

Association of Transportation Safety Information Professionals

Application for Best Practices Recognition
2004

Part One: Project Summary

**Project Title: Driving Under the Influence Information Tracking System
(D.U.I.I.T.S.)**

Project Description This pilot project established a data flow process to electronically collect and transmit DUI offender data from the point of contact to the disposition of the case. The data flow process allows timely accessibility to quality DUI offender data within the 13th Judicial District, our pilot district. Currently, DUI data moves within a three county area (within the 13th Judicial District) with all end users having access to the data.

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Project Manager Contact Information: Same as above

Lead Agency for Project: University of Memphis – Department of Psychology

Participating/Cooperating Agencies (if any):

- Tennessee Governor's Highway Safety Office – Chuck Taylor, Director - Nashville, Tennessee,
- Office of District Attorney General – Honorable William E. Gibson - 13th Judicial District – Cookeville, Tennessee
- Cookeville Police Department –Cookeville, Tennessee
- Putnam County Sheriff's Office – Cookeville, Tennessee
- Algood Police Department – Algood, Tennessee
- Putnam County Court Clerk's Office – Cookeville, Tennessee
- Cumberland County Sheriff's Office – Crossville, Tennessee
- Cumberland County Court Clerk's Office – Crossville, Tennessee
- Pickett County Sheriff's Office – Byrdstown, Tennessee
- Pickett County Circuit Court Clerk's Office – Byrdstown, Tennessee

The Tennessee Association of Chiefs of Police, the Tennessee Sheriff's Association, and the Tennessee District Attorneys General Conference wholeheartedly endorsed this project.

Additional Project Members

William O. Dwyer, PhD. – Principal Investigator – wdwyer@memphis.edu

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Which National Agenda goals apply?

Goals 1, 2, 3, 4, 5, 6

Which steps in the management process does the project support?

Re-emphasizes impaired driving as a major safety goal, Identifies Problems, Plan Program/Countermeasures, Implement Programs, Monitor Program Operations, and Evaluate Effectiveness

Reference the priority in your traffic records strategic plan to which this project applies: With this project, we are supporting the Tennessee Governor's Highway Safety Office's priority areas of Alcohol Countermeasures and Traffic Records.

Project Cost: planned \$500,000.00 (Pilot Phase) and \$873,470.00 (Pilot Phase II) To date: \$750,000.00

Extent of Project Implementation: As of February 2004, this project purchased and installed computer equipment, bar-code scanners, and GPS devices, for law enforcement agencies, the district attorney's office, and court clerk's office in the 13th Judicial District in Tennessee. The project has created necessary data collection forms (e.g. DUI Incident, Arrest Warrant, etc.) using TraCS (Traffic and Criminal Software) that are being utilized by 43% of the counties within the chosen judicial district. These forms allow agencies to collect DUI offender data and move it from stakeholder to stakeholder for ease and speed of access.

Summary of Project Benefits: What was improved, who benefited, and how?

Benefits to date: DUI offender arrest and conviction data are accessible to all end users (i.e., law enforcement, prosecutors, and judges). This allows for accurate identification of offenders who are in the system. This means that a 4th DUI charge will be processed as a 4th (a felony) instead of a 1st because no one was aware of the actual charge. Reduction of alcohol-related crash incidents will be the ultimate outcome measure, but this project is too early in its application to tell.

Part Two: Project Detail

Driving Under the Influence Information Tracking System (D.U.I.I.T.S.)

The Tennessee Department of Safety (TDOS) is statutorily charged with maintaining and tracking DUI citations. The reporting requirement standard for DUI's is within 10 days after receiving the court disposition. On average, the time it takes a DUI conviction to be posted to the Driver History database is 210 days. This amount of time is unacceptable both for reporting standards and for the safety of Tennessee's driving public.

DUI arrests are presently hand written and carried by the arresting officers to the court representative where another document is hand written, physically taken to the jail where the defendant is being held, read to the defendant. This document is then hand carried to the respective courts that are charged with trying the cases. This method results in overwork for court personnel and docket backlogs. After the disposition of a DUI case, the Affidavit of Complaint is returned to the court clerk where he or she writes the status of the charge for which the violator was convicted (e.g., original charge, additional charge, or plead down). Next the paper is either hand delivered (when convenient) back to TDOS or when sufficient numbers of citations are collected, then they are mailed back to the driver license's section at TDOS, usually by court clerk personnel. Driver license personnel code the citations using the appropriate TCA Codes and the violations are outsourced for data entry. This system clearly shows the reason that there is such a delay in the posting of these violations to the driver history database, and why there is much uncertainty in DUI offender information.

NHTSA states that a comprehensive DUI tracking system should provide for two specific functions. First, such a system should track all offenses, from arrest through dismissal or sentence completion, and be accessible on a central network for immediate update capability. Secondly, NHTSA recommends that all DUI tracking systems provide statewide statistics on various measures of DUI's that will allow legislators, treatment professionals, and others to evaluate the current DUI environment and the effect of countermeasures and laws designed to reduce DUI offenses (NHTSA 1997). We agree with NHTSA, but added a third component to address DUI convictions and conviction rates. We believe additional tracking elements must be added to capture contextual variables surrounding the arrest, i.e., sources of probable cause to justify the arrest, pre- and post-stop impaired driving behavior, and performance on standardized field sobriety tests.

DUIITS accomplishes all three provisions. The first phase of DUIITS (fiscal year 2002/03) dealt with building a system from the ground up. It put the necessary personnel, hardware, and software in place to conduct the pilot and work out details to eventually take it statewide. The data-flow process, form development, and personnel training were accomplished primarily in the first phase as well. The second phase of DUIITS is in progress and contains an expansion component. Other counties and agencies will be added to the ones already participating. The focus of this phase is on the court system and how their DUI data is transmitted to TDOS. We are refining that process with a continuing eye on scalability.

After phase I of DUIITS, 20% of the 13th Judicial District now has access to DUI offender data, and there are approximately 1,550 records in the database. Of these arrest records, 1,053 are associated with the vehicle exhibiting one or more of NHTSA's

24 impaired driving behaviors (e.g., weaving over center line, turning wide, stopping problems, etc.). Of the total arrests, 298 were either found guilty or pled guilty to an impaired driving charge (i.e., DUI, DWI, Under age DWI and child endangerment). From this information and more like it, the court systems and DA's offices have the ability to count, make decisions and understand the offenders' histories and report information to the proper reporting agency.

Expanding the counties and agencies within counties participating is our challenge for this fiscal year also. As DUIITS looks to the future, additional focus will be put on the analysis of incoming data and using that data to design possible interventions

Referring to the National Agenda Goals, tell how your project relates to each one you listed in Part One of this application:

GOAL 1: As outlined by Dr. Jeff Runge, this project directly addresses the identification, apprehension, and conviction of impaired drivers. This national agenda goal is shared by TN's GHSO, the funding agency for the project. As meetings were held and plans were made with possible participating agencies, the importance of impaired driving deterrence was adopted by all stakeholders as the primary focus of the project. The reduction in impaired driving was certainly viewed by stakeholders as important, but this project elevated the perception of importance to a new level. People were actually talking and more importantly acting in accordance with this heightened perception. More DUI arrests were being made, with fewer dismissed or reduced charges. The Tennessee GHSO, whose goals include the enforcement, adjudication, education and systemic improvements necessary to impact drunk and drugged driving, sponsors this project. The systemic improvements in this area also involve timely access to traffic record data including DUI offense data allowing interested parties to apprehend and convict impaired drivers.

GOAL 2: This project has received much attention by the State of Tennessee as a whole. It has raised the awareness of state organizations such as FHWA, TDOT, TDOS, TACP, the Tennessee Sheriff's Association, and presiding judges in the chosen judicial district. The heightened awareness has crept into the Tennessee legislature, and, in part, may have contributed to the passage of our .08 BAC law. As more DUI offender data become available and more agencies participate, the awareness of our impaired driving problem will manifest itself with even more cooperation across data end users. The participants in the pilot project presently rely on each other to provide the critical data for use by all.

GOAL 3: Because this effort was funded at the state level, any subsequent planning of highway safety programs has become a part of the impaired driving deterrence effort. Roving DUI patrol training for law enforcement has become available. In fact, all statewide training for law enforcement and DUI prosecutors has been consolidated to reflect the importance of impaired driving. The data collection integration across agencies is a direct result of the coordinated planning among state agencies, and Tennessee's GHSO is primarily responsible for the new planning structure. Our impaired driving crash data collection project has been influenced by the overall planning focus associated with impaired driving crashes.

NOTE: We are currently implementing an electronic **crash** report project using TraCS software.

GOAL 4: This project began with meetings eliciting the stakeholders' technology needs and using the input from those meetings. From numerous meetings, hardware and software needs were established, and the structure of the technological flow of the project was established. Law enforcement needed to be equipped with adequate resources to implement the DUI Tracking project with laptops, GPS devices, bar code readers, digital cameras, and in-car printers, safely mounted in the law enforcement vehicles. Based on what had worked for them in the past and what had not, law enforcement offered extensive input into their equipment needs. Desktop computers were given to the courts where warrants and indictments are written. A central server was purchased from where all DUI data is accessed. Allowing all stakeholders input into the decisions associated with their needs has created a definite "buy-in" for all. A major victory associated with this project and a result of shared planning, has been the ability to standardize data collection forms and processes. This saves countless hours of work on form construction and data upload routine development.

GOAL 5: Individuals associated with this project are trained in many analytical techniques, such as descriptive statistics, IMPACT analysis using C.A.R.E. (Critical Analysis Reporting Environment), logistic regression, etc. In addition, two individuals have been trained in the application of time series analysis; a statistical technique well suited to highway safety data. The ability to analyze highway safety data is always dependent on the design of the project. This project has been designed so that the software used (TraCS) creates a database on the backend of the data collection procedure. These databases are incorporated into a central data repository, but the **agency-specific** databases are available for the agency's own analysis. A set of standard queries has been developed and training in the use of these queries for agency personnel is on going. Additional reports are also being created. The software used for data capture, TraCS, automatically creates an agency specific database that can be queried to guide decisions regarding allocation of agency enforcement and prosecution resources.

GOAL 6: Efforts were made to find any standards associated with DUI data collection. There were no specific standards, but there were suggestions associated with impaired driving projects developed by NHTSA. Specific data elements were not identified, but the overall philosophy was adopted. The ability to track all offenses and the capability to analyze the data are incorporated by the need for timely, accessible, quality and confidential impaired driving records. These standards have been and continue to be at the forefront of all our data collection and training efforts.

As part of the resources given to participating law enforcement agencies was a 2-D barcode reader. This reader, along with our barcode drivers' licenses is ANSI-D16 compliant. An officer uses hi/her bar code scanner to read the drivers' license, then data automatically fills the appropriate fields in either a DUI arrest or our MMUCC compliant crash report.

Referring to the management approach to highway safety, tell how your project supports the management steps you listed in Part One:

Management Approach

Identify Goals:

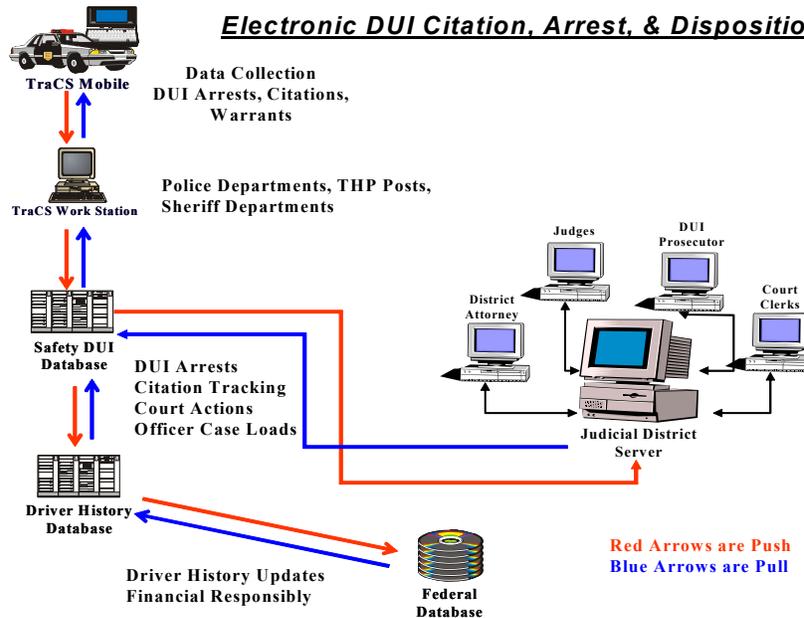
Tennessee had already adopted the deterrence of impaired driving as a major highway safety goal. This project clearly backs up this claim and has made this goal more important. Recently, our state passed the .08 BAC legislation. This project is not directly responsible for the needed change, but because of contacts made during the project planning, it raised awareness within the state for the importance of DUI deterrence.

Problem Identification:

The identification of our impaired driving problem was difficult at best. There was no way to determine what was happening in the DUI world. We decided to look at DUI arrests versus convictions, and managed to obtain some DUI arrest data (1 ½ years old), but the conviction data was and remains elusive. We compared the arrest data to the number of alcohol-related crashes and calculated an arrest-to-crash ratio. This index indicates which agencies are making proactive DUI arrests (i.e., ones not associated with a crash), and, more importantly, ones that are not. This measure indicates, at the very least, which law enforcement agencies are seriously dedicated to apprehending impaired drivers.

From the little conviction data obtained we estimated that our statewide DUI conviction rate was approximately 35%. We can certainly do better. We talked to District Attorneys who could not tell us how many DUI's were prosecuted or their outcomes. No one knew much about the situation. One thing we do know, however, is that 400 individuals lost their lives on Tennessee's roadways due to someone drinking and driving.

Figure 1



Plan Program/Countermeasures:

After problem identification, stakeholders were brought together, research was conducted into the paper-based DUI data process, and ideas were generated and discussed. A pilot project was designed to include all agencies that “touch” a DUI case. Law enforcement officers, the judicial commissioners (warrant writer), prosecutors and presiding judges were all consulted. From those consultations, the project was designed. As figure 1 depicts, each agency having a stake in a DUI case was considered. We

physically obtained the paper data entry *forms* from the respective entities and created them in an electronic medium. Individuals were trained in the use of these electronic forms. Data upload programs were developed and tested and a feedback mechanism was designed to determine who was sending data and who was not. Three times a week, via email, the project director receives a report that tells which county, how many, and who has sent associated DUI data.

Implement Program:

Program implementation is ongoing and has been a learning process. All program components have been left intact, but the actual implementation has changed. Instead of implementing three or four of the processes one at a time, we found it much more expedient and beneficial to refine one process, and then move to the next. For example, the arrest warrant process was established before moving to the DUI incident process. New agencies and counties are also added in this incremental procedure. This remains the standard practice.

Monitor Program Operation:

Program monitoring is a “hands-on” process. In addition to the feedback reports received for data movement, weekly, bi-weekly, or monthly visits to participating agencies are an established program practice. Additional training needs are identified in this manner and are conducted on-site. This means of monitoring has established a solid working relationship by all agency individuals.

Evaluate effectiveness:

At this point in our efforts, evaluation is primarily process in nature. Meetings held, training given, equipment distributed and contacts made are examples of these processes. The ultimate outcome measure of this project will be a reduction of impaired driving crashes, the increase in non-reduced conviction rates, and the timely and accurate identification of DUI offenders. We are beginning to identify these offenders, and as this project progresses, thorough outcome measure evaluation will occur. Included in this project are situational factors concerning the arrest and conviction of DUI offenders. Variables are electronically captured such as: “reason for stop”, public or private attorney”, and many more. From these factors, we will conduct logistic regression analyses that will yield which factors (variables) will predict the preferred outcome: **non-reduced convictions**.

Describe the major process steps for your project, including any unique aspects that enhanced success:

Major Process Steps

- Identification of and commitment from stakeholders was the first process in our project. This was accomplished through a series of meetings and discussions with individuals from the 13th Judicial District, as well as other state agencies. The 13th Judicial Districts sits in upper-middle Tennessee with seven counties included. They are: Cumberland, Pickett, Clay, White, Overton, Dekalb, and Putnam.
- After stakeholders came on board, equipment needs and purchase protocols were established. Discussions with agencies participating in the first level of DUIITS resulted in the type of equipment needed to accomplish our goal of

moving DUI data seamlessly across different entities. This equipment was purchased and installed.

- Studying the paper forms used in the various agencies was next. Electronic forms were engineered from these paper forms, using TraCS software, and were installed on the computers of various agencies.
- Training of personnel was on-going during this time and continues on an as-needed basis.
- The data-flow process and structure of that movement was worked out by our computer programmer and continues to be refined. Refer to *Figure 1* for a visual of the flow process.
- Monitoring of project is an ongoing process. It includes the receipt of reports verifying who is sending data, and the person-to-person contact we have with participants on a weekly basis.

Unique Aspects to Process Steps

Two aspects of the process of this project changed and are worth mentioning.

1. As stated earlier, a “one-at-a-time” procedure was adopted where data flow process was developed, tested and put in place before another was begun.
2. There was a reduction in the number of counties initially asked to participate. The seven counties in the chosen judicial district were too many to practically bring on board during the start of this project. One county (Putnam) was chosen with five agencies participating. Other counties have been and will continue to be added incrementally.

Provide the evidence and reasoning used to determine the success of the project:

At this time, DUI offender data is being successfully pushed and pulled from the law enforcement community, the court clerks, the warrant writers, the DA’s office and the judges in the 13th Judicial District. Anyone of these entities can access data, add data, or retrieve data. This process has eliminated redundant paperwork from these agencies. The information contained in the easily accessible data allows this judicial district to better identify multiple DUI offenders, track the progress of a DUI case, identify weaknesses in such cases, and take corrective action, resulting in more DUI convictions.

Why should this project be recognized as a best practice in traffic records?

One of a Kind

This project is the only one of its kind in Tennessee and completely closes the gap in our relentless pursuit to get “impaired drivers off the roads”. Using state of the art technology and software, this project allows timely access to accurate DUI data. Stakeholders can “know” in an instant if a possible offender is a 1st, 2nd, or 5th time offender. This knowledge will help keep Tennessee’s roadways safer for its citizens.

Scalability

This project is completely scalable, and as it progresses this scalability will be apparent. Included in its scalability is DUIIT’s ability to accommodate any level of sophistication a stakeholder may have. From the largest urban centers, to the most remote, rural agencies, DUIITS is at home in both applications.

Importance of Project

All who work on this project consider it a matter of pride when performing our respective duties and tasks. DUIITS has implications that reach far beyond Tennessee and we eagerly await the future of DUIITS.