Driving While Impaired Arrest Process Improvement

Six Case Studies of Strategies Used by Law Enforcement to Reduce the Cost and Time of Processing a DWI Arrest

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16. Abstract

This final report of the Driving While Impaired Arrest Process project includes six case studies of strategies used by law enforcement to reduce the cost and time of processing DWI arrests. The objectives of this study are to identify law enforcement agencies that have made improvements to their DWI arrest procedures that have resulted in time and/or cost savings, and gather data from these jurisdictions to describe any such savings experienced as a result of these improvements. The improvements, their resulting time and cost savings, as well as experiences regarding the implementation of these improvements are described in this report and used to inform the development of a roadmap that other agencies can rely upon if they are interested in implementing these types of solutions.

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Executive Summary

The time required for law enforcement officers to complete a driving while impaired[1] (DWI) arrest can be substantial. Therefore, the objectives of this study were to identify law enforcement agencies that have made significant improvements to their DWI arrest procedures and to describe any of the resulting cost and/or time savings. The goals of this study are to:

- Determine what strategies law enforcement agencies are using to reduce the cost and/or time of processing a DWI arrest;
- Identify law enforcement agencies that have made such improvements;
- Gather data to describe and quantify the cost and/or time savings associated with these processes;
- Capture the experiences of States/local agencies in undertaking these improvements; and
- Combine these results into a report that assists other agencies in adopting these strategies.

Interviews were conducted from March to August 2015 with representatives of the following agencies:

- California – Fresno Police Department;
- Louisiana – Louisiana Highway Safety Commission;
- Minnesota – Minnesota Office of Traffic Safety, Minnesota State Patrol;
- Texas – Texas Department of Transportation, Austin Police Department;
- Utah – Utah Attorney General; and
- Washington – Washington State Patrol.

Based upon the information obtained during these interviews, we documented the following approaches to reducing time and/or costs associated with a DWI arrest:

- ECitation, Fresno, California Police Department: The Fresno Police Department implemented the eCitation program, which consists of using electronic ticket writers and a software program to issue citations. The system has an auto-populate function to avoid the entry of the same data multiple times and can validate data upon entry into the system. Due to cost and time savings, the Fresno Police Department no longer needs to rely on the 10 data entry clerks they previously required to manage the paper forms.

- LADRIVING, Louisiana: LADRIVING is an automated DWI citation processing system that is designed to streamline the way that DWI arrests are recorded in

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[1] The abbreviation DWI (driving while impaired or intoxicated) is used throughout this report as a convenient descriptive label and to create consistency, even though some States use other terms such as OWI (operating while impaired or intoxicated) or DUI (driving under the influence), and in some States these terms refer to different levels of severity of the offense.

Louisiana. LADRIVING offers a standardized electronic interface that enables all Louisiana law enforcement officers to enter, process, review, approve, query, and report DWI arrest data on a standardized form. LADRIVING has reduced the length of the arrest process by approximately 50 percent. Previously, it took officers 5-6 hours to process one arrest. Officers using LADRIVING can complete this task in half the time or in as little as 2 hours, depending on the proficiency level of the arresting officer.

- ECharging, Minnesota: Minnesota implemented eCharging as an electronic citation system with the intention of simplifying the entire DWI arrest process given the complexity of the DWI statute. In addition, the system provides web-based training for breath test instrument operators. The system is comprehensive and capitalizes on the automation of different steps of the DWI arrest process, such as determining the number of prior DWI convictions according to State Statutes. Previously, it took 1 to 3 hours for the officers to fill out forms that can now be completed in as little as 9 minutes. ECharging not only saves time in the field for the arresting officer but it also reduces the time that records managers at the Department of Vehicles and Services spend on cases. It was reported that records staff previously took 20 minutes to enter information related to a DWI arrest; presently this time has been reduced to approximately 4 minutes on average.

- EWarrant, Utah: The eWarrant electronic system makes the process of requesting a warrant to obtain a blood sample from a judge more efficient. When officers log in to the system to request such a warrant, they use a unique ID, which pulls up fields that only need to be entered once (e.g., identifying information about the officer or information to demonstrate an officer's experience and expertise). The eWarrant system can be used on a desktop/laptop or handheld device. The system includes a "probable cause" box that enables officers to provide a narrative that describes relevant aspects of the case in detail. This information is reviewed by a judge who signs off on the warrant. Warrants can be obtained in a few minutes.

- TOXE, Utah: Once a warrant is obtained through eWarrant in Utah, law enforcement officers trained as phlebotomists will collect blood samples. To ensure these officers are properly trained, TOXE was developed as an instructional program that teaches law enforcement officers how to properly prepare, package, and send blood and urine samples to the laboratory. This was a necessary feature since a substantial proportion of samples had been previously rejected because packages were not properly prepared or sealed. Preliminary findings regarding the TOXE training indicate that the sample rejection rate after using the TOXE training program has decreased from arrange of 18to 23 percent down to 3.8 percent.

- DWI Enforcement Unit, Austin Police Department: This unit consists of specially trained officers who conduct DWI arrests and are part of a dedicated task force. The officers in this unit can process a DWI arrest in approximately 1.5 hours, compared to 3.5 hours before the unit existed.

- ■ The Mobile Impaired Driving Unit (MIDU), Washington State Patrol: MIDU was implemented in 2006 by the Washington State Police. It is a self-contained 36-foot motorhome which acts as a mobile DWI processing center and an incident command post. The unit is equipped with all the necessary tools to carry out a detailed DWI arrest, including three breath test instruments, two temporary holding cells, and access to Washington State Patrol dispatch and computer work stations. Presently, the overall average time for an alcohol-related arrest using MIDU is 2 hours, compared to the 4 hours that were needed before MIDU was implemented.

All data obtained from these interviews have been synthesized to develop a roadmap that other agencies can use to guide the implementation of their own solution. This roadmap is described in the final section of this report as a recommendation for agencies that want to strengthen and streamline their DWI arrest processes.

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1.0 Introduction

1.1   Problem Statement

Unprecedented declines in the drinking-and-driving problem occurred during the 1980s. Based on declining trends in the percent of fatalities that were alcohol-related, progress continued through the 1990s, although the gains were far less impressive (Simpson & Robertson, 2001). In the new millennium, data from the Fatality Analysis Reporting System (FARS) revealed that alcohol impaired-driving fatalities in crashes involving drivers with blood alcohol concentrations (BACs) of at least .08 gram per deciliter (g/dL) declined by 27 percent from 13,582 in 2005 to 9,967 in 2014 (NCSA, 2015). More recently, from 2013 to 2014, fatalities in such alcohol-impaired-driving crashes decreased by 1.4 percent (10,110 to 9,967 fatalities). Looking at the number of fatalities by 100 million vehicle miles traveled (VMT), there has also been a reduction of 27% from 0.45 in 2005 to 0.33 in 2014 (NCSA, 2015). While there are notable reductions in absolute numbers and according to the VMT rate, reductions in terms of the proportion of fatalities in alcohol-impaired driving crashes out of all crashes are not immediately apparent. To illustrate, in 2014, this was 31 percent of total traffic fatalities (NCSA, 2015) and this percentage has not declined significantly (Goodwin, Thomas, Kirley, Hall, O'Brien, & Hill, 2015). This phenomenon of stagnated progress has not been exclusive to the United States. It has also occurred in other jurisdictions, including some in Canada, Australia, and Europe (Mayhew, Vanlaar, Robertson, Marcoux, Brown, & Boase, 2013, Fell & Romano, 2013).

Research has demonstrated that enforcement can be a very effective way to combat alcohol-impaired driving, especially high visibility enforcement through publicized sobriety checkpoints, as well as high visibility saturation patrols (Goodwin, Thomas, Kirley, Hall, O'Brien, & Hill, 2015). In light of the magnitude of the problem and the need for continued progress, this report describes solutions to improve the efficiency of the arrest process for driving while impaired[2] (DWI), especially as it relates to saving time and/or costs. This is particularly timely given how time-consuming the DWI arrest process has become. To illustrate, a report based on data collected among 2,731 law enforcement officers from both State and local agencies with the support of the Highway Safety Committee of the International Association of Chiefs of Police (IACP)

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[2] The abbreviation DWI (driving while impaired or intoxicated) is used throughout this report as a convenient descriptive label and to create consistency, even though some States use other terms such as OWI (operating while impaired or intoxicated) or DUI (driving under the influence), and in some States these terms refer to different levels of severity of the offense.

concluded that law enforcement officers believed the DWI arrest process was complex, detail-laden, and time-consuming (Simpson & Robertson, 2001). Law enforcement officers reported that making an arrest had become so onerous that it was often frustrating, discouraging, and even intimidating to some officers. It further reported that police believed new technological applications such as mobile computers, computerized forms, bar-code readers and digital dictation systems could improve the efficiency and effectiveness with which they enforce DWI laws. A study by the Volpe Institute (Volpe National Transportation Systems Center, 2008) about this issue based on an exploration of new and emerging technologies drew similar conclusions.

Technological applications can enable law enforcement to better address the concerns they face with respect to their resources (budgetary and manpower) by reducing the labor associated with processing DWI arrests. Overall, these applications can yield savings in time, energy, resources and funds associated with the DWI arrest process. For example, a streamlined arrest process enables officers to devote more of their time in the field to enforce the law and detect alcohol-impaired drivers. A streamlined arrest process can produce positive residual effects such as increasing the motivation of officers to initiate DWI detection/arrests as well as improving the safety of these officers on the road (Voas & Lacey, 1988). In addition, automating the DWI arrest process can potentially increase the accuracy of data collection and reduce errors that result from the transposition of characters and incomplete entries. Furthermore, improvements in the timeliness and accuracy of collected DWI data can help ensure that prosecutors have sufficient evidence to secure a conviction (Robertson, Vanlaar, Simpson, & Boase, 2009). In a 2015 study, State and local law enforcement agencies were surveyed about their DWI enforcement activities (Eichelberger & McCartt, 2015). According to this study, when asked about the biggest challenges their agencies faced in conducting DWI enforcement, staffing was cited by 56 percent of agencies, lack of funding by 24 percent of agencies, and excessive paperwork by 6 percent, further emphasizing the need for more efficient solutions to process DWI arrests.

This report is meant to provide an overview of solutions that can help reduce the time and cost associated with conducting an arrest.

1.2   Objectives

The objectives of this study are to identify law enforcement agencies that have made improvements to their DWI arrest procedures that have resulted in time and/or cost savings, and gather data from these jurisdictions to describe any such savings experienced as a result of these improvements. The improvements, their resulting time and cost savings, as well as experiences

regarding the implementation of these improvements are described in this report and used to inform the development of a roadmap that other agencies can rely upon if they are interested in implementing these types of solutions. The goals of this study are to:

- Determine what strategies law enforcement agencies are using to reduce the cost and/or time of processing a DWI arrest;

- Identify law enforcement agencies that have made such improvements;

- Gather data to describe and quantify the cost and/or time savings associated with these processes;

- Capture the experiences of States/local agencies in undertaking these improvements; and

- Combine these results into a report that assists other agencies in adopting these types of strategies.

1.3   Structure of the Report

Section 1.0 (Introduction) of this report presents the Problem Statement and Objectives for this study. It also outlines the structure of this report.

Section 2.0 (Background) of this report contains a brief review of the literature and a description of the results from consultations with a few experts about time and cost saving strategies relevant to the DWI arrest process.

Section 3.0 (Method) provides a brief overview of the methods used to collect current data on efficient DWI arrest processes, and strategies used by a selection of agencies in the country (see Appendix A for a more complete description).

Section 4.0 (Results) describes the programs or strategies used in each agency that participated in this study.

Section 5.0 (Conclusions) presents summary statements.

Section 6.0 (Roadmap) includes a roadmap, which contains recommendations to support implementation of the types of strategies discussed in previous sections.

2.0 Background

2.1   Introduction

This background section reviews the existing literature and promising practices regarding two types of strategies that law enforcement agencies have used to reduce the cost and time of processing a DWI arrest. It includes real world descriptions of automating and streamlining the arrest process and training dedicated DWI personnel.

2.2   Automating and Streamlining the Arrest Process

It can be argued that some of the problems related to the DWI arrest process such as excessive time and costs have resulted from the increased complexity of impaired driving laws. For instance, the paperwork required often includes a long list of documents that have to be completed such as the alcohol influence report, arrest report, probable cause affidavit/narrative, implied consent form, Standardized Field Sobriety Test (SFST) form, DWI investigation report, breath testing forms, summons/citation/ticket, license suspension, constitutional rights waiver, vehicle tow/impound, and booking form. Furthermore, officers also have to complete forms that are sent to the courts and/or the Departments of Motor Vehicles (DMV), which contain information that is already available in the standard police forms. Due to this complexity, the time needed for officers to complete a DWI arrest range from 1 hour to 6 hours (Simpson & Robertson, 2001). Similar results have been observed in Canada. As part of a study commissioned by the Canadian Association of Chiefs of Police (CACP), Transport Canada found that the average time to process a DWI arrest was 2 hours and 48 minutes. The most time-consuming tasks involve completing the required forms and reports, which took almost 55 minutes (Jonah et al., 1999).

There are several ways to make the DWI arrest process more efficient through automation and streamlined processes, including:

- Auto-population of data, thereby reducing or eliminating the need to repeatedly enter data and consequently saving time and reducing the likelihood of inaccurate data entry (Simpson & Robertson, 2001);

- Automating systems that can send appropriate forms automatically to other agencies, thereby eliminating the need for officers to manually distribute these forms (Simpson & Robertson, 2001);

- Decreasing the time required to complete forms so that officers can work fewer overtime hours (Hedlund & McCartt, 2002);

- Improving data collection and timeliness of data availability and accuracy to ensure DWI evidence is collected and that prosecutors can increase the likelihood of obtaining a conviction (Robertson, Vanlaar, Simpson, & Boase, 2009); and

- Using technologically advanced devices, such as passive alcohol sensors (PASs), to improve the impaired driving arrest process by reducing the time needed to ascertain whether further inspection for alcohol impairment is necessary. One study found that these devices can identify about 70 percent of drivers with BACs at or above .08 g/dL, which was a vast improvement over the 40 percent to 50 percent detection rate achieved by officers at checkpoints who were not using the devices during the study period (Farmer et al., 1999).

Generally speaking, research has supported the notion that automation of any paper-based process will result in time and cost savings. For instance, one study assessed the effects of computerization on urban police functions in 188 cities and found that those cities that were characterized as "highly computerized" seemed to deliver services with fewer officers per capita than municipal agencies that reported "lower levels of computerization" (Nunn, 2001). In other words, the more computerized an agency, the less manpower that is needed to respond to calls for service. With this in mind, the savings related to implementing such technology may be worth the increased upfront costs.

With these benefits in mind, this study also highlighted some important considerations associated with implementing such computerization. For instance, there is a considerable cost associated with increasing the computerized functionality of a system, especially in regard to the initial implementation phase, but also in the maintenance of the system through the hiring and sustaining of IT staff. The study also showed that "higher per capita salaries were positively linked to medium and high levels of computerization …suggesting that salaries are higher because the computer requirements necessitate higher wages for skilled technicians, or because higher wages must be paid to sworn officers in high-computerization cities because there are proportionally fewer sworn officers and fewer calls-for-service officers available per capita" (Nunn, 2001).

Finally, research has demonstrated that an improved arrest process can produce positive residual effects such as increasing the willingness of officers to initiate DWI detection/arrests as well as

improving the safety of these officers on the road. The attitudes and motivation of officers toward DWI enforcement and confidence in their detection skills greatly influence the effectiveness of this type of enforcement ((Voas & Lacey, 1988). For example, most officers in one study admitted to occasions when they did not pursue a DWI investigation due to the time that would be needed and the amount of paperwork required even though they were certain that the driver was impaired, especially near the end of a shift. Efforts to better streamline these processes and decrease the time and energy needed to complete a DWI arrest may make officers better-equipped and thus more motivated to consistently enforce DWI laws ((Voas & Lacey, 1988).

Several agencies have implemented technology that streamlines the DWI arrest procedure using different forms of hardware and software that correspond to the unique needs of each State. The following are a few examples of such automation efforts.

District of Columbia "Officerless Papering.." To decrease the time and resources that officers devote to a DWI case, DC has implemented "officerless papering." Previously, challenges arose for officers who worked evening or overnight shifts and were then required to appear in court early the next morning to submit the paperwork on a case so that prosecutors could make an appropriate charging decision at arraignment hearings. Officers were sleeping in their vehicles near the court to be available to prosecutors the following morning. To address this, DC developed a program to eliminate the need for officers to personally appear in court. The Papering Elimination Project began in 2007, and allowed officers to electronically submit papers to prosecutors to make charging decisions. By 2010, police agencies were using this program and accruing cost and man hour savings through reduced court overtime costs and more man hours being spent on assignments rather than time in court (CJCC, 2010).

New York Paperwork Standardization. New York's Governors Traffic Safety Commission's (GTSC) Impaired Driving Advisory Council's Law Enforcement Team had been working for several years to create standardized DWI arrest forms. As of March 2014, 457 police agencies used Traffic and Criminal Software (TraCS), including all State police troops (GTSC, 2014). The computer system was designed to collect data that will populate relevant data fields across forms (e.g., driver's license number). The computerized system was used to analyze data entered in the system. When collecting data about this system during this project, it was reported that although the improvements proved beneficial, some implementation issues were encountered. For instance, it was reported that caution was needed when relying on checkboxes in automated forms. It was revealed that relying too much on such checkboxes could unintentionally lead to the creation of an arrest report that did not provide any context for the arrest. As a result, officers needed to

provide further clarification such that any up-front cost savings of using checkbox documentation was partially offset by the time required for officers to make court appearances.

Buffalo Valley Region, Pennsylvania Electronic Citations. The Buffalo Valley Regional Police Department began its transition to an automated citation process after growing frustrations with manual data reporting and illegible paper citations detracted from performance. For instance, officers found that handwritten citations took considerable time to generate, and manually capturing driver information, vehicle and registration data, and offense narratives through pen and paper was too time-consuming. The paper system required from 1 to 6 hours of officer time due to the several steps needed to file an arrest. The department decided to update this process using a low-cost automated system that would capture license and vehicle information automatically, seamlessly populate data fields, and allow for in-vehicle printing. In order to work toward these improvements, the department used a barcode scanning technology that considerably reduced the time to process DWI arrests. It is reported that after implementation of the eCitation system, this process was reduced to just 15 minutes.

Also of importance, reducing the length of the DWI arrest process increased the safety of law enforcement personnel. As referenced in public materials on the L-Tron website, a Pennsylvania case study found that when officers were equipped with handheld electronic devices using eCitation technology, they were able to more quickly complete the arrest in the field with less of their attention diverted away from their surroundings in comparison to paper arrests (L-Tron, 2014). This increase in situational awareness due to technological improvement reportedly created a safer environment for officers to carry out their duties.

Texas. The Law Enforcement Advanced DUI/DWI Reporting System (LEADRS) was designed to standardize the forms necessary for a DWI arrest, eliminate the redundancies of the data entry common for these processes, organize and standardize case information, and help prosecutors gather evidence for trial. LEADRS was created by veteran officers and prosecutors in partnership with the Texas Municipal Police Association, who were well-aware of the onerous and lengthy procedures necessary to complete a DWI arrest, meaning, the system had been designed with common officer frustrations in mind. This resulted in a user-friendly, streamlined, and simple to use technology. According to public information available on the LEADRS website, this system reduced reporting time up to 50 percent (LEADRS, 2014).

2.3   Training Officers and Use of Dedicated DWI Personnel

Another strategy that has been used to reduce the burden on resources in relation to DWI arrests is the enhanced training of law enforcement personnel in the detection and arrest of DWI drivers and their use as dedicated DWI personnel. Attention to this issue has led to highly-specialized and experienced officers who have been trained in both the detection and the arrest of impaired drivers. In this regard, NHTSA has described designated Impaired Driver Enforcement Units (IDEU) as one of the eight foundational elements of a successful DWI strategy. These units have been explained as a resource available to non-dedicated officers who determine a driver is impaired and can then request the specially-equipped IDEU to take over the arrest and complete the booking process. For example, the Phoenix Police used this approach and it decreased the time needed for a DWI arrest from 3 hours to 1 hour. From October to December 1996 Phoenix's IDEU made 726 arrests, and saved approximately 1,557 hours of officer time (NHTSA, 2013).

Research has also supported the use of a dedicated DWI unit. One study (Hedlund & McCartt, 2002) explained that a DWI enforcement van equipped with evidentiary breath testing equipment, and in some cases a magistrate, could dramatically reduce arrest processing times. An evaluation of the Austin Police Department DWI Enforcement Unit found that there was a 48 percent increase in DWI arrests the year the dedicated unit was implemented (Wiliszowski and Jones, 2003). They also reported an increase in the conviction rate for DWI in a county affected by the new program. A multi-jurisdictional survey of 24 States found that an increase in specialized DWI enforcement units resulted in an increase in male and female DWI arrests (Schwartz & Daravan, 2013).

Finally, the use of audio and video recordings were useful for training purposes as they provided detail to trainees about the arrest process from start to finish. Another benefit found by McCartt, Hammer, Fuller, and Thode (1996) of in-vehicle video recording equipment used by enforcement officers was that video recorders ensured that these officers followed correct procedures. It also prevented any false accusations of improper conduct by documenting an officer's behavior. This study found, overall, that the use of video recording increased conviction rates for DWI.

The following are examples of agencies that have relied on well-trained and/or dedicated DWI personnel as a way to make the DWI arrest process more efficient.

Austin, Texas. The Austin Police Department launched an anti-DWI task force in 1998. The goal of this task force was to alleviate the time officers devoted to these types of arrests. In conjunction

with the development of the task force dedicated to handling DWI suspects, the Austin Police Department also implemented new procedures and installed video cameras into the dedicated team's patrol units. The task force was comprised of eight specially trained officers who concentrated on DWI patrols, focused mainly on high-DWI periods and areas (e.g., Saturday night, near a bar). They also were called in to complete DWI arrests initiated by regular patrol officers, thereby streamlining processes and allowing non-dedicated officers to return to patrol. In these cases, the dedicated task force members would complete incident reports, affidavits, and booking sheets. This patrol unit also led a training program for cadets. The cadets were sent to the DWI unit for 4 weeks and trained with these officers to learn the DWI process. Cadets then returned to their original position with these new skills (Wiliszowski & Jones, 2003).

Houston, Texas. In Houston DWI processing centers were created to support non-dedicated patrol officers who detained impaired drivers. Four additional intoxication-testing command centers were also created within the area covered by the Houston Police Department's Midwest Patrol Station. The availability of such a resource ensured better quality evidence was collected and it streamlined the processing of offenders. For instance, a driver who tested positive for alcohol at the roadside could be transported by officers to a DWI testing center where he or she was booked and officers returned to the road (prior to the use of the center, officers were out of service 2 to 3 hours to transport defendants and book them at the county jail). This center completed the remainder of the arrest process so that officers could return to patrol sooner. The center also transmitted the process in real-time (image and sound) during testing to the Office of the district attorney, so that prosecutors could begin filing charges. Previous to the DWI centers being opened, it took months to convert videotape to discs and transport this evidence to the district attorney. This inefficient process delayed trials and resulted in backlogs in court dockets. The DWI center project was funded through the seized assets fund (AAA, 2012) as opposed to tax dollars.

Nevada. With the goal of improving the detection and arrest of impaired drivers, the Nevada Office of Traffic Safety (OTS) provided funding for "DUI vans," which contained equipment needed for all components of DWI arrests, and included trained officers who were knowledgeable about the lengthy and detailed DWI arrest process. These specialized vehicles were used by the Las Vegas Metropolitan Police Department (Nevada OTS, 2014). The goal was to increase the efficiency of processing drivers arrested for DWI. The use of the van resulted in a 50 percent reduction in DWI arrest processing time (from 2 hours to 1 hour or less). This program was well-received among non-dedicated officers who felt more confident pursuing impaired drivers knowing they could call in support from the specialized van. This increased overall support of

targeted DWI enforcement among non-specialized officers who had been less confident about such arrests when this resource was not available.

Brunswick County, North Carolina. Brunswick County achieved great success in reducing the time needed to complete a DWI arrest through several different strategies. Time to complete an arrest was reduced from approximately 4 hours to 1 hour. This was achieved by:

- Creating multiple booking stations throughout the county to ensure that regardless of where an officer was patrolling, the officer was within a reasonable distance to a booking station and could quickly transport DWI drivers to these stations and return to the road;

- Amending DWI policy so that DWI arrests were prioritized in the queue during the booking process, meaning they were handled as soon as possible; and

- Allowing paramedics to conduct blood draws so that more personnel were available to law enforcement officers when a sample was needed. This reduced the need for officers to transport offenders to a hospital because a paramedic was available to meet officers at the roadside (NHTSA Region 3 Impaired Driving Coordinator, 2014).

2.4   Summary

These examples have demonstrated that there are two main areas in which agencies can make improvements or changes in order to reduce the time and cost of the DWI arrest process. These include the automation and streamlining of arrest processes on the one hand, and enhanced training for law enforcement and the creation of dedicated DWI task forces on the other. Several examples were briefly described in this background section to provide a concise overview of solutions. More detailed information obtained from 6 agencies about the solutions they implemented to reduce the cost and time of their DWI arrest process are discussed next.

3.0 Method

3.1   Introduction

This section briefly explains the method used to select the agencies whose DWI arrest process strategies were reviewed and described in the results section of this report. A detailed overview of the methods and data collection instruments used in this project is available in Appendix A.

3.2   Description

To help identify which sites showed improvements in their DWI arrest processes, a literature review and jurisdictional scan were conducted to identify law enforcement agencies that had previously implemented improvements to their DWI process using automated systems. Based on the outcomes of this first step, U.S. State agency representatives were contacted to obtain further documentation (e.g., reports or fact sheets) about improvements. This facilitated a more robust search using additional key words relevant to arrest procedures and data management software that had been identified. While this iterative process enabled us to further refine the literature review, it also produced a broader selection of potential agencies to contact. Also, State traffic safety resource prosecutors (TSRPs) were consulted and asked to formulate suggestions for other agencies that should be considered for inclusion. This approach led to the identification of approximately 30 relevant agencies. Ultimately, six agencies were selected to participate based on the responses from each agency, the nature of the solution that each agency had implemented, and willingness to participate. Efforts to include agencies that had achieved benefits through automation, dedicated and highly-trained officers, and other mechanisms were selected to include a broad cross-section of strategies.

A discussion guide was developed to collect information and interviews were conducted by phone/email or in person with each of the following agencies between March and August 2015:

- California – Fresno Police Department;

- Louisiana – Louisiana Highway Safety Commission;

- Minnesota – Minnesota Office of Traffic Safety, Minnesota State Patrol;

- Texas – Texas Department of Transportation, Austin Police Department;

- Utah – Utah Attorney General; and

- Washington – Washington State Patrol.

Interviews were conducted via telephone and/or email, while in-person interviews took place in Minnesota in July 2015 and Utah in August 2015. The discussion guide served to accommodate a semi-structured interview to enable the capturing of aspects specific and important to the local context of each agency included. In this regard, each interview used different questions, i.e., those that were relevant to the particular context of that agency, and hence each interview was unique in this sense. This semi-structured approach allowed for open conversation and the free flow of new ideas not covered by the advance copy of provided questions.

The data obtained in this project were subsequently synthesized to inform the development of a roadmap. This roadmap makes available a template that can be employed by other agencies aiming to implement the types of solutions showcased in this report to reduce time and cost associated with their DWI arrest process.

4.0 Results

4.1   Introduction

This section describes the solutions that were implemented by each of the six agencies included in this project. For each agency, the available information is structured according to:

- A description of the solution and how it worked;

- The implementation of the solution and challenges that were encountered; and

- Cost and time savings that resulted from implementing the solution.

First, automation solutions are described. This is followed by solutions relying on training of officers and the use of dedicated DWI personnel.

Recommendations were formulated based on the experiences of each of the agencies and are summarized at the end of this section.

Appendix B provides contact information for each agency included in this project to obtain further information about implementation.

4.2   Fresno, California: eCitation

Description of Solution. The Fresno Police Department implemented the eCitation program which replaced a paper arrest process with the use of handheld, electronic ticket writers containing software that enabled officers to capture data during the arrest process. This program was funded by the California Office of Traffic Safety in the form of a one-time $300,000 grant. The Fresno Police Department used this money to purchase handheld computers (in particular Motorola MC 75-A) and printers (Zebra Printer 420). These handheld computers were found to be very durable and were able to withstand extreme heat, rain, and being dropped. In total, 80 devices were bought and cell service was installed on all handheld devices.

Major advantages of this tool compared to paper tickets were the auto-population function which reduced the number of times the same information had to be entered on forms, and the electronic

delivery of tickets to courts. The software also validated data and data fields. For example, officers were informed when they failed to enter all required information. In addition to the software component, one full-time and two part-time licensed phlebotomists were hired to draw blood samples from suspected impaired drivers, and this also saved time and money. It was found that officers were able to return to service faster when they were able to rely on a phlebotomist who was readily available (Fresno Police Department, 2012).

Implementation of Solution. Challenges during implementation of this solution included the tailoring of the software to align with the existing reports and records of the police department. This took 4 to 6 weeks, and made it necessary to schedule the actual implementation accordingly. Regarding the hardware, approximately 7 of the handheld devices did not work properly. While it was possible to have this hardware problem resolved with the manufacturer as part of the warranty protection, a contingency plan was necessary to ensure service was not interrupted when equipment failed.

Another challenge that was anticipated related to the acceptance of the system by officers. This was addressed through incremental implementation, beginning with a pilot project. As part of the pilot project, two senior officers with at least 20 years of experience in writing traffic tickets by hand were chosen to use the electronic ticket writers. It was believed that these officers would be the most resistant to accepting the new technology based on their proficiency with the paper process, and that they would be forthcoming about any concerns with the electronic ticket writers. It was believed that the devices were more likely to be well-received by other officers in the Traffic Unit if these two senior officers were convinced of the merits of these devices. These two senior officers would also be deemed to be credible instructors because they would become very proficient in using the devices during the pilot program. It was also believed that officers requiring training on the devices would be more receptive to instruction from an experienced officer as opposed to a sergeant or representative of the software vendor. Ultimately, the time required to train an officer to use the system was approximately 4 hours.

In terms of technical support, the ability to communicate directly with the third-party software provider was reported to be very useful, despite the availability of in-house technicians at the Fresno Police Department. It was further explained that there were concerns about time delays in accessing in-house technicians to trouble-shoot problems when the technicians were often busy with other police projects.

Finally, the officers that were interviewed reported that supervisors and frontline officers were pleased with the eCitation program of the Fresno Police Department.

Cost/Time Savings. It was reported during the data collection stage of this project that time savings were realized since tickets could be written faster as a result of the software. Unfortunately, no precise time-saving estimates were available. The program has also produced cost savings in the form of fewer data entry clerks. Prior to the implementation of this solution the Fresno Police Department required 10 data entry clerks, but post-implementation fewer clerks were required since the electronic tickets were delivered directly to the courts.

Although there has not been a formal evaluation of cost or time savings as a result of the Fresno Police Department using its own phlebotomists, it is perceived that a significant amount of time has been saved. Previously, blood draws for suspected drivers were conducted at the local trauma center which serviced the entire San Joaquin Valley. Wait times at the trauma center were substantial, and it was possible to avoid these delays when an in-house phlebotomist was readily available.

4.3   Louisiana Highway Safety Commission: LADRIVING

Description of Solution. LADRIVING is an automated DWI processing system that was designed to streamline the way that DWI arrests were conducted in Louisiana. LADRIVING offered a standardized electronic interface that enabled all Louisiana law enforcement officers to enter, process, review, approve, query, and report DWI arrest data. Benefits of LADRIVING for law enforcement agencies:

- Made the completion of DWI arrest reports quicker and easier;

- Improved efficiency as officers entered pertinent data only through an auto-population function;

- Prompted officers to enter mandatory information;

- Standardized drop-down menus and checkboxes to minimize typing errors and simplify report completion;

- Allowed officers to save partially completed cases and complete them at a later time or on other devices;

- Eliminated lost or misplaced forms;

- Transmitted cases electronically; and

- Electronically filed cases, thereby eliminating manual filing.

LADRIVING was also beneficial to prosecutors who handled DWI cases. Its features have helped prosecutors to obtain more DWI convictions. LADRIVING provided prosecutors with reports that were:

- Delivered electronically in a timely manner to the Case Management System;

- Available online and of a better quality;

- In a standard format (e.g., standard and accepted National Crime Information Center and Department of Justice descriptors are used); and

- Included factual details that officers were required to record.

Arresting officers used LADRIVING to enter DWI case information by logging into a client-based (part of a network) or web application (accessible by Internet). Cases were reviewed and approved by supervisors or sent back to the arresting officer for corrections. Once a case was approved, it could be imported into the prosecutor's Case Management System (CMS) or to Content Management (CM) of the Office of Motor Vehicles (OMV).

Each day, prosecutor offices and OMV were notified by e-mail about DWI cases that were approved the previous day in LADRIVING and that were slated to be imported into the CMS or CM.

Implementation of Solution. Some obstacles were encountered when the agency attempted to introduce LADRIVING. These included:

- Acceptance of the program by stakeholders (e.g., State police, arresting officers);

- Developing a proposal to request the development of the software;

- The cost of training of all interested participants;

- The length of time (from development to programming to pilot launch to statewide introduction) took longer than anticipated;

- Convincing DAs that paper copies of forms were no longer necessary; and

- Working with some prosecutor offices that did not have a CMS.

In order to resolve some of these obstacles, the Louisiana Highway Safety Commission (LHSC) collaborated with key stakeholders such as the Louisiana District Attorney's Association (LDAA) and the city prosecutors from some municipalities. This communication with stakeholders and frontline staff helped to overcome some of the challenges. It was necessary to communicate the transition of the revised DWI arrest process to supervisors and frontline officers on many fronts and on several occasions. The executive director of the LHSC corresponded with the chiefs of the police forces. For example, LHSC sent letters to all police chiefs and judges in 2012 to inform them that a new program was to be introduced. Meetings were arranged throughout the State where LADRIVING was presented to sheriffs and district attorneys.

Another strategy used to manage challenges was the adoption of an inclusive process throughout the development and implementation of the new system. To illustrate, before LADRIVING was created and launched, law enforcement officers were invited to participate in the development of the new system and this enabled the developers to accommodate their input and concerns. In addition, focus groups were conducted which made it possible for developers to gather the experiences of approximately 200 law enforcement officers to inform the design of LADRIVING, and ensure it would meet the needs of officers. This strategy produced a high-level of buy-in from end-users as well as the development of a more user-friendly system.

Another strategy used to streamline the implementation of LADRIVING was the use of a recently retired DWI officer who served as a trainer and was responsible for contacting larger police departments to solicit their participation. LADRIVING offered and continues to provide recurring training as needed for officers. Training takes approximately 8 hours and is delivered in a classroom setting of 12 people.

Generally speaking, supervisors and frontline officers have a positive impression of the changes that have been made to the DWI arrest process as a result of the implementation of LADRIVING. They also recognize that program training has been beneficial, and the opportunities for recurring training add to its success.

Cost/Time Savings. A formal evaluation of LADRIVING has not been conducted. There have, however, been internal reviews of its effectiveness in improving the DWI arrest process. Despite the lack of a formal evaluation, it was reported that LADRIVING was promoted as a means of saving time and eliminating transposition errors. To illustrate, LADRIVING is estimated to have reduced the arrest process by at least 50 percent. Previously, an arrest would take 5-6 hours to process; however, computer-efficient officers that have used LADRIVING were able to complete

this task in as little as 2 hours. LADRIVING has not only saved time for officers but has had benefits for prosecutors as well. Prior to the implementation of LADRIVING, prosecutors waited approximately 4 to 6 weeks to receive a completed copy of a DWI report whereas completed reports are now received within 1 week. Prosecutors have been able to assess cases earlier in relation to charges since a copy of the report is automatically uploaded into the prosecutor's case management system, and can place cases on the court docket promptly.

While it is known that the development and implementation of LADRIVING has cost more than $3 million, an exact dollar figure of the cost savings resulting from its use was not available to inform this report.

4.4 Minnesota: eCharging

Description of Solution. Minnesota's eCharging is an electronic citation system that was implemented with the intention of simplifying the entire DWI arrest process to overcome the complexity of the DWI statute. In addition, the eCharging system included web-based training for breath test instrument operators. The system was very comprehensive and capitalized on the automation of different steps of the DWI arrest process. A thorough list of data fields that could be selected were initially identified to ensure that officers were reminded about crucial steps during an arrest. This list was created as a result of meetings that enabled the developer to gather input from end-users to determine their needs. Benefits of eCharging included:

- An automated DWI process that helped officers determine, on a case-by-case basis, which sanctions were applicable;

- Functionality that enabled officers to accurately calculate prior DWI offenses, which was unduly complicated due to the complex statute, but essential to inform the accurate laying of charges;

- Built-in validations that reduced errors to zero;

- Electronic submissions to Driver and Vehicle Services (DVS) which can make possible immediate driver's license revocations;

- Reductions in time spent processing a DWI arrest;

- Better tracking of DWI events from the beginning to the disposition; and

- Integrated eCharging information with the Bureau of Criminal Apprehension Breath and Toxicology laboratories.

This system made it possible for every arrest to be completed online and in real-time. Officers logged into the system at any eCharging terminal using a computer with Internet access. They were able to log in using fingerprints so that they did not need to remember a password. Of interest, the fingerprint device and signature pad used for electronically signing documents were not necessary to conduct a legal arrest in the State, and these devices were provided to increase the convenience of using the system. For example, if a fingerprint device was either unavailable or out of order, a simple password could be used. A mobile data computer (MDC) was provided to officers in their vehicles. Of note, one of the features of eCharging was an illumination button, which enabled officers to adjust the screen to night mode when making arrests on the road in conditions with poor lighting or at night.

The eCharging system sent arrest data to the Bureau of Criminal Apprehension at the time of arrest. Reminder emails are sent to the arresting officer over a 3-day period.

In the last 4 years, there was also a free 24-hour, 7 days per week support line available to officers and deputies if questions arose during the arrest process. It included an automated phone tree that provided officers with options to receive assistance to resolve difficulties related to logging on to the system, editing a DWI event, using breath test equipment, or receiving assistance to deal with offenders in custody. Assistance was also available online to answer frequently asked questions,

A new feature that has complemented the eCharging system is a web-based training program for breath test instrument operators. It has been managed by the Bureau of Criminal Apprehension's Breath Test Calibration Laboratory which maintained and annually certified breath test instrumentation as well as trained all law enforcement instrument operators. These operators required re-certification every 2 years. This previously meant that Bureau staff had to travel for weeks at a time, transporting all of the instrumentation and training units throughout the State. This process has been discontinued as a result of the eCharging web-based training. In this regard, the content included in the 4-hour course delivered by the Bureau of Criminal Apprehension Breath Test Calibration Laboratory is as follows:

- Human physiology as it relates to alcohol consumption;

- Evidentiary breath test instrument functionality and troubleshooting;

- Evidentiary breath test instrument operation;

- Periodic question sessions;

- Interactive testing (actual instrument simulation);

- Evidentiary breath test instrument record review;

- Evidentiary breath test instrument status code definitions and responses;

- Modular training format requiring successful completion of each module before proceeding to next module;

- Final test requiring passing score as defined by Bureau of Criminal Apprehension Breath Test Calibration Laboratory and the ability to randomize test question order; and

- Automatic test score submission.

Implementation of Solution. During the development and implementation stages of the eCharging system, several obstacles emerged that required solutions to overcome them. For example, it was known that some potential users of the new system were resistant to new technology. To address this, the software developer worked with frontline staff during a series of meetings to ensure their needs and concerns were addressed. This strategy increased buy-in and ensured the system was designed in a user-friendly way, tailored to the Minnesota context. Key users, consisting of frontline staff in the field, also provided ongoing feedback once the system was implemented, and this helped to further tailor and improve the system. Other strategies were also adopted to promote the tool among supervisors and frontline officers including word of mouth, which has proven to be an effective means of communication with police agencies. Agencies using the system also promoted its availability to neighboring agencies. Presentations about the tool were delivered at various statewide and regional conferences (Asleson, 2014), and officers were able to sign-up for training during presentations. Vendor groups were also in attendance at these conferences to answer questions. Another strategy that increased the use was that the Minnesota Department of Public Safety stipulated that 50 percent of DWIs were to be processed through eCharging in order for agencies to receive grants.

Regarding the implementation of the new system, especially in regard to training, it was reported that some course participants were not as receptive to using eCharging since the training course was initially taught by civilian members of the Bureau of Criminal Apprehension instead of active or retired law enforcement officers. This was addressed by hiring retired law enforcement officers as instructors instead. Another challenge related to the lack of time for training, even though the training itself was simple and brief. For example, among some of the larger police departments, more officers wished to receive training. However, in a busy agency it was sometimes challenging to find the right balance between keeping officers in the field and providing training.

This challenge was addressed by making the delivery of training more flexible, for example by organizing regular classes that could be attended by individual officers from different police departments rather than just offering training to one department at a time. Two-hour training sessions were offered to classes of up to 12 persons. It was estimated that, at the time of our interview, eCharging instructors have trained 4,500 officers.

To date, 73 of 86 counties have implemented the tool. Some of the non-participating agencies have requested further system integration between this program and their internal records management system prior to adopting it. The most common explanation for agencies not adopting eCharging was that the agency was relatively small and their arrests represented a very small proportion of the total number of DWI charges in Minnesota. For instance, these agencies had historically accounted for only 6 percent of DWI arrests that were submitted by paper. Hence, the benefits were perceived as being much smaller. As for the remaining agencies that did not adopt eCharging, it was reported that very few were adamantly opposed to implementing this program. Actually, many officers from agencies who were the first to be trained were later re-trained and they reported a very positive assessment of the ways that the program had improved. In other words, officers in those agencies that were identified as being reluctant to implement the program were supportive of it, and the reasons for not implementing it were practical in nature.

The support line that was available to officers was staffed by instructors who were very knowledgeable about both the DWI arrest procedure and eCharging. In order to accommodate the demands for the support line with more staff, it was proposed that "power users" (very knowledgeable and experienced officers using the system) help to staff the support line in addition to the instructors. This was meant to provide the instructors with some relief so that they were no longer on constant standby or contacted in the middle of the night to respond to calls. The small group of power users was just large enough to ensure that at least one of these power users was on duty at any given time. However, it was concluded that this approach was not sufficient in replacing the instructors on standby. First, some problems required more support than could be provided by a power user (who would still require administrative support) to resolve them. Secondly, there was a progressive reduction in the volume of calls, which means that there are fewer late night interruptions for the instructors.

Finally, the software that was used has been made freely available to other agencies since it was built using a NHTSA grant. However, any State interested in using this tool would have to tailor the system to coincide with its relevant legislation due to the fact that eCharging was unique to Minnesota's DWI laws.

Cost/Time Savings. Forms that previously took from 1 to 3 hours to complete could now be completed in as little as 9 minutes. ECharging not only saved time in the field for arresting officers but it also reduced the time that records managers spent on cases. It was reported that records staff previously took 20 minutes to enter information related to a DWI arrest; presently this time has been reduced to an average of approximately 4 minutes.

The Bureau of Criminal Apprehension further estimated that eCharging has led to an average savings of at least 30 minutes per arrest for arresting officers (Bureau of Criminal Apprehension, 2014). Based on the fact that there were, on average, 24,000 DWI arrests per year in Minnesota and given that 94 percent of these were processed through eCharging, this has produced savings of approximately 11,280 officer-hours per year in Minnesota. More liberal estimates, as reported during the data collection stage of this project, suggested that the time saved per officer per DWI case is closer to 1 hour.

In addition, a significant reduction in errors in arrest forms has been observed, and this has led to fewer cases being dismissed or lost, and also fewer hours for officers to testify in court and clarify case information. It was estimated that for each case that went to court, officers spent an average of 3 to 4 hours for a court appearance. Earlier reviews of DWI arrests documented on paper suggested that 34 percent of cases included some type of error or omission. Since the tool has eliminated such errors, officers were required to testify in fewer court cases. Thus, approximately 4 hours of officer overtime was saved for each case where their testimony was not required.

4.5   Utah: eWarrants and TOXE

Description of Solution. The eWarrant system is an electronic system that was designed to create efficiencies in the process of requesting a warrant from a judge to obtain a blood sample. When officers logged in to the eWarrant system to request a warrant for a blood draw, they used a unique ID, which pulled up fields that need to be completed only once (e.g., identifying information about the officer or information to demonstrate an officer's experience and expertise). The eWarrant system could be used on a desktop/laptop or PDA. The system included a "probable cause" box that enabled officers to provide a narrative to describe relevant aspects of the case in detail. This information was then reviewed by a judge who signed off on the warrant. The judge was also able to comment on the request before it was approved. These comments could be addressed by the requesting officer who was able to edit his or her request and resubmit it to the judge. There was also a status field that was updated in real-time so that officers could see if the judge who was on call had responded to the request.

Most judges in Utah participated in the development of the eWarrant system. Rule 40 of the Utah Criminal Rules provided for the presiding judge of the district court in each of Utah's eight districts to create a schedule to provide coverage to deal with electronic warrants. For example, in the 3rd Judicial District (which includes Salt Lake City), there were 40 magistrates among both district court and justice court judges. Of these 40 magistrates, 35 were on the list and could be contacted to approve a warrant.

Since the system was developed using open source code, there was no copyright and it was not licensed. It may be used by other jurisdictions, but it would have to be tailored to their context. Other jurisdictions have already expressed an interest in using Utah's system (e.g., Washington and Iowa).

Once a warrant was obtained through eWarrant, the next step was to collect a blood sample. In Utah, this was done by law enforcement officers who were trained as phlebotomists and who were on call. To ensure these officers were properly trained, TOXE was developed as an instructional program to teach law enforcement officers how to properly prepare, package, and send blood and urine samples to the lab for testing. This was a necessary feature since a substantial proportion of samples previously had been rejected for improper packaging or related reasons. TOXE was developed jointly by the TSRP, Utah Highway Patrol, Utah Forensic Toxicology Lab, and Utah Highway Safety Office. The program included:

- An 8-minute video that was filmed and edited by the work group and demonstrated proper practices to prepare blood and urine evidence kits. It featured a Utah Highway Patrol trooper who correctly labeled, sealed, initialed, dated, and packaged these kits;

- A brief PowerPoint lecture and discussion that demonstrated common submission errors to be avoided;

- The distribution to attendees of exemplar boxes that contained correct blood and urine kit components. These boxes also included a copy of the training video on a jump drive and other materials (e.g., a proper marker); and

- A lecture about DWI laws regarding blood draws and related subjects delivered by the instructors (forensic toxicologist and TSRP). Direct contact information (e.g., mobile phone numbers, email addresses) is provided to facilitate future communications and resolve any problems that arise.

Funding for this initiative was provided in January 2015 by the National Association of Prosecutor Coordinators and NHTSA through a Cooperative Mini-Grant, which was used for statewide training.

Implementation of Solution. It was noted that persistence was needed to initially launch eWarrant. This was because many agencies had their own software to undertake a variety of other functions and some of them required convincing of the merits of this software. However, once eWarrant was implemented, it was reported that resistance to the system appeared to decline. Direct training was provided to supervisors and frontline officers about improvements to the DWI arrest process as a result. The average training time for eWarrant system users was approximately 45 minutes.

Not all judges participated in eWarrant when it was first implemented. Initially, some judges opted not to participate because they did not want to be on call for 24 hours, 7 days a week. In particular, it was viewed as unrealistic to request that judges who worked only part-time to be asked to be on call around the clock. More recently, with a duty roster drawn up by the presiding judge, the burden placed on judges has become more manageable.

It took 6 months for TOXE to be implemented in the State. From late January to mid-July 2015, 467 DUI evidence packaging personnel were trained at 24 locations across Utah. This included some hospital employees and private contractors who conducted blood draws for law enforcement. Class size ranged from 3 officers in a rural county to 43 in a multi-agency setting. Although there was significant travel associated with conducting training across the State, the project was completed under budget. Cost savings were realized by combining these training sessions with other previously scheduled Utah Prosecution Council sessions.

Cost/Time Savings. Neither eWarrant nor TOXE were formally evaluated. However, it was estimated that on-call judges typically replied to requests from officers for a warrant within 5 minutes, and almost always within 10 minutes. Officers were instructed to contact the judge if they had not received a response within 15 minutes of submitting the eWarrant. Judges were made aware of this timeline and trained to respond to an eWarrant request within 15 minutes if they were on call with the eWarrant system.

It was noted that, on some occasions, suspected drivers were totally taken by surprise as a result of the speed with which a warrant was obtained. For example, in one instance, an officer went to a suspect's residence and asked to conduct a search. The suspect refused and noted that a search

warrant was needed. The officer then went to his car and requested the warrant through the eWarrant system, and obtained it within minutes. This allowed the officer to immediately return to the front door of the suspect's residence to conduct the search.

Other preliminary findings indicated that the sample rejection rate after using the TOXE training program decreased from a range of 18 to 23 percent down to to 3.8 percent based on a review of case files (Berkovich, 2015).

4.6   Austin, Texas: DWI Enforcement Unit

Description of solution. In 1998 a dedicated DWI enforcement unit was formed and it originally was staffed with five officers. The DWI unit was proposed as a special taskforce and a pilot program was established. The program subsequently became permanent and currently consists of 21 staff including one lieutenant, two DWI unit detectives, two sergeants, two corporals, and 14 officers. Officers have been or are in the process of being trained to become:

- Intoxilyzer operators;

- Drug recognition experts; and

- Standard Field Sobriety Test instructors.

The focus of the unit has been on the processing of DWI offenders, with the DWI unit taking over the processing of DWI cases from non-DWI officers who are then able to return and maintain the presence of patrols on the road. Also, the unit played a supporting role to non-DWI units by sharing knowledge and expertise related to the arrest process.

Implementation of Solution. A dedicated DWI unit was implemented through the process of trial and error after having consulted with other police departments across the United States. For example, originally the DWI unit used marked patrol units, but it was later discovered that by using cars with subdued markings (stealth cars), officers were better able to blend in with traffic and locate impaired drivers more efficiently. Printers were installed in each DWI unit car to expedite the DWI arrest process; camera systems and in-car radar systems were also installed.

Obstacles that were encountered during implementation included processes to acquire the equipment, management of resistance among officers to conduct blood draws, budgetary issues, and updated training. The majority of the obstacles were resolved through officer training and

stakeholder meetings to better identify and implement strategic changes, strengthen personal relationships and remain informed about trends and case-law issues. Issues that were related to funding or acquisition of equipment required more time and effort to resolve (for example, the cost of a stealth car is $40,000 to $50,000).

The majority of changes that were made to the DWI process were communicated to patrol personnel using various means such as training bulletins, emails, and departmental training. The introduction of simplified training and communication delivered by experienced officers was reported to be very useful to streamline the implementation of the dedicated unit.

Given that the DWI Enforcement Unit personnel required specialized training and officer workload is considerable, a thorough review of the candidate's work history and an oral board session were components of the officer selection process. Candidates were informed that each DWI team worked night shifts. It was further explained to candidates that the position entailed a considerable number of off-duty hours since court appearances for DWI and administrative license revocation cases occurred during daytime hours. Despite these demands, there was relatively minimal staff turnover within the DWI Enforcement Unit. This has largely been attributed to the dedication and commitment of officers who were selected for this task (White et al., 2006).

Cost/Time Savings. It has been reported that the DWI unit processed a DWI arrest in approximately 1.5 hours, compared to 3.5 hours previously.

4.7   Washington: Mobile Impaired Driving Unit

Description of Solution. The Mobile Impaired Driving Unit (MIDU) was implemented in 2006 by the Washington State Police. This self-contained 36-foot motorhome has served as a mobile DWI processing center and an incident command post. The unit travelled across the State in response to requests from law enforcement agencies, and provided support for DWI patrols. The unit was equipped with all the necessary tools for DWI arrests, and included three breath test instruments, two temporary holding cells, and access to Washington State Patrol dispatch and computer work stations. The unit was staffed with law enforcement officers who were able to efficiently and effectively process DWI arrests using the technology in the van as well as their DWI expertise and training. This unit made it possible for non-dedicated officers to return to the road more quickly. Officers who were assigned to the MIDU attended a 4-hour training course

that explained how to operate the unit. Checklists and procedures were used for this purpose. The MIDU required two officers to manage it.

Implementation of Solution. One obstacle associated with the implementation of the MIDU was the willingness of officers to use it. Initially, officers preferred using the old system because they felt uncomfortable using the MIDU. Eventually, as officers gained experience working with the MIDU, the utility of the program increased. Another challenge with MIDU was due to the costs to acquire and operate the unit. The cost of the MIDU motorhome was approximately $250,000. These costs included the breath test instruments. This obstacle was addressed through access to external funding sources and donations.

More recently, however, the officers' use of the MIDU has dropped. It was reported during the data collection phase of this project that the reason was unclear. However, efficiencies have been eroded due to new laws that require repeat offenders to be booked into the local jail pending pre-trial release conditions, even if the MIDU is available, and this was perceived to defeat the purpose of using the MIDU.

Cost/Time Savings. There has not been a formal evaluation to study whether there have been cost or time savings as a result of these changes to the DWI arrest process. However, it was reported that the MIDU did reduce the most time-consuming parts of the DWI process (e.g., the breath test analysis, which can take up to 2 hours). Presently, the overall average time for an alcohol-related arrest is 2 hours, as compared to the previous 4 hour average. Officers can now return to the road more quickly to potentially apprehend a second DWI offender while the first offender is processed in the MIDU. The MIDU currently uses phlebotomists through a contract with health care providers, which has helped reduce time since officers are no longer required to transport suspects to the hospital.

4.8   Recommendations from Agencies

A list of recommendations based on the experiences of these agencies regarding the way to implement improvements to the DWI arrest process is included below. Among the suggested recommendations are the following:

1. Determine whether federal funding or other sources are available to support the implementation of the solution;

2.   Achieve early acceptance from stakeholders, especially frontline officers, by engaging interested agencies and using their input to create a sense of ownership that can increase buy-in to the new process;

3.   Encourage feedback from officers as their suggestions can help improve the delivery of the solution and overcome barriers to use;

4.   Ensure continued communication between all of the stakeholder groups (e.g., police, prosecutors, toxicological personnel) throughout the development and implementation of the solution to facilitate and streamline the process;

5.   Accept that some agencies may opt not to participate in efforts to improve the DWI arrest process for practical reasons such as smaller law enforcement agencies processing fewer DWIs;

6.   Work with TSRPs as they can inform an agency about the legislative requirements associated with changes in the DWI process;

7.   Implement the new system in an incremental fashion to best manage workload and avoid overwhelming agencies and officers;

8.   For agencies with a statewide mandate, select one law enforcement agency to pilot the new DWI arrest process before introducing it to other law enforcement agencies;

9.   Use experienced officers (senior level or retired) in the pilot program and, subsequently, communicate the process to frontline and newer officers;

10.   Explain the capabilities and limitations of a new solution to manage expectations about the objectives of the system;

11.   Consult with other agencies to see what steps they have previously taken to improve their DWI arrest process, and what lessons have been learned;

12.   For agencies with a statewide mandate, standardize the electronic arrest forms that are to be used and integrate these forms with breath test and toxicology reports;

These recommendations served to inform the development of a roadmap that agencies can use if they are interested in implementing any of the solutions described in this report. This roadmap is available in the Recommendations section.

5.0 Conclusions

As described in the Introduction of this report, previous studies have demonstrated that the DWI arrest process is complex, detail-laden, and time-consuming. In fact, some studies have concluded that a DWI arrest can be so demanding that it is often frustrating, discouraging, and even intimidating to some law enforcement officers. Therefore, the focus of this report is to provide an overview of solutions that have been used by agencies to make the DWI arrest process more efficient, and use this information to formulate recommendations to help streamline the DWI arrest process. In particular, the objectives of this study are to identify law enforcement agencies that have made significant improvements to their DWI arrest procedures, and to gather data from these jurisdictions to describe any of the cost and/or time-savings experienced as a result of these improvements.

To accomplish this, data were collected from six agencies for the purpose of documenting improvements these agencies implemented and resulting cost and/or time-savings. Each solution identified has been described according to the following structure:

- Description of solution (what is it; what does it do better);

- Implementation of solution, in particular in relation to any challenges encountered; and

- Cost/time savings.

Contact information for each agency was also collected and is available in the appendix so that readers of this report can obtain further information about any of the solutions that are of interest to them.

The data obtained using this approach were synthesized to inform the development of a roadmap that other agencies can use to guide the implementation of a solution that may fit within their context. This roadmap is described in the final section of this report as recommendations that can be relied upon by agencies that want to streamline their DWI arrest processes.

6.0 Roadmap

In this section a roadmap is presented that agencies can use if they are considering strategies to improve the DWI arrest process in their agency or jurisdiction. The roadmap was formulated to provide agencies with choices and options so that the selection and implementation of a particular strategy can be context-sensitive, thereby facilitating the successful delivery of solutions. The roadmap was based on the experiences of agencies participating in this project, in combination with experiences and expertise drawn from previous studies that explored similar issues, including:

- An agency's administrator guide for the implementation of transdermal alcohol monitoring (Robertson, Vanlaar, & Simpson, 2008);

- A Guide for Statewide Impaired-Driving Task Forces (Fell & Langston, 2009);

- A roadmap for the implementation of interlock programs for offenders (Robertson, Holmes,& Vanlaar, 2010);

- Guidelines for the use of impaired driving data as a key to solve the impaired driving problem (TIRF, 2010);

- A guide regarding vendor oversight of alcohol ignition interlock programs (Robertson, Holmes,& Vanlaar, 2011); and

- A DWI dashboard report to monitor impaired driving progress (Robertson, McKiernan & Holmes, 2015).

The key steps of the roadmap include:

- Preparation and planning;

- Consultation with stakeholders;

- In-depth description of problems and identification of solutions;

- Implementation of solutions; and

- Evaluation.

For each of these steps, a table is provided below, which includes the necessary tasks, a description of these tasks, and further considerations or caveats. While there is a logical work

flow that can be followed according to step-by-step tasks, it is important to realize that at times the roadmap may need to be used in a more flexible fashion to accommodate context. For example, an update of defined objectives may be needed downstream once all stakeholders have been identified and included in the second step. As such, the roadmap should be used in an organic fashion to acknowledge that it cannot, and should not, necessarily be strictly adhered to in the exact same way by every agency that uses it.

The first stage involves preparing to make changes to the DWI arrest process (see Table 1).

Table 1.   Preparation and planning

Task	Description	Considerations/caveats
Identify project initiator	Appoint person to initiate project and identify and contact partners	Strong leadership, engagement, and communication skills will increase chances of success.
Conduct internal audit	Review current practices within agency	Determine existing time, and costs of DWI arrest process. Not enough data may be available for a comprehensive assessment.
Initial problem identification	Describe current situation and its shortcomings	Bolster the problem statement with data to create buy-in and reach critical mass.
Set objective	Establish objective of revisions to DWI arrest process	Consider that objectives may need to be updated when consulting with stakeholders.
Define goals	Set targets that can measure degree of success of changes to DWI arrest process	Consider that goals may need to be updated when consulting with stakeholders. Also, consider evaluation requirements as outlined in last step.
Identify and secure funding	Ensure sufficient funds are available to implement proposed solution	Present problem as a business case if limited funds are available, to increase chances of securing funding.
Conduct external audit/review	Perform environmental scan of outside agencies and their solutions	Existing programs elsewhere may provide needed solution. No need to reinvent the wheel.
Identify stakeholders	Check other agencies (e.g., traffic safety, law enforcement, judiciary) that may wish to participate	Be inclusive.

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Once preparations have been made, including the identification of stakeholders, the next step is to consult these stakeholders who may be potential partners in developing a solution (see Table 2).

Table 2.   Consultation with stakeholders

Task	Description	Considerations/caveats
Appoint chairperson	Once project is underway, appoint chairperson or lead agency	This may or may not be the same person identified as project initiator in previous step.
Contact stakeholders	Reach out to each stakeholder separately to discuss their perspective, interests, needs	Prepare for resistance and accept that some agencies may not wish to participate.
Organize roundtable kick-off meeting	Invite all stakeholders to roundtable kick-off meeting	Objective is to allow all stakeholders to share their views, exchange ideas, reach common ground to move forward.
Communicate	Ensure constant communications throughout entire process	Be mindful of turnover of personnel. Be proactive and transparent.
Organize stakeholder meetings	Ensure in-person meetings with various stakeholders	Regular meetings may not be necessary with all stakeholders, but may be necessary with key stakeholders.

Once all the stakeholders have been identified and their perspectives on the problem can be obtained, the next step is to better identify and describe the problem that needs to be resolved, as well as potential solutions using a comprehensive approach (see Table 3). It is important that this in-depth problem identification step takes place after the inclusion of all relevant stakeholders to ensure that the solution that is ultimately chosen will address all needs, thereby increasing chances for successful implementation of a solution.

Table 3.   In-depth description of problem and identification of solution

Task	Description	Considerations/caveats
Describe problem in detail (in-depth)	Describe problem based on input from all stakeholders	All perspectives on problem should be considered to ensure a solution that will be chosen will address all needs.
Identify potential solutions	Based on knowledge obtained, identify and discuss solutions	Ensure stakeholders are part of development process to create buy-in.
Calculate cost estimate	Estimate projected cost of implementing solution	Consider obtaining information from other agencies that have already adopted solution before commencing formal procurement process.
Calculate staffing estimate	Estimate number of staff required to implement solution	Consider obtaining information from other agencies that have already adopted solution.
Develop timing estimate	Estimate timelines required to implement solution	Consider obtaining information from other agencies that have already adopted solution.
Report to group	Prepare report with findings, recommendations	This document can serve as the plan to support the implementation in the next step.

Once the problem has been clearly described based on the different perspectives of the relevant stakeholders, and a solution has been identified, the implementation of the solution can begin. As shown in Table 4 below, it is highly recommended to adopt a phased approach, beginning on a smaller scale and systematically broadening it based on feedback obtained during this process.

Table 4.   Implementation of solution

Task	Description	Considerations/caveats
Develop or procure solution for pilot stage	Develop or procure tool that will be used to streamline DWI arrest process	If tool will be developed in-house, make sure suitable expertise and ongoing support will be available.
Conduct pilot program	Conduct trial of solution	Delivering solution on a smaller scale will be helpful to create lessons-learned document.
Report back to stakeholder group	Report back on lessons learned to all stakeholders involved	Lessons learned can inform go/no-go decision for broader implementation.
Train targeted program users	Train frontline officers, and supervisors on how to use solution	Simplify training and use experienced officers to communicate. Consider using train-the-trainer approach.
Implement solution agency-wide	Adopt solution on a broader scale	Ensure that baseline data collection for continued evaluation is in place.

The importance of evaluation cannot be overstated. In this regard, plans to evaluate how well the chosen solution is performing are ideally designed from the outset (see Table 5). Continued data collection for evaluation purposes will make it possible to improve delivery of the solution and enable its adaptation to an environment that continuously changes.

Table 5.   Program evaluation

Task	Description	Considerations/caveats
Design evaluation plan	Design a plan that outlines how chosen solution will be monitored once it is implemented agency-wide	This plan will need to be in place before the beginning of the pilot program (see Preparation, defining goals); pilot program and lessons learned can be considered part of evaluation plan.
Collect data on user experiences, cost savings, time savings and data accuracy	Collect data about various important aspects of chosen solution	Collect data for different indicators to ensure a robust picture emerges about the solution that has been chosen to streamline the DWI arrest process.
Monitor progress	Continue to track how solution affects DWI arrest process	Ensure data are collected over a sufficiently long period of time enabling informed conclusions about the success of the implementation.
Identify and implement necessary modifications based on evaluation outcomes	Use evaluation results to identify necessary changes and implement them to improve delivery of solution	Make sure feedback loop with stakeholders continues as well as with end-users so they are well aware of changes and possible consequences for them.

Automation solutions will involve the electronic collection of data. Table 6 below outlines some additional information that can be considered throughout the process of using the roadmap. Furthermore, special software may be required to implement the solution, which is also presented in the table.

Table 6.   Miscellaneous

Task	Description	Considerations/caveats
Reduce redundancy	Use programs with one-point data entry that populates data in other places	Reduce transcription errors, save time, minimize contradictory or invalid data.
Provide room in reports for narratives	Ensure officer has room to provide detailed description as required	Do not rely too much on checkboxes in software as time saved by using them may be lost later downstream when important detail is missing.
Investigate data compatibility	Ensure data generated by solution are compatible with those of existing systems as well as data from other agencies	Try to integrate system with breath/toxicology data. Acknowledge the existence of legacy data systems that may not be compatible.
Consider copyright and licensing aspects	Determine status of software (freeware, shareware, or proprietary software)	Strictly adhere to copyright legislation to protect Intellectual Property.
Consider ownership of, and access to, data	Determine who owns data and who has access to data	Ensure ownership is transparent, especially because sensitive data will be captured. Look into NIEM compliance requirements (see: www.niem.gov).
Provide user support	Provide online, in-person, or phone support to program users	Reduce threshold for obtaining support. Consider the use of officers to train officers, instead of civilian trainers, as this can increase buy-in and receptiveness to training.

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8.0 Appendices

Appendix A
Methodology and Material Used to Contact Agencies

This appendix describes in detail the methodology that was employed by TIRF to conduct the research on changes to the DWI arrest process introduced by various agencies. Also included is the discussion guide which was used by TIRF researchers during conference calls with representatives from these agencies.

Selection of Sites

In order to identify which sites had undertaken improvements to DWI arrest processes, a literature review and jurisdictional scan were conducted to identify law enforcement agencies who had previously implemented improvements to their DWI process. Based on the outcome of this first step, U.S. State agency representatives were contacted to request further information about their improvements. The five jurisdictions that responded to this outreach were Minnesota, New York, Utah, Washington, and the District of Columbia, all of which provided general information regarding their DWI arrest processes and showed interest in participating in the project. Using the information collected from this initial search, additional criteria were developed for a more robust search (i.e., additional key words relevant to arrest procedures and data management software were identified). While this iterative process enabled us to further refine the literature review, it also produced a broader selection of potential sites to contact. As such, approximately 30 relevant agencies were identified and contacted. An e-mail was sent to State TSRPs to collect suggestions for other potential sites. The following steps were taken:

- Initial sites were identified, which showed improvements in the DWI arrest process.

    - Criteria for site selection included improvements achieved through processing DWI offenders using an electronic citation and other relevant automated data systems.

    - Efforts were made to include jurisdictions offering transferability of illustrated strategies to agencies using non-specialized law enforcement officers as well as agencies that rely on specialized teams to process DWI offenders.

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- All other possible improvements that could be beneficial to agencies when looking for ways to render the process more efficient were considered.

- Sites were contacted and further information such as reports and fact sheets was gathered.

Following these steps, a list of 11 potential sites to be included in this project was created. After a final review process of this list was completed, six agencies were selected for participation.

The search was conducted in a manner that ensured the inclusion of all types and sizes of agencies at different levels (i.e., State, county, and municipal police agencies) as well as programs used in urban and rural areas. Program information was found for small rural areas, metropolitan cities, and statewide programs. Different types of methods for streamlining DWI arrest procedures were searched, such as automation programs, improved technology, programs that prioritize DWI processes, and DWI-dedicated personnel and task forces. All other possible improvements that could be beneficial to agencies when looking for ways to render the process more efficient were considered. When searching for examples, measurement of the effectiveness of the program or process in reducing time or resources needed was prioritized but not consistently available.

Data Collection

Development of Discussion Guide. A discussion guide was developed to collect information from the sites. The guide was created based on the results of the literature review as well as the goals of this project overall, i.e., to collect a detailed account of the implementation and success of procedures, processes, and programs used by jurisdictions to save time and resources in regard to DWI arrests. The guide also allowed for the collection of additional information regarding details about the sites or any other relevant information. Three strategies were implemented to ensure all relevant information was collected from the sites:

1. The timing of the data collection was based on the participants' schedules, making the process seamless for the participants. Necessary materials were provided well in advance to the participants.

2. A pilot test of the discussion guide was conducted through its administration to a subject matter expert from the Mississippi Highway Patrol. Feedback from this expert was incorporated.

3. Time and resource demands were minimized as much as possible for the agencies participating through concise communication and clearly stated requests.

Once the discussion guide was finalized, it was used to collect information from six different agencies between March and August 2015. The following agencies were included:

- Minnesota – Minnesota Office of Traffic Safety, Minnesota State Patrol;

- Utah – Utah Attorney General;

- Texas – Texas Department of Transportation, Austin Police Department;

- California – Fresno Police Department;

- Washington – Washington State Patrol; and

- Louisiana – Louisiana Highway Safety Commission.

Interviews were conducted via telephone and/or email with the exception of in-person interviews in Minnesota and Utah. The discussion guide served to accommodate a semi-structured interview to enable the capturing of aspects specific and important to the local context of each agency included. In this regard, each interview used different questions, i.e., those that were relevant to the particular context of that agency, and hence each interview was unique in this sense. This semi-structured approach allowed for open conversation and the free flow of new ideas not covered by the advance copy of provided questions.

Selection of Processes to be Included. Based on the data gathered during the literature review and jurisdictional scan, and the knowledge gleaned from these data, it was determined which of the practices investigated would be included in the final report. Selection criteria included:

- Time savings;

- Ease of implementation;

- Use of technology versus changes to process practices;

- Size and type of agency;

- Urban versus rural;

- Cost;

- Cost/benefit ratio;

- Types of technologies required (hardware and software);

- ■ Timelines to complete the transition/implementation; and

- ■ Impact of improvement on conviction rate.[3]

Synthesis of data

Using the information gathered from sites that have made improvements to their DWI arrest process, findings and conclusions were drafted for this report. This report is structured such that other jurisdictions interested in adopting these strategies will have all of the relevant information required to ensure a good understanding of what the implementation would entail and will be able to reasonably plan and undertake such a transition if desired.

A road map or guide/checklist tool is included, which provides step-by-step assistance and help to structure the process. This road map can be used as a template for other States to implement any of the potential changes, and has been reviewed by knowledgeable experts to ensure that its scope and usability is consistent with the needs of practitioners.

Discussion guide

The discussion guide used in this project is appended below.

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[3] Such data was not available for all cases.

DWI Arrest Process Improvement Project

Discussion Guide

The Traffic Injury Research Foundation in partnership with Westat is seeking your help in providing information regarding alcohol-impaired driving arrest processes and strategies which have been utilized by jurisdictions in order to decrease the time and resources spent on the processing of an alcohol-impaired driving arrest. This project is being conducted for the National Highway Traffic Safety Administration (NHTSA). Results of this study will be published in order to help other agencies identify ways to reduce their DWI arrest times.

Due to the complex nature of alcohol-impaired driving arrests (i.e., many laws and rules that have to be followed) gains can be made by streamlining and/or automating certain steps involved in the arrest procedure. There are examples of agencies that have incorporated such automation in their processes as well as ensuring that officers are well-trained in this regard. For instance, electronic citation technology, electronic driver history checks and vehicle identification systems have been used by jurisdictions to improve the efficiency of the arrest process. TIRF aims to identify law enforcement agencies that have made such improvements in the alcohol-impaired driving arrest procedure and gather data from them to describe any cost and time savings they experience as a result of these improvements.

We would greatly appreciate if you could provide us with information on how your jurisdiction has saved time and resources by implementing changes to the alcohol-impaired driving arrest processes. Also, we would like to know if any research or evaluations have been performed to measure the effectiveness of these strategies in decreasing the cost and time needed to process an alcohol-impaired driving arrest.
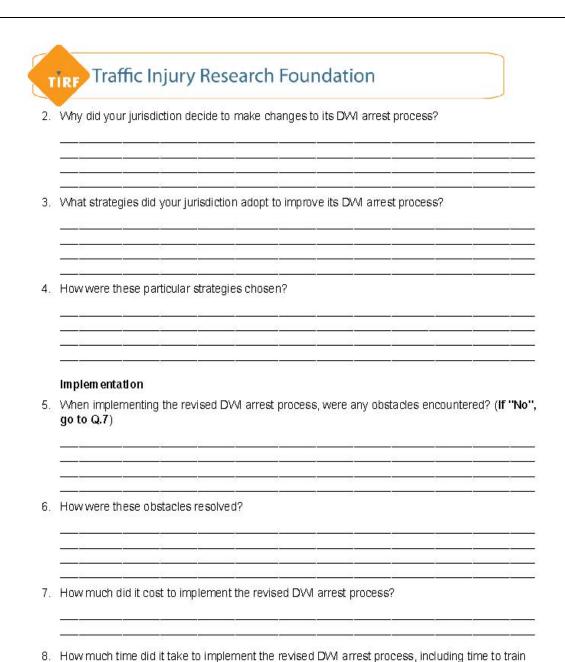
The results from this project will be used to provide examples of best practice to other agencies so they can benefit from the time and cost savings you have experienced in your agency, ultimately to better prevent the problem of drunk driving.

Thank you for your assistance.

Background

1. Please describe the DWI arrest process in your jurisdiction before the process was revised.

    _____
    _____
    _____
    _____

2. Why did your jurisdiction decide to make changes to its DWI arrest process?

_____
_____
_____
_____

3. What strategies did your jurisdiction adopt to improve its DWI arrest process?

_____
_____
_____
_____

4. How were these particular strategies chosen?

_____
_____
_____
_____

Implementation

5. When implementing the revised DWI arrest process, were any obstacles encountered? (**If "No", go to Q.7**)

_____
_____
_____
_____

6. How were these obstacles resolved?

_____
_____
_____
_____

7. How much did it cost to implement the revised DWI arrest process?

_____
_____

8. How much time did it take to implement the revised DWI arrest process, including time to train officers to use the new process (e.g., time to learn to use new hardware or software)?

Implementation time

_____
_____
_____

The knowledge source for safe driving

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Training time

_____

_____

_____

9. Please provide a list of representatives/profiles (no actual names are needed, rather an indication of the level of seniority and the type of profile) and organizations who provided input in the decision-making process.

Representative	Organization

10. How was the transition to a revised DWI arrest process communicated to supervisors and frontline officers?

_____

_____

_____

_____

11. What type of support, if any, was provided to facilitate the changes made to the DWI arrest procedure?

_____

_____

_____

_____

12. How did supervisors and frontline officers initially react to changes made to the DWI arrest process?

_____

_____

_____

_____

13. How do supervisors and frontline officers presently feel about changes made to the DWI arrest process?

_____
_____
_____
_____

Use of Revised DWI Arrest Process

14. Has the revised DWI arrest process resulted in improvements in terms of:
   a) time savings?

   _____
   _____

   b) cost savings?

   _____
   _____

   c) timeliness of data on suspected drivers?

   _____
   _____

   d) accuracy of data on suspected drivers?

   _____
   _____

15. Has the revised DWI arrest process been formally evaluated to determine whether there have been costs or time savings? (**If "Yes", make arrangements for obtaining evaluation report; If "No", go to Q.17**)

   Yes

   No

16. What key findings emerged from the formal evaluation of the revised DWI arrest process in terms of:
   a) time savings?

   _____
   _____

   b) cost savings?

   _____
   _____

c) timeliness of data on suspected drivers?

_____

_____

d) accuracy of data on suspected drivers?

_____

_____

17. Are any additional improvements to the DWI arrest process planned in the future? (**If "No", go to Q.19**)

    Yes

    No

18. What additional improvements are being planned for the DWI arrest process?

_____

_____

_____

_____

19. Has any other jurisdiction approached you for advice on how they can revise their DWI arrest process? (**If "No", go to Q.21**)

    Yes

    No

20. What recommendations do you have for other jurisdictions who are considering improvements to their DWI arrest process?

_____

_____

_____

_____

21. Do you have any examples of materials such as forms, data logs, or data entry screen images which can be included in a publication? (**If "Yes", make arrangements for materials to be emailed**)

    Yes

    No

Software and Ownership of DWI Arrest Process Data

22. Is there a special software package that is used to support the improved DWI arrest process? (**If "No", go to Q.24**)

    Yes

    No

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23. What types of software are used to support the improved DWI arrest process (custom-build, off-the-shelf)?

_____
_____
_____
_____

24. Is any system support available to users of this software? (**If "No", go to Q.28**)

    Yes

    No

25. What types of system support are available to users of the software?

_____
_____
_____
_____

26. How much does it cost to maintain this system support?

_____
_____

27. What copyright and licensing aspects are in place for the use of the software (is software used freeware, shareware or proprietary software)?

_____
_____
_____
_____

28. Are the data that are collected as part of the DWI arrest process owned by your agency or a subcontractor?

_____
_____

Appendix B
Agencies Contacted to Obtain Documentation

Austin Police Department
DWI Enforcement Team
715 E. Eighth St.
Austin, TX 78701
512-974-5393
http://austintexas.gov/department/dwi-enforcement-team

Fresno Police Department
Traffic Bureau
2323 Mariposa Mall
Fresno, CA 93721
559-621-5050
www.fresno.gov/fresnopolice

Louisiana Highway Safety Commission
Public Safety Services
7919 Independence Blvd.
Baton Rouge, LA 70806
225-925-6991
www.lahighwaysafety.org

Minnesota Department of Public Safety
Office of Traffic Safety
445 Minnesota St.
St. Paul, MN 55101
651-201-7065
https://dps.mn.gov/divisions/ots

Nassau County District Attorney
Vehicular Crimes Bureau
262 Old Country Road
Mineola, NY 11501
516-571-3800
https://forms.nassaucountyny.gov/agencies/DA/contact.php

Salt Lake County District Attorney's Office
Administrative Division
2001 South State Street #S3-600
Salt Lake City, UT 84114
385-468-7700
http://slco.org/district-attorney/

Salt Lake City Police Department
475 South 300 East
Salt Lake City, UT 84111
801-799-3100
http://slcpd.com/

Texas Department of Transportation
Traffic Operations Division-Austin District
125 E. 11th St.
Austin, TX 78701-2483
(512) 416-3175
www.txdot.gov/inside-txdot/division/traffic.html

Utah Prosecution Council
160 East 300 South, 6th Floor
Salt Lake City UT 84114-0841
801-366 0241
www.upc.utah.gov/index.php

Utah Department of Public Safety
Bureau of Criminal Identification
3888 W 5400 S
Salt Lake City UT 84129
801-965-4445
http://bci.utah.gov/

Utah Department of Health
Bureau of Forensic Toxicology
P.O. Box 141010
Salt Lake City, UT 84114-1010
801-538-6003
http://health.utah.gov/lab/toxicology/

Washington State Patrol
Impaired Driving Section
811 E. Roanoke St.
Seattle, WA 98102-3915
(206)720-3018
www.wsp.wa.gov/forensics/impdriving.htm

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August 2016