

Most patrols observed in New Jersey were done by a single officer in a patrol car. Since New Jersey does not have a primary seat belt law, results depend entirely upon an officer's ability to find legitimate probable cause to make stops. Each officer had his own ideas about where to patrol and what tactics to use to generate a high volume of stops. The officer's choice of locations and whether to rove or monitor speeds from a stationary position was usually based on the officer's past experience and subject to immediate change if a tactic was not working. In all but one

of the observed patrols, speed was the most prevalent stopping charge. Officers also were very alert in spotting expired stickers and faulty equipment (usually lights) and violations such as improper turns or failure to stop. The one patrol in which excessive speed was not the predominant violation was a situation where traffic was very dense and speeding nearly impossible. In this case, nearly all of the stops were for expired inspection stickers.

Iowa reimbursed a variety of overtime enforcement activities associated with OP sSTEP. Local law enforcement agencies were required to do at least four hours of seatbelt enforcement at some time during the one-week enforcement waves and were asked to participate in all five waves. Agencies could choose to implement local activities, joint activities with other localities and sometimes were involved in multi-agency corridor enforcement activities. Of the 22 agencies funded by mini-grants, only three missed any individual OP sSTEPs over the five waves.

Most Iowa police agencies chose to implement daytime patrols, because they are safer and easier to staff. Both individual patrols and checkpoints were used in Iowa. Although sobriety checkpoints are not legal in the state, safety checkpoints are legal. A typical safety checkpoint, observed while in progress, was commanded by a county Sheriff and staffed by about ten officers. Most of the officers were the Sheriff's Deputies, but the Department of Transportation, Office of Motor Carriers and Department of Agriculture also had truck inspectors on site. Iowa State Police supported the activity with an aircraft, a neighboring community provided a portable crime lab unit and a nearby municipality provided seven emergency squad members to direct traffic.

The Iowa GTSB also organized "Corridor Enforcement" efforts scheduled to occur during OP sSTEP enforcement waves. Multiple law enforcement agencies participated in simultaneous coordinated enforcement activities on long highway segments selected on need-based criteria. Eight of these were conducted over the five waves. All local law enforcement agencies along the corridors were contacted well in advance and involved in planning each event. Agencies were given a wide range of options regarding their participation, from individual patrols in their own jurisdiction to multi-agency checkpoints. GTSB command centers, in Iowa State Patrol facilities, provided field coordination while events were in progress.

Indiana's Operation Pull-Over coordinated a wide variety of traffic enforcement activities within the planned OP sSTEP schedule. As noted previously, some of these efforts were 403 funded, but many police agencies participate as a quid pro quo for other 402 or 410 funded grants. Accordingly, virtually every type of enforcement activity imaginable took place during the Operation Pull-Over blitz periods. Observed activities included daytime patrols, nighttime patrols and sobriety checkpoints. Strategies and tactics were locally determined to fit each area's needs.

Lack of a primary seat belt law posed enforcement problems for both New Jersey and Indiana. Since drivers can't be stopped solely for failure to wear a belt, seat belt violations always were multiple citation situations. On the observed patrols in both states, there was a general reluctance among officers to write multiple citations. Most officers prefer to write only the offense they perceive as being most serious, which usually is speeding. The Indiana State Police changed their long-standing policy against writing multiple traffic citations to deal with this problem. Drivers not belted were now cited both for the stopping charge and the seat belt violation. Although most of the local officers placed special emphasis on writing seat belt citations during OP sSTEP waves, some let violators off with warnings, even in the presence of an observer.

Reporting

In compliance with the sTEP model, all three case study states required grant-funded agencies to report statistics on citations issued during enforcement waves. It should be noted, however, that the statistics are not comparable between states. New Jersey's results include only citations written by 403 grant funded agencies on OP sTEP activities. Both Indiana and Iowa include the efforts of agencies funded by other grants. Furthermore, many of the local law enforcement agencies in Indiana include all traffic citations written during the blitz periods, including those written on regular patrols.

Seat Belt Observation Surveys

All three case study states compiled and submitted seat belt use statistics as required by the grant. The statistics were gathered by law enforcement agencies that conducted observational surveys before and after each enforcement wave. Indiana and Iowa included observations of participating agencies funded by other grants and New Jersey does not.

The site visits to local law enforcement agencies revealed some instances in which the methods used to gather seat belt compliance statistics were somewhat questionable. Some police agencies did not understand that the observations needed to be systematic, always observing at the same location, on the same day of the week and at the same time of day. Although procedural lapses were occasionally the result of agencies being too busy to conduct the surveys systematically, the usual reason was that they were never trained to do so.

Perceived Benefits

All of the law enforcement agencies perceived that their participation in the OP sTEP benefited their agencies and communities. First and foremost, the program put patrols on the road that agencies would not have been able to afford otherwise. Most said that the safety benefits of the program transcend the issues of seat belt use and drunk driving, generally promoting safe driving at times of especially high crash incidence. Many also mentioned general crime prevention benefits resulting from increased traffic patrols. The sTEP activities, in many cases, also put law enforcement agencies in contact with other police agencies, fostering inter-agency cooperation and increasing the professionalism of participating officers.

Suggested Improvements

While most of the agencies visited during the case studies felt no improvements were needed, a few made some constructive suggestions. Timing of enforcement waves was the most frequently mentioned issue. Several agencies in Indiana said that they wished that the enforcement periods were shorter than two weeks. The reason was that two weeks is an awkward period on which to keep records. The agencies that had this problem were very large (Indiana State Police and Indianapolis Police Department). Their computer systems are geared to monthly reporting, so they needed to keep records off-line, and a shorter period would be less labor intensive. One agency also mentioned that the wave to support National Child Passenger Safety Week and Valentines Day is not an optimal use of resources, suggesting that additional summer activities would be more productive. Several local law enforcement officials wished that schedules could be more flexible to accommodate local events that occurred at times other than the scheduled OP sTEP waves. Other suggestions included clearer communication of program rules, training on how to conduct seat belt observation surveys, additional funding to cover court time generated by program generated citations and additional funding for public information and educational efforts.

Public Information and Education

Each of the case study states needed to deal with different media constraints and adopted appropriate communication strategies to fit the situation.

New Jersey, which is quite compact, but has few commercial television stations, generally kicked off each wave with an event accessible by New York and Philadelphia television stations, in an attempt to get news coverage from both of these neighboring markets. Their publicity strategy relied heavily on coverage by local newspapers and radio stations through press releases and contacts by participating, local law enforcement agencies. The Highway Traffic Safety Division also developed seat belt public service announcements (PSAs) for radio and public television and a billboard campaign taking advantage of space donated by an outdoor advertising company. No 403 funds were expended for paid advertising.

Iowa utilized the services of an advertising agency already under contract to publicize Campaign Safe and Sober to promote OP sTEP waves. In addition to disseminating news releases to virtually every newspaper, radio station and television station in the state, the media contractor negotiated a deal with the Iowa Broadcasters Association to contribute free airtime for PSAs in exchange for paid advertising (using General Motors funding). The deal netted a four-to-one ratio of airtime for the PSAs. Development of the PSA's was 402 funded. A billboard campaign also was implemented, utilizing donated space. Two "kick off" events were held. The first was from the Capital Rotunda, featured the Governor as keynote speaker and preceded the first wave. The second preceded wave three and featured law enforcement officials from participating agencies. Considerable publicity also surrounded the "Corridor Enforcement" events that were coincidental with OP sTEP waves.

Indiana utilized kick-off events to publicize each wave, and each wave was somewhat different. During the observed wave, the Governor's Council on Impaired and Dangerous Driving organized and staffed booths at six regional events around the state. The observed activity was on the "midway" of a county 4-H Fair in South Bend. A local radio station did a live remote broadcast from the site, interviewing the GCIDD law enforcement coordinator about the upcoming enforcement wave. The Indiana program had a three person Public Information and Education staff and also utilized the services of an advertising/public-relations agency to promote Operation Pull-Over. The agency produced and placed radio and television PSAs using a combination of paid and donated airtime (403 funds were not used for paid advertising.). The agency often arranged joint promotions with its commercial clients. GCIDD also had a free license to use the Garfield the Cat character for its promotions, courtesy of the character's creator, an Indiana resident.

In all three case study states, local law enforcement agency contact with the media usually contributed most to OP sTEP wave publicity. Most of the agencies questioned about press cooperation reported that they were successful in getting coverage, although it became increasingly difficult to get publicity with each successive wave. Several agencies commented that the waves are so close together that it is difficult to make them newsworthy. In general, it was easier to get publicity from smaller newspapers than the major market media.

VI. CONCLUSIONS

Report Requirements

Well-coordinated OP sTEPs were effective in both primary and secondary law states. The foremost focus of these programs was seat belt enforcement that was usually accompanied with some other issue, such as speed or alcohol, emphasized to a lesser degree.

Periodic waves of enforcement focused on seat belt use. During periods of wave enforcement over one-quarter of a million seat belt citations (273,437) were issued, only speeding citations were more numerous (391,605). Additionally, over half a million (572,290) other citations and arrests were the result of enforcement waves.

Periods of enforcement were usually accompanied with widespread publicity efforts that focused mostly on seat belt use. Over 300,000 public information and education items were aired, printed or distributed, a number known to underestimate what actually occurred. Few publicity efforts were reported funded by 403 grants alone. Many newspaper articles publicized law enforcement agencies' participation. This was probably good in that articles published in a local newspaper are likely to bring the occupant protection message "closer to home." An added benefit is that this type of "earned media" coverage is free of charge. There were no noticeable differences in level of PI&E and media activity between primary and secondary law states.

Officers in secondary law states issued proportionately fewer seat belt citations compared to officers in primary law states. This was evident in dissimilar proportions of seat belt tickets per total citations issued (46% for primary law states versus 21% for secondary law states). Keep in mind that motorists in secondary law states must be stopped first for reasons other than solely failing to wear a seat belt.

There are primarily two reasons why motorists buckle up. One is the perceived risk of injury and the other is the perceived risk of receiving a citation. Previous research by NHTSA has suggested that states with primary laws will, in general, have significantly higher seat belt use rates because perceived importance of the law by both the public and the police leads to greater compliance with the law (NHTSA, 1995). Across all OP sTEP grant states, seat belt use rates improved; however, the secondary law states did not achieve the same level of positive change as the primary law states. The mean average for percentage point differences across secondary law states was +5.6 percentage points compared to +16.8 percentage points for primary law states.

The motoring public buckles up because of consequences for not being buckled up – it is felt that the portion of the public who fear the risk of a ticket are more likely to buckle up when there is primary law that officers are willing to enforce. Results from this evaluation suggest that efforts should be directed towards improving legislation that would make failure to wear a seat belt a primary offense.

Case Study

In the case study states, the occupant protection special traffic enforcement program grant accomplished what it was designed to do, generate incremental law enforcement efforts against seat belt violations. Almost all of the money was used directly to compensate police officers for overtime patrols that would not be on the road if the program did not exist.

Requirements of the grant were sufficiently flexible to support a wide variety of enforcement to fit differing state laws, police agencies capabilities and local enforcement needs.

In two of the three case study states (Iowa and Indiana) the timing requirements of the 403 funded OP sTEP have focused enforcement efforts funded from other federal, state and local sources on the same time periods, resulting in heightened enthusiasm among participating law enforcement agencies and greater public awareness.

In all three of the case study states, enforcement waves were accompanied by well orchestrated publicity efforts that were successful in raising public awareness regarding use of seat belts, the danger of drunk driving and the wisdom of driving safely during heavy travel periods around holidays. The fact that the enforcement waves are not every-day events gives them news value and makes it easier to get press coverage. A significant proportion of publicity was generated by local law enforcement agencies and none of the publicity efforts were funded through the 403 grant alone.

In all three states, OP sTEP grants to local law enforcement agencies were leveraged by significant costs that were borne by the participating agencies. None of the costs for use of equipment, administration, seat belt use surveys, promotional activities, and court time arising from arrests were reimbursed by the grants.

Although most of the grant funds went to local law enforcement agencies, the program garnered significant additional support and participation by state police, especially in the states that combined 403 funded enforcement efforts with those funded by other programs.

The 403 funded patrols were perceived by law enforcement agencies as having benefits that go beyond the stated program objectives of increasing seat belt use and reducing drunk driving. The extra patrols were perceived to be an effective countermeasure to the full array of highway safety issues as well as being a deterrent to criminal activity.

The program was noticeably effective in changing police officers' practices (if not their attitudes) regarding seat belt enforcement, especially in states without primary seat belt laws. Most officers regard failure to wear a belt to be a less serious violation than most other traffic offenses. They also are reluctant to issue multiple citations when they stop ordinary citizens, so seat belt violations tend to be warned rather than cited. Since officers knew that seat belt enforcement was the primary purpose of these patrols, most changed this practice, at least for the duration of the grant funded patrols. The Indiana State Police even changed their long-standing policy to cite only the most serious offense and informed the public that they should expect two tickets if they are unbelted when stopped.

Reported measurements of citation activity were not comparable among states, because the states have differing practices regarding what results are included. Indiana, for example, includes the results of agencies that are funded by other grants and allows agencies to include citations issued by regular patrols during enforcement waves. New Jersey, in contrast, reports only citations issued by participating agencies on 403 grant-funded overtime patrols.

While almost all of the participating law enforcement agencies fulfilled the grant's requirement to conduct observational seat belt use surveys before and after every enforcement wave, some were inconsistent in their application of survey procedures. In addition to tainting overall measurements, inconsistent observational survey procedures have misled some police agencies to conclude that their efforts have not produced measurable results. Specific training is recommended, stressing the importance of exactly replicating the procedures every time a survey is done.

Most police agencies were very satisfied with the structure of the program. Some, however, suggested changes in the timing of enforcement waves. Some felt that the wave scheduled in the first quarter is not the most productive use of resources and would like to shift more activity to summer months. Others remarked that they would like more flexibility to shift the timing of extra patrols to accommodate local events. An additional comment was that waves would get more publicity if they were less frequent.

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