**HERE'S THE PROBLEM**

In 2002, a team of USDOT experts conducted an assessment of the New Jersey Traffic Data System and made several recommendations.  The former Accident Records System Advisory Committee (ARSAC) needed to be re-established and restructured into the Statewide Traffic Records Coordinating Committee (STRCC), which is chaired by the NJDOT. The team confirmed the strong link between national needs being filled by state data collection systems, and offered recommendations for restructuring the internal crash records system. These recommendations included improvement of management coordination efforts, revision of the crash report form, and providing training for police officers on how to correctly complete the crash record report.


**AND, HERE IS THE SOLUTION…**

In response to these recommendations, the New Jersey Local Technical Assistance Program (NJ LTAP) was recruited by the Federal Highway Administration – New Jersey Division to conduct technical and training services that supported the improvement of crash data.  A project, known as the Police Technical Assistance Program (PTAP), was developed and the NJ LTAP staff began to work with the STRCC NJTR-1 Subcommittee on the development and provision of training for police officers on completion of the revised traffic records report form.


**BUT, HOW CAN IT BE DONE?**

A systematic approach was used for the successful revision of the New Jersey Traffic Records Report - 1 (NJTR-1) form that included Phase 1: Needs Assessment, Phase 2: Development and Revision of Resources, and Phase 3: Implementation Process. Assessment examined national, state, and local trends that were later used in the revision of the form and development of training resources. After the development phase was complete, implementation included both classroom and e-learning training.  A brief overview of Phases 1 & 2 are presented in this section with Phase 3 Implementation appearing later in the report.

**PHASE 1:  ASSESSMENT**

During the Assessment Phase, several activities were conducted by NJ LTAP that supported the NJTR-1 Subcommittee by collecting information to guide the revision and developmental process. Specifically, input was obtained from a national assessment and an interview with the NJDOT staff on common errors being made by police officers on submitted report forms. Also, five local enforcement advisory committees were formed to review the NJTR-1 draft and supply recommendations for enhancing the reporting process.

The five committees Regional Police Technical Advisory Committees of field officers reviewed the updated NJTR-1 form and recommended the following:
   - Revise the form so that a police officer, with minimum experience, would be able to complete the form with minimum supervision.
   - Simplify the existing guide book.
   - Recognize the purposes of the NJTR-1 (investigation and crash data statistics) in training.
   - Use the electronic transfer, uniform electronic data collection, and the internet for the benefit of law enforcement.

This information was used as guidance throughout the developmental and implementation phases of this project.  Specifically, the national assessment survey results served as a bench mark for revising the NJTR-1 Form. Also, the NJDOT staff interview guided the revision of the form and contributed toward the training process. The Regional Police Technical Advisory Committees provided input on the updated form before it was officially adopted for field use.

**PHASE 2:  DEVELOPMENT AND REVISION OF RESOURCES**

The NJDOT organized the NJTR-1 Subcommittee of transportation safety and enforcement leaders to serve in an advisory capacity for revision of the NJTR-1 and creation of a resources website for local police agencies.  The New Jersey Police Traffic Officers' Association (NJPTOA) simultaneously worked with the NJTR-1 Subcommittee as the lead agency for updating the *Police Guide for Preparing Reports of Motor Vehicle Crashes*, a resource on completing the NJTR-1 Form. Additionally, the role of NJ LTAP was to develop the training presentation tool, instructor manual, field manual and E-Learning System. The intent of these products was to support the reduction of reporting errors of submitted NJTR-1 Forms.

**Crash Form & Guide Revision Process**

The NJTR-1 Form review process began in September 2003 and took approximately one year to complete, which included reviewing both the NJTR-1 Form and the *Police Guide for Preparing Reports of Motor Vehicle Crashes.* Also, the form was revised to become

MMUCC compliant. Major form changes addressed clarification of the differences between left turn and angle crashes, sequence of events, determination of locations on state roadways, measurement of intersections, and defining crash locations on ramps.

### *NJTR-1 Form Revision Process*

Serious consideration was given by the Subcommittee not to change the size of the NJTR-1 Form, which was one page with two overlays. Many of the fields were expanded along with another 16 field elements added to the document.  However, the size was not affected because an overlay was added to compensate for needed space.

After all report fields were thoroughly reviewed, two versions of the NJTR-1 prototype were circulated to the Subcommittee for comment. Version 1 contained half of the mid-page block reserved for Vehicle 1 information, while the remaining space was designated for information on Vehicle 2.  The second version separated owner from vehicle information and kept reporting information together.  The boxes were renumbered according to the sequential of process and the vehicle box was also made larger because it was hard to include readable information in the previous space. The margins were moved to the outside to accommodate information and this slight change opened up the form to provide extra space for reporting purposes.

## Training Curriculum and Development of Companion Resources

The NJ LTAP consultant used content from the *Police Guide for Preparing Reports of Motor Vehicle Crashes* and feedback from the Regional Police Advisory Committee forums, to develop a standardized procedure for completing the NJTR-1 Form. Specifically, the form was segmented into thirteen sections with each one containing an independent key objective and several distinctive performance indicators. The objective behind the training was to promote more accurate data collection and accomplished by segmenting the new form into thirteen sections and standardizing the reporting process. Essentially, a behavioral approach was used in the curriculum design, so errors were able to be trained out of the reporting process through the tracking of deficiencies in these thirteen training sections.

### *Presentation Tool*

The Presentation Tool was developed using Lectora software, an e-Learning platform with the capability of building web-based training that was requested by the NJTR-1 Subcommittee. Two additional features, "Preliminary Instructions" and "NJTR-1 Exercises", were added to the existing thirteen sections and included in the Presentation Tool.  "Preliminary Instructions" contained background information on the NJTR-1 Subcommittee and the Local NJTR-1 Advisory Committee, a copy of the NJTR-1 Form; as well as segments from Title 39 and the Police Guide for Preparing Reports of Motor Vehicle Crashes. The "NJTR-1 Exercise" served as a review with participants being asked to successfully complete a blank form.

Also, a  drop-down index acted as a navigational feature for this instructional program, while a tool bar with buttons for reaching "home", "index", "exit", "back" and "next," was built into each screen.  Also, every chapter was framed with a Learning Objective and Section Summary pages to reaffirm the reporting skill sets being addressed in each chapter. Brightly colored (red) outlines identified each box being discussed, while red letters were used to emphasize new text.

### *Instructor and Field Manuals*

The Instructor Manual contained 264 pages that included a printed version of the power point and copies of information from each linked site. Another section, the NJTR-1 Form Field Manual, was included for officers to use during departmental training. This product was actually designed as a field tool, so multiple boxes and descriptive sections were reduced in size and several frames appeared on every page; which significantly reduced the size of this document.  The "Preliminary Instructions" section appeared in the back of the text to promote ease of use during field assignments.  Finally, the NJTR-1 Form exercises were separated out of the Field Manual and issued independently, for use as a training exercise.

The developmental process produced a NJTR-1 Form that met the needs of both the field officers and technical community. Most importantly, a structured training curriculum and resource tools were created through the segmentation of the NJTR-1 Form, and identification of training objectives. In the future, data system managers will be able to identify reportable errors and a determination can be made on corrective training actions for "training out" the errors.  Although speculative, the end result should result in a substantial cost savings for both state and federal governments and enhanced data integrity.

### *E-Learning System and Training Updates*

The decision of the Subcommittee was for this learning tool to be located on the New Jersey State Police, NJ LEARN training website and serve as a remedial tool to build data collection skills until workshops become available for police officers. The NJTR-1 Subcommittee previewed the product and several NJTR-1 Subcommittee members evaluated each of the thirteen sections.  Adjustments were made to the E-Learning System by the technical vendor before being accepted into the NJ LEARN network, the statewide training system for enforcement personnel.

## THESE ARE OBJECTIVES OF THE STUDY…

The purpose of the PTAP project was to promote the New Jersey Department of Transportation (NJDOT)'s safety mission.  The federal Local Technical Assistance Program (LTAP) model was modified to support the NJTR-1 Subcommittee in the following manner:

- Research best practices of other states,
- Provide technical support to the NJDOT during the form revision and curriculum development processes,
- Offer technical assistance to local police departments, and
- Implement training on proper completion of the revised crash report form.

**AND, HERE'S WHAT WE DID…**

The scope of PTAP services included assessment, product development, and implementation of training and resources. During the form and guidebook revision process, technical assistance included tracking and reporting on training issues. Afterward, the NJ LTAP team developed a standardized training curriculum and technical resources to reduce reporting errors on the NJTR-1 Form. A series of train-the-trainer and supervisory workshops were conducted throughout the state to update police personnel on the NJTR-1 form changes. Finally, the E-Learning System was developed and launched on the New Jersey State Police, NJ LEARN website.

**PHASE 3:   IMPLEMENTATION PROCESS**

The implementation process occurred in four stages: knowledge based training, evaluation and revision of the training content, presentation of applied learning programs, and launching of the E-Learning System.  The initial training was dedicated to dissemination of knowledge and resources, while the second stage entailed evaluation and review of the curriculum for use in development of the applied learning program that was schedule one year after the initial knowledge based training. Participants were able to use the training and resource, provided one year earlier, and comment on what worked, what did not work, and what needed to be improved for reduction of crash reporting errors. Lastly, the on-line E-Learning System was developed as a supplement for veteran trainers and a resource for new police officers.

**Stage I:  2005 Knowledge Based Training**

The NJTR-1 Form Train-the-Trainer Program was conducted as crash records management training that introduced the revised NJTR-1 reporting system.  A series of 13 workshops was instructed by the NJ LTAP consultant.  Beginning one month prior to the release of the revised NJTR-1 Form, the programs were held at county police academies in the northern (6), central (5), southern (2) regions of New Jersey.

A total of 504 train-the-trainers participants attended these seven hour sessions, with a targeted audience of municipal police trainers (96%). The training format consisted of an overview of the NJTR-1 Form, discussion of the changes, review of the boxes, question and answer period, lunch break, and practice exercise component. The box review segment included an overview, changes from past practices, and revisions of the reporting requirements for the new form. During the summary, officers prepared and discussed a sample exercise. At the end of the session, each participant received a full

training package that included the instructor manual, presentation tool, field manual handout, series of training review exercises, and an updated copy of the NJTR-1 Form.

## Stage II: Evaluation and Revisions

Feedback was solicited from the New Jersey Police Traffic Officers' Association membership, who had been using the training products for a three month period. This group was encouraged to submit comments to the NJTR-1 Subcommittee on the effectiveness of the products and data collection issues that they encountered since the training. Also, feedback was obtained on the data system errors that occurred in conjunction with the use of the updated form. This information was then used, along with input from program registrants to update the Instructor and Field Manuals and develop a refresher workshop. Instructors were recruited from the NJTR-1 Subcommittee to work with the NJ LTAP team on developing half-day applied learning workshop. The group collectively identified the targeted audience as being police supervisors, reviewers, and trainers who wanted information on training updates.

## Stage III: 2006 NJTR-1 Form Training Supervisors and Trainer Refresher   (Applied Learning) Program

A total of seven sessions were held for both supervisors and trainers at county police academies in the northern (2), central (2), southern (3) regions of New Jersey. The majority of the 212 participants (96%) represented local police enforcement agencies, while the remaining individuals represented the NJSP and university campus police.

This standardized program highlighted the importance of Geographic Information Systems (GIS) technology, instructions on parking lot crashes, recording of mileposts, collection of data on ramps, recording of multiple vehicle crashes, entry of data for year, issues related to nominal direction of crashes, and replacement of the Clock Point Diagram with a user friendly version. Five reporting errors were addressed that included "Vehicle Removed To" and "Victim's Physical Condition" not being recorded on the NJTR-1 Form. There were inconsistencies in reporting the use of seatbelts as "Safety Equipment Available". Also, vehicles were not being numbered properly when multiple vehicle crashes were reported.

### *Training and Field Responses*

Instructors addressed workshop expectations provided by participants during introductions. These items (139) were coded into computer, data collection, diagrams, reporting/procedural, resources, and training issues (Figure1).
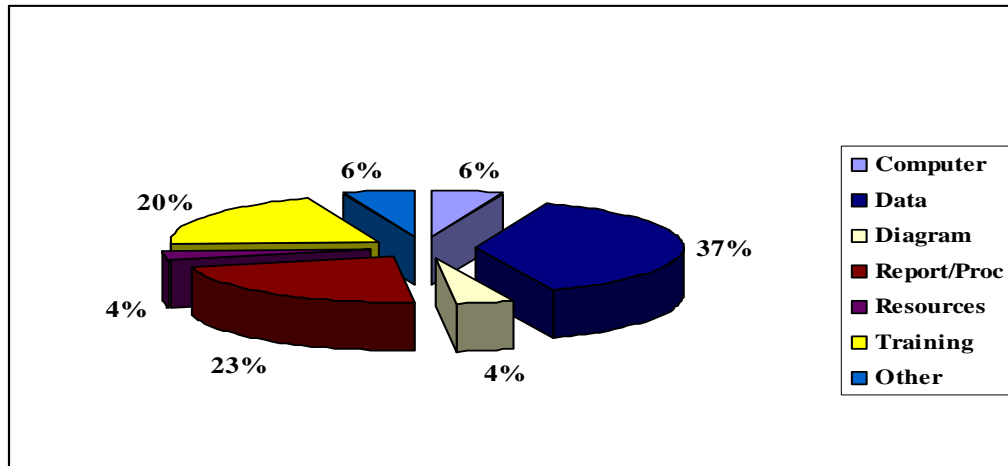
Figure 1.  2006 NJTR-1 training issues

The overall program evaluation was rated at 90 percent or greater, while location and facilities ranged between 85 and 89 percent.  Comments were favorable toward the instructors, training resource, and reaching the targeted audience. Other responses included a request for on-line reporting capabilities in all municipal police departments throughout the state. Also, an abbreviated session was held during the New Jersey Police Traffic Officers' Association meeting, with 165 training kits distributed to a statewide representation of police traffic officers.

## Stage IV.  E-Learning System

After the training sessions ended, the NJTR-1 faculty previewed a pilot demonstration of the E-Learning System.  These content experts reviewed the training program that included test questions to support the learning objectives for each section. Several changes were recommended during the review process which entailed changing eleven questions.  The wording of the questions, visual enhancements, and instructional content adjustments were requested. Once all adjustments were made to the E-Learning System by the technical vendor, the NJ LEARN administrator was approached on linking this tool to their website.

### *Linkage to the NJ LEARN Website*

After the NJTR-1 Form Training E-Learning System was successfully linked to the website, the notification process was completed. Confirmations are sent directly to users who have successfully completed the training. Certificates will be issued on-line after successful completion of the course.. Results will be tracked during the upcoming year, in order to establish the effectiveness of this product.

**CONCLUSION AND RECOMMENDATIONS**

The most important outcome of this project was the global acceptance of the revised form by the enforcement community, which had not been the case in the past. To the credit of the NJTR-1 Subcommittee, they considered national "best practices", feedback from the NJDOT technical staff, and recommendations of the Regional Police Technical Advisory Committee when revising the NJTR-1 Form to reflect field reporting conditions. Furthermore, the involvement of NJDOT staff members and local police officers, who worked directly with the form, improved the functionality of this tool. Also, the interaction between state and local personnel contributed to a mutual understanding and respect of how and why the form changes had occurred.

Since behavioral objectives were used in the curriculum design of the knowledge based training program, prescriptions became available to local departments for training errors out of crash reports. The revised NJTR-1 Form was segmented into thirteen sections with each one containing an independent key objective and several distinctive performance indicators. This targeted approach to training had enabled local police departments to retrain employees in an efficient manner to further improve the accuracy of forms being entered into the NJDOT Crash Records System.

According to the State Office of Information Technology and NJTR-1 Subcommittee representative, the number of errors per form had significantly decreased during the year to two errors per form, which reflects a 98% accuracy level for the submissions. When considering the outcomes of global acceptance of the revised NJTR-1 Form, engagement in collection of additional data, and training errors out of the NJTR-1 Form, it is difficult to determine if one or all of these actions had contributed to the dramatic increase in accuracy of the NJTR-1 Form. Although not measured in this study, accuracy in reporting may have a significant impact on the reduction of crash data coding time and staffing hours assigned to this type of task.

**WHAT IS THE NEXT STEP?**

Several training needs were identified during the 2006 training that include development of a "Frequently Asked Questions" section for the Police Resource website. Police academy instructors have expressed an interest in using the program, so, NJ LTAP will be working with these representatives to adapt the power point program to meet the needs of new recruits.  Also, both the *NJTR-1 Form Field Manual* and the *Police Guide for Preparing Reports of Motor Vehicle Crashes* must be combined into one document for field use. Lastly, the E-Learning System requires a minimum of oversight and monitoring of participants who have successfully complete the on-line training program. In conclusion, on-going work must continue in order to maintain the success realized by this collaborative effort.

| FOR MORE INFORMATION CONTACT: | |
|---|---|
| NJDOT PROJECT MANAGER: | **William Beans** |
| PHONE NO. | **609 530-2471** |
| **e-mail** | **william.beans@dot.state.nj.us** |
| UNIVERSITY PRINCIPAL INVESTIGATORS | **Dr. Ali Maher** |
| UNIVERSITY: | **Rutgers University** |
| PHONE NO. | **(732) 445-0579, ext. 105** |
| **e-mail** | **mmaher@rci.rutgers.edu** |
| UNIVERSITY PRINCIPAL INVESTIGATORS | **Dr. Claudia Knezek** <br> **Janet Hansen** |
| UNIVERSITY: | **Rutgers University** |
| PHONE NO. | **(732) 445-3632, ext. 109** |
| **e-mail** | **knezek@rci.rutgers.edu** |

A final report is available online at http://www.state.nj.us/transportation/research/research.html

If you would like a copy of the full report, please FAX the NJDOT, Bureau of Research, Technology Transfer Group at (609) 530-3722 or send an e-mail to Research.Bureau@dot.state.nj.us and ask for: