CONNECTICUT CRASH AND ROADWAY SAFETY DATA MANAGEMENT PEER EXCHANGE

An RSPCB Peer Exchange

1. INTRODUCTION

This report summarizes the proceedings of the Connecticut Crash and Roadway Safety Data Management Peer Exchange held in Newington, Connecticut, sponsored by the Connecticut Department of Transportation (CTDOT) and the Federal Highway Administration (FHWA) Office of Safety's Roadway Safety Professional Capacity Building Program.

From April 26 to April 28, 2016 the FHWA Office of Safety and CTDOT convened 75 representatives from eleven States: Connecticut, Florida, Louisiana, Maine, Massachusetts, Michigan, New Hampshire, New York, Rhode Island, Tennessee, and Vermont. The registration list is available in Appendix A. The purpose of this event was to share noteworthy practices on crash and roadway data management, visualization, analysis tools, and integration of roadway and crash data. This was the first time that a peer exchange included both crash and roadway management tracks. The concept was to create new synergy between both data sets and to underscore the importance of integration for analysis purposes. The meeting also included a larger number of States to enable a greater sense of networking across a larger range of issues. The proceedings consisted of presentations by lead adopters and facilitated roundtable discussions. The workshop included plenary sessions and two tracks of presentations: Roadway Data Management and Crash Data Management. Refer to Appendix B for the content and agenda of the peer exchange.

The discussion highlighted the importance of the following key themes:

- **Data Governance:** States are establishing data governance practices to improve the timeliness and quality of data, integrate data systems, adapt to changing data standards, and manage access to data.
- **Commitment:** States that successfully improved their crash data have had strong leadership support and have made sustained investments in champions, staff, data sources, and tools.
- **Collaboration:** Crash and roadway data collection, reporting, and management involves numerous stakeholders so strong collaboration is critical.

These themes are described in greater detail in Section 5 of this report.

2. Plenary Sessions: A Business Approach to Adopting MMUCC and MIRE

The Plenary sessions were selected to showcase how some States in the region have successfully conducted major overhauls of existing data systems when legacy systems no longer met their planning and analysis needs. Connecticut was able to convert to a Model Minimum Uniform Crash Criteria Guideline (MMUCC)-based system of crash reporting and at the same time convert to full electronic field reporting in just three years; Rhode Island established a Model Inventory of Roadway Elements (MIRE) driven roadway safety data approach in two years. Both states responded to strong FHWA Crash Data Improvement Program (CDIP) and Roadway Data Improvement Program (RDIP) assessments respectively leading to the development of business plans to help guide their way. These projects demonstrated how States can quickly move to a new system once a policy level commitment is made to fully adopt national standards for MMUCC and MIRE. Both presentations demonstrated how systems can be scaled up to full statewide implementation with partners, technical expertise, and efficient deployment of resources.

Adopting FHWA's Model Inventory Roadway Elements

Representatives from the Rhode Island Department of Transportation (RIDOT) described how Rhode Island is developing a roadway inventory system in conformance with FHWA's Model Inventory of Roadway Elements, a recommended listing of roadway inventory and traffic elements critical to safety management. A key goal of developing the roadway inventory system is to allow RIDOT to identify systemic safety risk factors based on crash, roadway, and traffic data.

To create an integrated roadway inventory system, RIDOT collected data using LIDAR and right-of-way imagery on 6,500 centerline miles of their State and local roadway system. They collected 180 of the 202 MIRE data elements. For each MIRE element RIDOT required contractors to define the element and attribute type, identify the source of data, define the process used to extract the element, and estimate the expected accuracy. The collection process took about a year. RIDOT also developed a Geographic Information Systems (GIS) data model to house the data. RIDOT is now working to integrate business processes, develop data governance systems to develop data standards and data needs, quality assurance and control procedures, and training plans, and manage communication with internal and external users.

Developing an All-Electronic MMUCC Compliant Crash Reporting System

Connecticut Department of Transportation (CTDOT) explained how it addressed a 16-month crash report backlog and converted to all-electronic reporting in just three years. In 2012, CTDOT, the Governor's Highway Safety Office (GHSO) and the Traffic Records Coordinating Committee (TRCC) decided to convert to a fully MMUCC compliant crash reporting form and no longer accept paper crash records.

To implement the project and create an electronic crash data repository, CTDOT developed a business plan and established a multidisciplinary team that would work closely with the University of Connecticut's (UCONN) Transportation Safety Research Center (TSRC). CTDOT led an effort to adapt existing crash reporting software and create an Adobe-based electronic crash reporting form as a free alternative. UCONN hired former police officers to train hundreds of law enforcement agencies to use the new form. They also created a crash data repository that allows web-based access to crash reports, analysis, and data visualization.

CTDOT shared key lessons learned from the process including:

- Establish a dedicated project coordinator or data champion.
- Identify, engage, and incentivize key partners in law enforcement and among software vendors.
- Establish a firm project launch date.
- Have a plan, but be flexible and agile in responding to unanticipated challenges.
- Seek out peers and experts to learn from their experiences.

3. Breakout Sessions: Crash Data Management

The crash data management track was designed to focus on planning, implementation, and stakeholder collaboration to build crash data management systems and enhance the collection and analysis of crash data.

MMUCC Compliant Fillable PDF and Crash Report Training

CTDOT worked with UCONN to develop a MMUCC compliant electronic crash reporting form. The tool is free to agencies responsible for collecting crash data. The tool includes automated editing and validation features that make it relatively easy to use and ensure reasonably high data quality. The tool allows for the import of crash diagrams and can be converted to an XML file to enable transmission to the State's secure FTP site. The application allowed CTDOT to provide a free alternative to law enforcement agencies whose electronic crash reporting vendors would not adapt existing forms.

UCONN hired two law enforcement liaisons, both former police officers, to train law enforcement agencies on the use of the updated crash reporting forms. They developed and implemented an ongoing multimedia educational outreach effort that included in-person training, videos, newsletters, social media, and podcasts. Ad hoc technical assistance in data collection, validation, internal processing and reporting was essentially available every day. This helped to develop the relationships needed to make full scale statewide implementation a reality. A key factor was the development of a two way relationship with enforcement agencies that included new levels of access to local data never previously available.

Crash Data Improvement Planning and Data Quality Management

CTDOT shared "best practices" and lessons learned from the experience of changing a crash reporting system. The CDIP planning process employed several key features:

- It set a firm deadline both for MMUCC adoption and electronic reporting in order to leverage scaling up the enterprise to full statewide coverage.
- It included a focus on changing the relationship dynamic with the law enforcement community to be more interactive, transparent, and inclusive.
- Engaged the Road Management System (RMS) vendor community for the first time with both incentives and leveraged mandates from their local customers.
- Developed default tools to make it easy for everyone to participate.
- Included a committed university partner to provide technical backup capacity.
- Frequently consulted peer States to draw on lessons learned.

CTDOT found it important to have a full time "data champion" who coordinated activities through regular team meetings where tasks were assigned and progress was reported. CTDOT implemented a management system akin to "agile system development," where the business plan was translated into short term tasks and monitored and adjusted on a weekly basis.

CT reached out to the RMS vendor communicating with them to solicit interest and support; it also provided mini-grants as an incentive to participate in the program. CTDOT worked closely with RMS vendors,

communicating with them weekly, offering guidance and assistance in upgrading their e-crash modules to comply with State requirements. CTDOT provided the XML schema, edit and validation rules, and a data specifications manual to guide changes to the software. A testing and certification process was implemented to assure that the upgrade would work for most crash scenarios.

CTDOT developed a number of "back end" tools to manage data quality. These included an hourly import process at the secure FTP site and a "Crash Report Reader" application to apply validations and edits. Data quality is additionally managed by technicians who scan the documents and locate the crash to the department's roadway information file. There is an automatic export process each night to the UCONN Crash Data Repository. Fatality cases are also being uploaded to the Fatality Analysis Reporting System (FARS) to auto populate the FARS data base. Commercial vehicle truck crashes are also being automatically uploaded to the FMCSA site. A number of data quality reports are maintained and shared with law enforcement agencies including frequency of reporting, number of outstanding errors, and an agency report card.

Fatality Data Collection and Management

The senior Data Quality Analyst from the National Highway Traffic Safety Administration (NHTSA) gave a presentation on common challenges and best practices related to fatal crash data collection for the NHTSA-managed Fatality Analysis Reporting System (FARS). FARS includes comprehensive data on the characteristics of each fatal crash, including data related to the crash event, the vehicle(s), driver(s), non-motorist(s) involved, and pre-crash conditions.

NHTSA evaluates the FARS data process based on three objectives: timeliness, accuracy, and completeness. The most difficult data elements to collect are toxicology dispositions, death certifications, and emergency medical services (EMS) run times. Reporting lags often result from a lack of awareness or clear formal processes among reporting agencies regarding data requirements and data sharing.

Successful FARS data acquisition depends on establishing collaborative relationships. Best practices include:

- Clearly identify sources of data;
- Establish Memoranda of Agreement with source agencies for data sharing;
- Leverage the State Traffic Records Coordinating Committee (TRCC) for interagency collaboration;
- Enlist law enforcement liaisons to improve crash and toxicology reporting;
- Provide training on crash reporting for law enforcement personnel; and
- Develop centralized data repositories for difficult to acquire data.

Data Visualization and Crash Data Dashboards

Representatives from UCONN and Louisiana State University (LSU) explained how they developed web-based crash data dashboards in collaboration with their respective State DOTs using Tableau. LSU provides a series of tailored statewide and parish-specific reports to support Louisiana's Strategic Highway Safety Plan emphasis areas. The dashboard allows users to compare actual incidents to goals and forecasts. Users can filter crashes by crash type, severity, contributing factors, and year. Users can also view demographic and behavioral characteristics of crashes such as race, gender, age, seat belt use, and impairment. Data can be tied to GIS coordinates and linked to specific road segments.

Similar to LSU, UCONN has designed crash data dashboards in Tableau that show crashes plotted by crash type, location, time of day, day of year, age and gender of driver, injury classification, and crash severity. Filters allow users to select a particular road type, route class, or town. UCONN has also established basic reporting tools linked to the Crash Data Repository which allows users to run reports with respect to different emphasis areas

for each town. The reporting tool can be used to auto-populate enforcement grant applications for grants from DOTs. CT also has developed advance query tools that enable users to access both pre-MMUCC and MMUCC crash data on a more in depth basis. Specific roadway attributes and their linkage to crashes are available for analysis.

Representatives from Michigan State Police and the University of Michigan Transportation Research Institute (UMTRI) described crash reporting and analysis efforts in Michigan. UMTRI manages a crash record website, https://www.michigantrafficcrashfacts.org, which provides traffic safety fact sheets and data visualizations. The site includes a query tool, as well as standardized reports and fact sheets by geographic region and crash type. Using the query tool, users can analyze crash data and generate downloadable charts and tables.

4. Breakout Sessions: Roadway Data Management

Presenters in the Roadway Data Management track spoke on efforts to establish complete, accurate, and up-to-date linear reference systems (LRS) that are integrated with all roadway assets to support enhanced safety analysis. Peer discussion focused on how to set priorities in data integration and the important role of data governance. Michigan and Louisiana described their efforts to collect and integrate local road data into their roadway safety data systems, and Connecticut described the process of transitioning to an LRS. Having the ability to link roadway characteristics to crash types and to be able to implement complementary behavioral and engineering solutions offers tremendous leverage to the planning process. Presenters from Florida and Louisiana described their use of GIS applications to identify and measure the magnitude of safety problems on the LRS network.

Local Road Data Collection and Maintenance

Representatives from Michigan and Louisiana discussed data collection and data maintenance of local road data. Michigan's local road data system includes roadway features, crash data, pavement condition forecasting, and traffic volumes housed in RoadSoft, an offline application built by Michigan Tech. The software is integrated with the State's roadway linear reference system (LRS) and is maintained through a multiagency agreement. The RoadSoft file is updated annually. The platform not only provides local users access to annually-updated data, but it creates a way for local agency users to provide feedback on the data.

Louisiana Department of Transportation and Development (LADOTD) collects safety data on both state and local roads. The State maintains the baseline local road data and provides the option for local agencies to collect additional data on rutting, faulting, International Roughness Index (IRI), longitudinal/transverse cracking, and other features for a reduced charge. The statewide dataset is enabling Louisiana to embark on systemic safety improvements for local roads.

GIS Safety Data Analysis Tools

Roadway data allows states to do systemic and locality based analysis of safety issues. Florida Department of Transportation (FDOT) presented on their use of systemic analysis to address pedestrian crashes at intersections. Using an ArcGIS mapping tool, an integrated analysis of crash and roadway characteristics revealed that urban 6+ lane facilities represented the most intense frequency of crashes. The sites that emerged were screened based on proximity to sites where there had been one nighttime pedestrian crash in the past five years. Based on this analysis, FDOT will be deploying a $100M project to implement intersection lighting improvements over the next five years.

Signal Four Analytics presented by the University of Florida is a standalone crash and roadway tool that provides users with a visual, interactive platform to analyze current safety data linked using ArcGIS mapping tools. Important characteristics of the system include:

- accessibility (web-based system),
- timeliness (up-to-date data, loaded daily),
- utilization (simple to use and intuitive), and
- mapping (visually enabled).

The system builds off a database (4.4 million crash records and 4.6 million citations) and uses Oracle, ST geometry for spatial data, and ESRI ArcGIS software. Available filters include the ability to select date ranges, geographic areas, roadway classifications, etc. as well as how to display the data such as by crash count, fatal crashes, bike/pedestrian crashes, etc. Integration of citations is the next step for the platform. Users will be able to compare proportion of citations and crashes, and can then draw into individual crashes and citations. Users can add in layers with schools, hospitals, fire departments, etc.

In Louisiana, LADOTD and LSU have a partnership to manage roadway and crash data. LSU maintains the LACRASH crash database and provides data quality management services. A Safety Network Screening tool merges crash information with roadway safety data regression outputs to highlight where incidents have been occurring and where the probability is high according to past incidents.

LRS Development, Data integration, and Governance

One of the challenges discussed with roadway data is in LRS development. Michigan DOT (MIDOT) presented on a unique partnership it has with the State budget office. The multi-agency partnership leveraged a then poorly maintained State Police linear referencing system developed in the 1960s with a need for voter registration boundaries. The multi-agency partnership has been maintaining the State LRS for over 15 years now.

A representative from CTDOT presented its attempted internal development of an LRS in 2010 and eventual use of a contractor in 2012 to replace the legacy inventory database. The transition enabled CTDOT to meet FHWA mandates (All Road Network of Linear Referenced Data [ARNOLD], Highway Performance Monitoring System [HPMS], Model Inventory of Road Elements [MIRE], National Bridge Inventory [NBI], Financial Management Information System [FMIS], etc.) and the process helped to identify departmental data stewards and identify system deficiencies.

CTDOT also has a web-based GIS ability to show active capital projects, snow plow routes, assets in GeoMOOSE, and traffic monitoring. The current site is internal but is soon to be available externally.

Also described was a Transportation Enterprise Database (TED). The architecture for this system is still being conceptualized with the end goal being the integration of asset data and safety data. CTDOT is still working to define the enterprise business data plan and determine a timeline for development.

There are several points to consider when integrating new roadway asset types:

- What is the current state of data: tabular, multiple stewards, non-existent, developed? Do we need all attribution? Do we have location data? How could we obtain that? Do we know who uses the data and why?
- What does the future state look like? Have we eliminated redundancies? Is there a plan to collect and maintain data?
- What are the next steps? Who will do it? Who will maintain it?

5. Major Themes

Several key themes emerged from the discussions that took place in the peer exchange.

- **Data Governance:** To better manage data, States are establishing data governance practices. States have found that these data governance practices are necessary to improve the timeliness and quality of data, integrate data systems and business practices, adapt to changing data standards, and manage access to data. Establishing data governance practices can help States manage transitions to new data systems, sustain existing systems, and make decisions regarding legacy systems. They can also help to clarify roles and responsibilities and improve relationships among diverse groups of data providers and users.

- **Commitment:** Achieving improvements in data management requires leadership support and dedicated resources. States that have successfully improved their crash data have made sustained investments in staff, data sources, and tools. A key to success for many states who have improved their crash and roadway data management has been the presence of dedicated internal champions who have helped to manage change and sustain continuous improvements. These commitments have paid off in improved data timeliness, quality, analysis, and accessibility.

- **Collaboration:** Crash and roadway data reporting and management typically involves numerous stakeholders spanning multiple public and private agencies. Many of the best practices shared at the peer exchange involved leveraging University partnerships or finding innovative ways to engage agencies responsible for reporting data. Formal Memorandums of Understanding can be helpful in clarifying roles and responsibilities and establishing collaborative processes. It is also important to understand the potential uses of data and develop applications that meet the business and research needs of users.

6. Conclusion

At the conclusion of the event, representatives from participating States developed and presented action plans for improving crash and roadway data in their respective States. The action plans reflected many of the lessons learned and best practices discussed throughout the three-day workshop. Common themes in State action plans included an interest in data sharing and visualization portals to improve data analysis and a need to establish stronger data governance standards and data stakeholder relationships to improve the timeliness, quality, and integration of data.

The peer exchange was widely viewed as a success by those involved. Participants appreciated the opportunity to speak with other states about their challenges and successes, learn about innovative ideas, and develop action plans. The closeout discussion following action plan presentations was especially rich in its ability to find strong common ground in the challenges and solutions being considered by participating States.

Both FHWA and CTDOT expressed interest in hosting conference calls and future meetings among participants to share progress and discuss solutions to issues. Having an extended open-ended conversation about cross-cutting issues that resonate most among the states provides an additional opportunity for future networking. Expectations are that the states will continue to maintain relationships and participate in informal peer exchange conference calls independent of FHWA follow up monitoring efforts.

In the end, the meeting was successful in demonstrating that it is feasible and effective to convene larger peer exchange meetings with dual crash and roadway data management tracks to achieve broader strategic

outcomes. A dual crash and roadway safety data track peer exchange involving a large number of States can be a huge undertaking. However, if it is carefully planned to address the most pressing needs of the host and participating States, it can help achieve the global and strategic perspective needed to link complementary initiatives into a comprehensive crash and roadway safety data management program.

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Appendix A: Registration List

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Appendix B: Agenda

DAY 1	APRIL 26, 2016	CTDOT Headquarters
10:00 - 11:30 am	**Optional Training Session: UCONN Crash Data Repository** ▪ Tutorial ▪ Facilitated Town Hall Discussion	Dr. Eric Jackson, UCONN Transportation Safety Research Center Dr. Cory Hutchinson, LSU Highway Safety Research Group
11:30 - 1:00pm	**Registration**	
1:00 - 1:15 pm	**Welcoming Remarks** ▪ CTDOT ▪ FHWA ▪ NHTSA	Moderator: Robbin Cabelus, Transportation Planning Director, Connecticut Department of Transportation (CTDOT) Jim Redeker, Commissioner, CTDOT Michelle Hilary, FHWA CT Division Office ADA Mike Geraci, NHTSA Region 2 Administrator
1:15 - 1:20 pm	**Peer Exchange Overview**	Mario Damiata, UCONN Transportation Safety Research Center
1:20 - 1:45 pm	**Data Programs Overview** ▪ FHWA	Esther Strawder, FHWA Office of Safety
PLENARY SESSIONS: CRASH AND ROADWAY DATA COLLECTION BREAKTHROUGHS		
1:45 - 2:15 pm	**Presentation**: Adopting FHWA's Model Inventory Roadway Elements (MIRE)	Bob Rocchio, Sean Raymond and Steve Kut, Rhode Island DOT
2:15 - 3:00 pm	**Discussion**: Status of RDIP and MIRE	Facilitator: Bob Pollack, FHWA Office of Safety
3:00 - 3:15 pm	**Break**	
3:15 - 3:45 pm	**Presentation:** The CT MMUCC PR-1 Story: How a DOT-University/Partnership Changed the Crash Reporting Landscape Forever	Mario Damiata, UCONN Transportation Safety Research Center
3:45 - 4:30 pm	**Discussion:** CDIP Best Practice Tools	Facilitators: Robbin Cabelus and Maribeth Wojenski, CTDOT Office of Policy and Planning
4:30 - 5:00 pm	**Wrap Up and Preview of Day 2**	Mario Damiata, UCONN Transportation Safety Research Center
DAY 2	**APRIL 27, 2016**	**CTDOT HQ Training Center**
DATA QUALITY MANAGEMENT AND VISUALIZATION		
8:00 - 8:30 am	**Presentation:** Michigan Traffic Crash Facts	Sydney Smith, Michigan State Police Patrick Bowman, University of Michigan Transportation Research Center (UMTRI)
8:30 - 8:55 am	**Discussion:** Status of Crash Data Web sites	Facilitator: Ann Dowling, Institute for Traffic Safety Management and Research (ITSMR)
8:55 - 9:00 am	**INSTRUCTIONS FOR BREAKOUT SESSIONS: Crash and Roadway Data Tracks**	Mario Damiata, UCONN Transportation Safety Research Center

Roadway Track: SAFETY DATA ANALYSIS TOOLS		
9:00 - 9:30 am	**Presentation:** FHWA's Highway Safety Manual, Safety Analysis Toolbox and Applying Safety Data and Analysis to Performance-Based Transportation Planning	Esther Strawder, FHWA Office of Safety Chimai Ngo, FHWA Office of Safety
9:30 - 10:15 am	**Roundtable Discussion**	Facilitator: Duane Brunell, Maine Department of Transportation
Crash Track: MMUCC PR-1 DATA COLLECTION		
9:00 - 9:30 am	**Presentation: CT Best Practice Tool Box I** Connecticut's MMUCC Compliant Fillable PDF and Training	Dr. Eric Jackson, Chuck Grasso and Kevin Slater, UCONN Transportation Safety Research Center
9:30 - 10:15 am	**Discussion:** Status of Crash Report Development and Training	Facilitator: Bob Pollack, FHWA Office of Safety
10:15 - 10:30 am	**Break**	
Roadway Track: GIS SAFETY ANALYSIS TOOLS AND LRS SYSTEMS		
10:30 - 10:50 am	**Presentation**: Florida DOT ArcGIS Mapping Tool	Shaun Davis, Florida DOT
10:50 - 11:10 am	**Presentation:** Crash Analysis Using GIS Maps	Dr. Ilir Bejleri, University of Florida, Geo Plan Center
11:10 - 11:30 am	**Presentation:** Integration of Roadway and Crash Data for GIS Analytics	Dr. Cory Hutchinson, LSU Highway Safety Research Group
11:30 - 12:00 pm	Discussion on Use of GIS Tools	Facilitator: Esther Strawder, FHWA Office of Safety
Crash Track: CRASH DATA PLANNING AND DATA QUALITY MANAGEMENT		
10:30 - 11:15 am	**Presentation: CT Best Practice Tool Box II** CDIP Planning and IT Management Tools	Mario Damiata, UCONN TSRC and Mike Gracer, CTDOT IT
DAY 2 (Continued)	**APRIL 27, 2016**	**CTDOT HQ Training Center**
11:15 - 12:00 pm	**Discussion:** Status of CDIP Planning in the States	Facilitator: Bob Pollack, FHWA Office of Safety
12:00 - 1:00 pm	**LUNCH**	**Provided by the UCONN Transportation Safety Research Center**
Roadway Track: BUILDING AND MANAGING LINEAR REFERENCE SYSTEMS		
1:00 - 1:20 pm	**Presentation:** LRS Development, Data Integration and Governance	Michael Connors, CTDOT Office of Policy and Planning
1:20 - 2:30 pm	**Roundtable Discussion**	Facilitator: Esther Strawder, FHWA Office of Safety Resource Experts: John Hicks and Lia Prince, Tennessee DOT; Sam Krajewski, Maine DOT; and Shaun Davis, Florida DOT

Crash Track: FATALITY DATA COLLECTION AND DQ MANAGEMENT		
1:00 - 2:30 pm	**A Conversation About FARS:** Best Practices in Securing Timely and Complete Fatality Data - NHTSA Presentation and Roundtable Discussion	TrisAnn Jodon, NHTSA Office of Data Acquisition Facilitator: Bob Pollack, FHWA Office of Safety
2:30 - 2:45 pm	**BREAK**	
Roadway Track: INTEGRATION AND MAINTENANCE OF LOCAL ROADWAY DATA		
2:45 - 3:05 pm	**Presentation:** Use of RoadSoft Application To Collect Local Road Data	Ron Vibbert, Michigan DOT
3:05 - 3:30 pm	**Presentation:** Reducing Local Roadway Safety Data Collection Costs	April Renard and Nathan Baylot, Louisiana DOTD
3:30 - 4:15 pm	**Roundtable Discussion**	Facilitator: Esther Strawder, FHWA Office of Safety
Crash Track: VISUALIZING CRASHES USING DATA DASHBOARDS AND GOOGLE MAPPING TOOLS		
2:45 - 3:10 pm	**Presentation:** Use Tableau to Build Dashboards For Analyzing Crash Data	Dr. Cory Hutchinson, LSU Highway Safety Research Group
3:10 - 3:35 pm	**Presentation:** Use Of Geospatial Crash Tools For Regional Planning and Law Enforcement	Dr. Eric Jackson, UCONN Transportation Safety Research Center
3:35 - 4:15 pm	**Roundtable Discussion**	Facilitator: Bob Pollack, FHWA Office of Safety
4:15 - 4:30 pm	**Wrap Up – Crash/Roadway Tracks**	Mario Damiata, UCONN Transportation Safety Research Center
DAY 3	**APRIL 28, 2016**	**CTDOT HQ Training Center**
8:00 - 8:30 am	**Recap: Major Takeaways from Day 2 Breakout Sessions**	Aaron Jette and Laura Black, Volpe Center Staff
8:30 - 8:45 am	**Instructions for Action Planning Sessions**	Bob Pollack and Esther Strawder, FHWA Office of Safety
8:45 - 10:00 am	**Action Planning Sessions**	States Meet As Teams To Plan Crash and Roadway Safety Data Improvements
10:00 - 10:15 am	**BREAK**	
10:15 - 11:45 am	**States Report Out on Action Planning**	Facilitator: Mario Damiata, UCONN Transportation Safety Research Center
11:45 - 12:00 pm	**Next Steps and Wrap Up**	Bob Pollack, FHWA Office of Safety Esther Strawder, FHWA Office of Safety Robbin Cabelus, Transportation Planning Director, CTDOT