



Traffic Crash Data Audit Report 201415-21

May 20, 2016

Executive Summary

Section 316.066, Florida Statutes (F.S) requires law enforcement officers in Florida to report traffic crashes using the Florida Traffic Crash Report (crash reports) and for crash reports to be submitted to the Department of Highway Safety and Motor Vehicles (Department). Crash reports submitted to the Department are either electronic crash reports (E-crash reports) or paper crash reports. For the second quarter of the 2015 Fiscal Year, a total of 178,476 crash reports were submitted to the Department from approximately 400 law enforcement agencies statewide. E-crash reports accounted for approximately 90% of the crash reports submitted.

Section 316.069, F.S., requires the Department to analyze and annually publish statistical information on the number and circumstances of traffic crashes (crashes). In addition, the Department is responsible for responding to public records requests for traffic crash data and copies of crash reports. Section 316.066(2)(b), F.S. authorizes the Department to provide crash reports, when requested, to the parties involved in a traffic crash, their legal representatives, their licensed insurance agents, prosecutorial authorities, law enforcement agencies, the Florida Department of Transportation, county traffic operations, and victim services programs.

To provide efficient, timely and aggregate information, and to reduce public record requests, the Department entered into a no cost contract with Appriss in 2011 to develop and maintain a central repository for processing, housing, and disseminating crash reports from all law enforcement agencies throughout the state. The contract requires Appriss to image, store, and provide search and retrieval of crash reports. Appriss is also responsible for making crash reports available for sale to the public through an online portal and for the manual input of paper crash reports. Appriss currently contracts with Prison Rehabilitative Industries and Diversified Enterprises, Inc. (PRIDE) to have paper crash reports manually input into an E-crash report for submission.

The purpose of this audit was to review and evaluate the accuracy and reliability of the crash data reporting process and compliance with applicable laws and Department policy and procedure. Our review determined the following items require management attention:

- The accuracy and completeness of manually input crash data by PRIDE could be improved.

- Improving the process used to import data into the FIRES database would increase the accuracy of the data used for reporting crash statistics.

Background and Introduction

Section 316.066, F.S., requires law enforcement officers in Florida to report traffic crashes using the Florida Traffic Crash Report and for crash reports to be submitted to the Department. Traffic crashes are reported using a long or short form. A long form is used for severe crashes or crashes involving death, driving under the influence, involvement of a commercial motor vehicle, any indication of injury, or when a vehicle requires to be towed and must be submitted within 10 days. Short forms are used for less severe incidents.

Crash reports submitted to the Department are either E-crash reports or paper crash reports. For the second quarter of the 2015 Fiscal Year, a total of 178,476 crash reports were submitted to the Department from approximately 400 law enforcement agencies statewide.

E-Crash reports are completed by law enforcement officers in the field and are submitted using crash reporting software. Currently, E-crash reports account for approximately 90% of all crash reports. Paper crash reports are submitted to the Department's contractor Appriss or are mailed to the Department and collected by Appriss. Appriss currently contracts with Prison Rehabilitative Industries and Diversified Enterprises, Inc. (PRIDE) to have paper crash reports manually input into an E-crash report for submission. Nightly, PRIDE submits a data file to the Department with the crash data from the paper crash reports manually input that day.

Florida's Integrated Report Exchange System

Section 316.069, F.S., requires the Department to analyze and annually publish statistical information on the number and circumstances of traffic crashes. In addition, the Department is responsible for responding to public records requests for traffic crash data and copies of crash reports. Section 316.066(2)(b), F.S. authorizes the Department to provide crash reports, when requested, to the parties involved in a traffic crash, their legal representatives, their licensed insurance agents, prosecutorial authorities, law enforcement agencies, the Florida Department of Transportation, county traffic operations, and victim services programs.

To provide efficient, timely and aggregate information, and to reduce public record requests, the Department issued an Invitation to Negotiate in March of 2011 to obtain offers for a no cost contract. The Department subsequently entered into a contract with Appriss to develop and maintain a central repository for processing, housing, and

disseminating crash reports from all law enforcement agencies throughout the state. The contract requires Appriss to image, store, and provide search and retrieval of crash records. Appriss is also responsible for scanning and entering the data from paper crash reports. Furthermore, Appriss is required to accept daily transmittals of other crash reports obtained by the Department through electronic submission and make crash reports available for sale to the public through an online portal.

To fulfill the requirements of the contract, Appriss developed Florida's Integrated Report Exchange System (FIRES) portal and makes crash reports available to the public through a website. FIRES serves as a portal into the State's repository for crash reports completed by Florida law enforcement agencies. It also serves as Florida's central repository for traffic records information and provides statewide crash statistics for private and public organizations. FIRES main purpose is to provide law enforcement and traffic safety planners a single source for all Florida roadway traffic crash information.

The FIRES portal allows members including law enforcement, state and local traffic safety engineers, and the state attorney's office to access general statewide crash data and perform advanced crash data searches. The advanced search allows members to build ad hoc queries from a list of reported crash fields. The list includes, but is not limited to the manner of collision, injuries, fatalities, and whether it was work zone related. Advanced searches also allow members to access crash report images, specific data for individual traffic crashes, and view maps of related traffic crash data. The FIRES public portal provides aggregate crash data statistics to the public.

Crash Reporting Process

Currently, all E-crash reports completed by law enforcement officers in the field and the crash report data file submitted by PRIDE are loaded into the Department's Crash Reporting System database (CRScan) daily. CRScan is a Department owned and supported database that was the central repository for crash reports prior to the contract with Appriss. All reports submitted to CRScan are automatically subject to more than 200 logic edits. The logic edits ensure each crash report does not have a crash report number previously submitted and that data fields meet specific requirements regarding length and character use. Reports that are rejected are sent back to PRIDE or the law enforcement agencies that submitted the report for correction.

Daily, CRScan disseminates the current day's new or updated records and images to Appriss for incorporation into the FIRES database. The Department also provides Appriss a Crash Data Transmittal report providing the total number of records at each level of crash data; including collisions, vehicles, drivers, non-motorists, violations, trailers, motor carriers, and witnesses. The report is then compared to the total number of records that were successfully imported into the FIRES database to ensure all

records were successfully imported. Crash report data from CRScan is also provided daily to the Florida Department of Transportation, the Federal Motor Carrier Safety Administration, the National Highway Traffic Safety Administrations (NHTSA) and the GeoPlan Center at the University of Florida.

Data Quality Initiative

During the 2015 Fiscal Year, the Florida Traffic Record Coordinating Committee (TRCC) funded a statewide project to improve the quality of crash data and analytic resources among various state providers. Members of the TRCC include the Department, Florida Department of Transportation, Florida Department of Health, Agency for Health Care Administration, Florida Sheriff's Association, and the Florida Police Chief's Association. The TRCC facilitates the planning, coordination, and implementation of projects to improve the state's traffic records system and approves Florida's annual application to the NHTSA for funding.

The project required the Department to reconcile and document discrepancies among the various providers of crash data and analytic resources. These providers include, the Florida Department of Transportation and Signal 4 Analytics at the University of Florida. Efforts included coordinating, analyzing, resolving, and tracking any crash data load issues between partners. In addition, high-level reconciliation checks and analysis of discrepancies between the Department's exchange partners occurred on a quarterly basis. The reconciliation checks compared totals for 12 measures including total crashes, fatal crashes, fatalities, and teen driver crashes.

The objective of this audit was to review and evaluate the accuracy and reliability of the crash data reporting process and compliance with applicable laws and Department policy and procedure. OIG staff compared crash data from a sample of E-crash and paper crash forms to the data contained in CRScan and the FIRES database for accuracy and completeness.

Findings and Recommendations

Our review determined the following issues require management attention:

Accuracy of Manually Input Crash Reports

Finding No. 1: The accuracy and completeness of manually input crash data by PRIDE could be improved.

Data quality is an essential requirement for the effective use of data by management when making organizational and program decisions.

Our comparison of data in CRScan to the original paper crash reports determined that 50 of 99 crash reports (approximately 51%) had input errors in at least one section; including sections related to driver information, event, person, vehicle, violations, driver action, and vehicle damage. Input errors involved incorrect driver license number and expiration dates, insurance information, dates of birth, vehicle year and style, areas of damage, and violation codes.

Recommendation

We recommend the Department contract manager, in conjunction with Appriss and PRIDE, create and implement a data quality management program.

Management Response

The contract manager, Appriss and PRIDE, are working to create and implement a data quality review program. This program will be initiated with a review of data entry protocols used by PRIDE to ensure that data from paper crash reports is being properly entered into CRScan. If necessary, these protocols will be updated.

In addition, PRIDE will pull a random sample of crash reports weekly and compare the data entered to the paper crash report. Appriss will also write a query to pull a sample of data elements entered by PRIDE and have a member of their staff compare these data elements to images of the crash reports provided by PRIDE. This process will focus on the common errors/omissions identified during the audit.

FIRES Reporting

Finding No. 2: Increasing data field lengths in the FIRES database would improve the accuracy of the data imported from CRScan.

The accuracy of crash data is critical to its effective use by all users of the data; including the Department, other state and federal agencies, public, and private users.

While comparing the data in CRScan to FIRES, it was noted that the data did not always agree. This was caused by data from CRScan being cut off when imported into the FIRES database, due to data field length requirements. The differences occurred in sections related to person and vehicle.

Specifically, data fields that did not agree were associated with the emergency medical services call number, phone number and gender fields. The last 2 digits of phone numbers were not included, when parenthesis were used around area code and only the first digit of the gender code was imported, so any gender codes with multiple digits (gender unknown) were incorrectly imported into the FIRES database.

After audit inquiry, Appriss created an action plan to correct the issues identified and to extend the length of the data fields.

Recommendation

We recommend the Division of Motorist Services confirm Appriss implements the action plan for the issues identified with importing data into the FIRES database.

Management Response

The Division of Motorist Services will work with Appriss to implement changes to the FIRES Database to improve the accuracy of data imported from CRScan. Currently, the following changes have been made:

- The gender field has been extended to 2 characters to allow for storage of the full 88 (unknown) value.
- All street address fields were expanded to accommodate addresses with more than 30 characters.
- The phone number was expanded to allow parentheses, thus not cutting off a portion of the number.

We will continue to review data accuracy imported from CRScan into FIRES and make appropriate changes when needed.

Purpose, Scope, and Methodology

The purpose of this audit was to review and evaluate the accuracy and reliability of the crash data reporting process and compliance with applicable laws and Department policy and procedure.

The scope of this audit includes Department crash data, including key juncture points and comparing data outputs over different databases.

The methodology included:

- Reviewing applicable statutes, rules, manuals, and procedures;
- Interviewing appropriate Department staff;
- Obtain an understanding of the data quality management program;
- Reviewing logical edits;
- Reviewing original E-crash reports;
- Reviewing original paper crash reports;
- Reviewing crash report data in CRScan; and
- Reviewing crash report data in FIRES.

Distribution, Statement of Accordance, and Project Team

Distribution

Terry L. Rhodes, Executive Director
Diana Vaughn, Deputy Executive Director
Boyd-Dickerson Walden, Chief Information Services Administration
Robert Kynoch, Director of Motorist Services
Rick White, Deputy Director of Motorist Services
Maureen Johnson, Chief of Bureau of Records

Melinda M. Miguel, Chief Inspector General
Sherrill F. Norman, Auditor General

Statement of Accordance

Section 20.055, Florida Statutes, requires the Florida Department of Highway Safety and Motor Vehicles' Inspector General to review, evaluate, and report on policies, plans, procedures, accounting, financial, and other operations of the Department and to recommend improvements. This audit engagement was conducted in accordance with applicable *International Standards for the Professional Practice of Internal Auditing* published by the Institute of Internal Auditors and *Principles and Standards for Offices of Inspector General* published by the Association of Inspectors General.

Project Team

Engagement conducted by:
Kevin Doar, CISA, Senior IT Auditor
Keaton Wilson, Auditor

Under the supervision of:
David Ulewicz, Audit Director

Approved by:


Julie M. Leftheris, Inspector General



ATTACHMENT - Management Response



Terry L. Rhodes
Executive Director

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MEMORANDUM

DATE: May 19, 2016
TO: David Ulewicz, Audit Director
FROM: Robert Kynoch, Director 
Division of Motorist Services
SUBJECT: Division of Motorist Service response to the Traffic Crash Audit (Audit Report No. 201415-21)

The following is our response to the findings and recommendations presented in the report.

Finding 1- Accuracy of Manually Input Crash Reports

The accuracy and completeness of manually input crash data by PRIDE could be improved.

Recommendation

We recommend the Department contract manager, in conjunction with Appriss and PRIDE, create and implement a data quality management program.

Management Response

In response to the recommendation the contract manager, Appriss and PRIDE are working to create and implement a data quality review program. This program will be initiated with a review of data entry protocols used by PRIDE to ensure that data from paper crash reports is being properly entered into CRScan. If necessary, these protocols will be updated. In addition, PRIDE will pull a random sample of crash reports weekly and compare the data entered to the paper crash report. Appriss will also write

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a query to pull a sample of data elements entered by PRIDE and have a member of their staff compare these data elements to images of the crash reports provided by PRIDE. This process will focus on the common errors/omissions identified during the audit.

Finding 2- FIRES Reporting

Increasing data field lengths in the FIRES database would improve the accuracy of the data imported from CRScan.

Recommendation

We recommend the Division of Motorist Services confirm Appriss implements the action plan for the issues identified with importing data into the FIRES database.

Management Response

In response to the recommendation the Division of Motorist Services will be working with Appriss to implement changes to the FIRES Database to improve the accuracy of data imported from CRScan. As of this date, the following changes have been made:

- The gender field has been extended to 2 characters to allow for storage of the full 88 (unknown) value.
- All street address fields were expanded to accommodate addresses with more than 30 characters.
- The phone number was expanded to allow parentheses thus not cutting off a portion of the number.

We will continue to review data accuracy imported from CRScan into FIRES and make appropriate changes when needed.