Connecticut’s MMUCC PR-1 Initiative
A “Best Practices” Presentation

How A DOT/ University Partnership Changed The Crash Reporting Landscape in CT Forever
Connecticut Facts

Third smallest State by area, only 5,000 square miles
Fourth most densely populated State in the nation; population 3.5 million
Lots of vehicle miles traveled; 84.5 million on a daily basis
Interstate congestion off the charts    Lots of folks traveling in very small spaces
The Nutmeg State      Also Known as “The Land of Steady Habits”

Can Also Be Cutting Edge :
Trivia: CT set first speed limit at 12 mph in 1901

Home of UCONN Huskies
Background: State Crash Report Statute

- **Uniform Accident Report.**
  - Requires investigations of any crash *in excess of $1000 property damage or in which any person is injured or killed*; report shall be submitted to the CT DOT within five days of completing the investigation
  - CT DOT Commissioner has authority to define content and format of paper crash report (known as the PR-1)

**NOTE:**

No enabling authority to mandate electronic reporting or to set data quality standards for electronic transmission

Major challenge to achieving MMUCC compliance through the use of technology
A Little Bit Of History
The CT MMUCC PR-1 Story

• Crash Data Collection and Processing Prior to 2012: A Challenging Picture
  – Paper crash report (PR-1) with overlays that had not been changed since 1994; about 100,000 crash reports processed every year (70 percent paper)
  – Business process that captured only one third of crash data
  – Data entry paper backlog of 16 months and growing
  – Law enforcement culture of “just filling out reports for insurance companies”
  – Partners’ needs for timely and complete crash data not being met

• Background Factors That Set The Stage For Change
  – Data driven performance based planning in SAFETEA-LU and MAP-21
  – Active and involved TRCC chipping away at change
  – Core DOT functions not being served – behavioral and engineering programs
  – Incremental funding TR model - a good start but not the answer
  – TR Assessment, CDIP Assessment, CDIP Business Plan, LA Peer Exchange
Timeline - Evolution of CT CDIP Effort

Early Activity
- CDIP Assessment (Oct)
- DOT mainframe
- Coding to old PR-1
- State Police electronic feed
- UCONN crash data repository
- TRCC PR-1 Working Group
- Local e-crash pilot (CRCOG)

Initial Business Plan Elements (Oct, 2012 - April, 2013)
- Roadway Network
- Backlog
- MMUCC Compliance
- Single State Solution (CJIS and CRCOG)
- Crash Data Repository

DOT Commitment
- TR Assessment (April)
- LSU Peer Exchange (Mar)
- CDIP Business Plan (May)
- DOT/UCONN Partnership (Sept)
- Recruit Data Champion (Oct) - CDIP Team
- DOT Software Developer (Oct)

Business Plan Adjustments (May, 2013)
- Retained: MMUCC Compliance, Backlog
- Crash Data Repository
- Changed To: Multi Vendor E-Crash Strategy and Fillable PDF as Default/ESD
- Added:
  - FTP Site Development and IT Tools
  - MMUCC Training and Field Coordinators
  - Data Quality Protocols for DOT Coders

January 1 Implementation
- Enforce Base Edit Rules
- Move Agencies from Test To Production Database
- Assist Late Adopters
A Word About Project Development

Weekly Coffee Meeting Action Plan

- Status of program components
- Action Items Required
- Identified Time Frames
- Resources Needed
- Decision Points
- Emerging Issues and Challenges for CDIP Team

Business Plan Model

- Project Descriptions
- Action Item Tables
- PERT Charts

Agile System Development
Connecticut’s MMUCC
Best Practice Toolbox

- Clear Goals and Time Frames
- Crash Data Champion
- Fillable PDF
- Partnership and Outreach
- IT Solutions
- MMUCC Training
- Data Quality
- Crash Data Repository

DOT/UCONN Partnership
Transportation Safety Research Center
Best Practice Number 1
Commitment To Clear Policy Goals, Timeframes, and Engagement

Full adoption of MMUCC guidelines *in their entirety*

Firm Commitment

Complete conversion to electronic reporting - *No More Paper*

Activate new MMUCC PR-1 system by January 1, 2015 - *No Turning Back*

Stop Change Direction

Technology Capability Surveys

Engage vendor community for the first time

New Level of Engagement

Change relationship *dynamic* with law enforcement community

DOT/University Partnership

Ongoing Training and Technical Support From UCONN Transportation Safety Research Center

Success !!!

Full MMUCC Compliance Electronic Reporting January 1, 2015

MMUCC City Limits
Home of High Quality Crash Data
Best Practice Number 2
Crash Data Champion

Project Coordinator
Formulates goals, objectives, strategies, and projects
Supports DOT management and UCONN in tracking project milestones and deliverables;
Jointly reports to UConn and Conn DOT

Ring Master
Serves as daily internal DOT focal point for planning and coordination of all CDIP related projects
Documents issues requiring senior management attention and/or decisions

Facilitator
Works with Field Coordinators to plan outreach meetings with LEAs
Facilitates weekly meetings to monitor CDIP program elements

Diplomat
Liaisons with external project stakeholders on an ongoing basis
Works with IT to engage vendor community

Advocate...
Identifies resources, tools, and best practices capable of advancing CDIP’s goals
Makes presentations to support CDIP deployment

The Four C’s Always In Play
Coordination, Collaboration, Communication, and Cooperation

Lots of Moving Parts To The Project
Best Practice Number 3

PARTNERSHIP AND OUTREACH TO MULTIPLE AGENCIES AND GROUPS

Level 1
- Peer Exchange With Other States Alaska, Iowa, Ohio, Michigan

Level 2
- Letters To Police Chiefs
  - Brochures/Posters
  - LEL Video
  - CPCA Web site

Level 3
- Law Enforcement Workshops
  - PR-1 Form and Content
  - Edit Rules
- Vendor Incentives
  - DOT Specs and IT Tools
  - Testing and Certification
  - Weekly Calls
- Meetings on Input To Fillable PDF

Level 4
- Training Cadre for MMUCC Course
  - Field Coordinators
  - UCONN Technical Support

DOT/UCONN Partnership
Transportation Safety Research Center

TRCC and Federal Partner Support
Monthly Briefings

Business Plan Outreach
MPO and State IT Projects

UCONN Vendor Summit
HSO Law Enforcement Summits
CPCA Vendor Fairs

Peer Exchange With Other States Alaska, Iowa, Ohio, Michigan
Best Practice Number 4
MMUCC Compliant Fillable PDF With Multiple Electronic features

Multiple data entry options, auto population features; import crash diagrams, cut and paste GPS coordinates

Validation and Edit Rules (115)
Matching DOT FTP site Requirements

Ability to be saved as xml file, exported to FTP site and imported into local RMS systems

Includes Appendices for narrative, commercial vehicle, bicycle, bus, and witness statements

Generate additional pages for drivers, vehicles
Best Practice Number 5
MMUCC Compliant Training Tools and Resources

- Basic Six Hour MMUCC Curriculum
- Sample Officer’s Pocket Guide and Investigator’s Guide
- Weekly Newsletters and Podcasts
- Self Help YouTube videos on edit rules, diagramming, fillable PDF
- On site agency technical support
- MMUCC edit rules brochure and two hour refresher training
- Weekly Vendor/Agency Calls with DOT/UCONN
- Access to Error Messages
Complete all crash fields to avoid errors and warnings.

Never use non applicable in the first field when you have multiple checkboxes.
Best Practice Number 7

New Protocols for Data Quality Management

• Results Of CDIP Initiative
  – Converted Positions of Data Coder into DQ Analysts
    – Eliminate Re-coding Of Crash Data
  – All Inclusive Crash File: diagram, narrative, and MMUCC elements
  – Edits And Validations Enforced at Three Levels
    • Vendor Software and Fillable PDF
    • DOT FTP Site
    • DOT DQ Analysts
  – Required GPS Coordinates Help To Locate to LRF
  – All rejected cases resubmitted
  – Processed Crash Data Uploaded To UCONN CDR daily
  – MMUCC Crash Data Available in less than 90 days from date of receipt at DOT
Best Practice Number 8
Data Retrieval, Analysis, and Evaluation

The UConn Crash Data Repository

- *State Crash Summary Tables: 2007-2011 (Nine major variables)*
- *Basic and advanced query tools for individual departments (1995-2014)*
  - Basic Report Tool: summary crash tables and trend charts for each town (five year increments, 11 different crash types, includes rankings)
  - Advanced Report Tool: Select own date ranges, locations, contributing factors

- Crash Data Templates For Grant Management (last five years-DUI crashes)
- 2015 MMUCC PR-1 data (49,000 records to date)
  - Advanced Query Tool: Summary tables of individual crash reports
  - ESD Crash Diagrams
  - Mapping Capability: heat and pin maps, street view

- Coming Soon:
  - Ability to map citation data
  - Merging of old and new MMUCC PR-1 Data for query purposes
  - Private parking lot crashes
Try It Out

www.ctcrash.uconn.edu

The Connecticut Crash Data Repository (CTCDR) is a web tool designed to provide access to select crash information collected by state and local police. This data repository enables users to query, analyze and print/export the data for research and informational purposes. The CTCDR is comprised of crash data from two separate sources; The Department of Public Safety (DPS) and The Connecticut Department of Transportation (ConnDOT).

The purpose of the CTCDR is to provide members of the traffic-safety community with timely, accurate, complete and uniform crash data. The CTCDR allows for complex queries of both datasets such as, by date, route, route class, collision type, injury severity, etc. For further analysis, this data can be summarized by user-defined categories to help identify trends or patterns in the crash data.
Recap “Best Practice” Accomplishments

- Achieved 99.3 percent overall MMUCC compliance for elements collected at the crash scene
- Stood up a Statewide MMUCC compliant e-crash reporting system in eighteen months without authority to mandate electronic reporting
- Demonstrated that a DOT/University partnership model consisting of a multi-disciplinary project team and dedicated data champion can achieve success
- Changed the crash reporting dynamic between DOT and the law enforcement community forever
- Developed cutting edge IT tools to facilitate electronic crash reporting including a fillable PDF
- Launched MMUCC compliant Crash Data Repository with full query, diagramming and mapping capabilities
- Developed state of the art MMUCC training materials
- Crash Data Partnership and Outreach
- Crash Data Timeliness
- Crash Data Uniformity and Completeness
- Crash Data Accuracy
- Crash Data Accessibility
- Crash Data Integration - work in progress
A Final Word About Our Toolbox

- All tools including MMUCC edit rules, xml schema, Crash Report Reader, Crash Uploader Tool, MMUCC Training Course materials, newsletters, podcasts, videos and the fillable PDF available to any State upon request.
- Tools can help any State get a head start in making significant progress with MMUCC adoption-no need to reinvent the wheel; save time and help reduce financial resources.
- Please take the time to review the display material at our table.
- Consultation and videos available on use of CDR: http://www.ctcrash.uconn.edu/
- Take advantage of FHWA Peer Exchange process and NHTSA CDIP Assessment program.
Lessons Learned
Lessons Learned
The Connecticut MMUCC PR-1 Experience

Planning Lessons

- Need a *dedicated full time project team* and a “*data champion*” to achieve scale

- Structure a project plan *but stay flexible* - be ready to adopt new strategies or drop old ones to solve problems

- Make the most *informed decision* you can make in the moment knowing that more decisions will need to be made down the road
Lessons Learned (Continued)
The Connecticut MMUCC PR-1 Experience

• **Leadership Lessons**
  - *Stay focused on approach* — deal with the crash reporting world as it is rather than visioning the project to achieve significant structural change
  - Don’t be afraid to “push the envelope” to leverage continuing progress

• **Partnership Outreach and Team Building Lessons**
  - Develop a team building style that fosters *continuous and open communication* and complementary skills
  - As project moves from one phase to the next, enable different project staff to *take the lead, change roles, and blend expertise* as needed
  - *Frequent communication, transparency and accountability* to the law enforcement and the vendor community should be the order of the day
Lessons Learned (Continued)
The Connecticut MMUCC PR-1 Experience

Technical Lessons
• *Attention to detail especially in the testing of support tools and products*

• Be efficient in developing solutions or work arounds to technology challenges

• *Stay on Mission Lessons*
  • *Stick to the project launch date* no matter what - the project is a sprint and not a marathon

• Do not be discouraged by short term setbacks: a State can change the culture of crash reporting if *crash data collectors* are engaged on all levels to see the benefits of becoming *crash data users*
Final Observation

Leverage All Available National and State Resources At Your Disposal

• National Resources Helped Us To Achieve Our Goals:
  - MMUCC Web Site
  - NHTSA TR Assessment
  - CDIP Assessment
  - Support from FHWA to develop a “Business Plan” to guide our efforts; use of eligible FHWA accounts for project startups
  - NHTSA GO Team Support

• State Resources
  - Peer exchange program with LA DOT and LSU to research State/University Partnership Model
  - Information Sharing With Other States: Alaska MMUCC PDF, Iowa TraCS, Ohio MMUCC Video, Vendor Experiences in Michigan and Wisconsin
Final Words of Wisdom from Those Who Have Gone Before Us

Good things are coming down the road. Just don't stop walking.  
Robert Warren Research, Jr.

There comes a time when you have to choose between turning the page and closing the book

Lessons Learned in Life