

Working-Level Traffic Records Coordinating Committee (WTRCC) Meeting Minutes

Date/Time	January 24, 2019, 10:30 am to noon	
Chair	Jeff Larason, EOPSS/OGR/HSD Director and WTRCC Chair	
Participants	<p>Mark Abbott, Boston MPO-Central Transportation Planning Staff</p> <p>Tina Backus, MA Department of Public Health/Division of Clinical Quality Improvement</p> <p>Tom Bonarrigo, Merit Rating Board</p> <p>Paula Card, Massachusetts State Police-CMV</p> <p>Brook Chipman, EOPSS/OGR/Highway Safety Division</p> <p>Rick Conard, MassDOT/Highway Division</p> <p>Donna DaVeiga, RMV- Crash Data LEL</p> <p>Michelle Deng, MassDOT/Traffic Safety</p> <p>Ridgely Ficks, MA Department of Public Health/OEMS</p> <p>Cole Fitzpatrick, UMassSafe</p> <p>Louisa Gag, Livable Streets</p> <p>Jennifer Gazzillo, UMassSafe</p> <p>Mary-Jo Griffin, MassDOT/RMV</p>	<p>Yahaira Graxirena, CMRPC</p> <p>Ray Guarino, Old Colony Planning Council</p> <p>Jeanne Hathaway, MA Department of Public Health/Injury Surveillance</p> <p>Jennifer Inzana, MassDOT/Highway Division</p> <p>Kathy Jacob, Boston MPO-Central Transportation Planning Staff</p> <p>Kris Johnson, EOTSS</p> <p>Wendy Landman, WalkBoston</p> <p>Mark Miller, MA Department of Public Health/OEMS</p> <p>Nora McElroy, MA Department of Public Health/Bureau of Infectious Disease</p> <p>Karen Perduyn, MassDOT/RMV</p> <p>Michael Pezzullo, FHWA</p> <p>Matthew Poirier, FMCSA</p> <p>Bonnie Polin, MassDOT/Highway</p> <p>Caroline Quan, Merit Rating Board</p> <p>Robin Riessman, UMassSafe</p> <p>James Salvia, Boston EMS</p> <p>Jose Simo, MassDOT/Planning</p> <p>George Snow, MAPC</p> <p>Rebekah Thomas, MDPH</p>
Location	Conference Room 1, Ten Park Plaza, Boston	

Welcome and Introductions

Jeff Larason, EOPSS/OGR/HSD Director and WTRCC Chair, welcomed the attendees. All those in attendance introduced themselves.

Review/Approval of 5/18/2018 Meeting Minutes

After acknowledging a requested change submitted before the meeting, the minutes from the 5/18/18 meeting were unanimously approved.

Highway Safety Division on TRCC Governance, Section 405c-funded Traffic Safety Information System Improvement (TSISI) Grant funding, FFY 2019 Traffic Records Assessment, and 2018 Impaired Driving Assessment

Brook Chipman noted that EOPSS Undersecretary for Forensic Science and Technology Matthew Moran is the new Chair of the Executive-level TRCC since Curt Wood left to lead EOTSS in June 2018.

The current WTRCC membership list was circulated and those in attendance were asked to make any necessary updates. Brook also said the WTRCC charter would be renewed this spring and the current 2018-2019 version sent out to the membership to review and propose any changes before the next meeting.

Remote participation for TRCC meetings is a subject EOPSS/OGR/HSD is still researching. Will aim to have more information to share at the next WTRCC meeting.

The latest on the FFY 2019 405-c funding plan was shared by Brook. He noted the ETRCC on 5/21/18 had voted to award up to 50% of the available funding to the MassTRAC project, if a business plan for the project that EOPSS/OGR/HSD develops with the assistance of EOTSS is approved by the ETRCC. The remaining balance of the FFY 2019 405-c funding will be used for an Availability of Grant Funding (AGF) to provide funding to qualified projects. It is anticipated this AGF would be released in February, response due in April, resulting in awards in May-June 2019. Considerations for scoring incentives within this AGF were reviewed, including for hard or soft match, full project implementation, and meeting a “quantitative improvement” benchmark and performance standard.

Jeanne Hathaway asked how full project implementation would be defined in AGF. Brook explained the AGF would provide some guidance on this point, but that TRCC members reviewing a project would have some flexibility to determine whether a proposed project was being fully implemented. Jeff added the determination would be project-specific.

Bonnie Polin advocated for a steering committee to assist EOPSS/OGR/HSD to oversee projects once they are underway to ensure they are effectively carried out. Brook noted this had been discussed at the last WTRCC meeting and that he was starting to implement this concept with new 405-c funded projects. Bonnie suggested it should be noted in the AGF this would be required of all projects.

Brook updated the group on the process underway for the 2019 Traffic Records Assessment for Massachusetts using the new NHTSA self-assessment tool. After the points of contact for the six major data systems complete their review of the current draft of the document, the draft assessment will then be sent out with the related NHTSA Traffic Records Program Assessment Advisory, 2018 Edition so all TRCC members can review and provide comment. The completed assessment will be an important tool to have for those proposing projects for the anticipated 405-c funded AGF.

Brook also spoke on key recommendations from the 2018 Impaired Driving Assessment conducted in December 2018 by EOPSS/OGR/HSD, noting these should present a valuable source of project ideas for 405-c funding. Jeff Larason noted the

recommendations are still in draft form, but should be final soon.

Updates and Q&A on Key Traffic Records Projects

See accompanying PowerPoint slides for the following presentations, except for Crash Data Portal Presentation based on an on-line beta version of soon to be released tool:

- UMassSafe: Crash-EMS Data Linkage
- MassDOT-MDPH: Crash-Injury Data Linkage
- MassDOT: Crash Data Portal Presentation
- EOPSS/OGR/HSD: MassTRAC (not done due to time limitation)

Notable exchange occurred during UMassSafe's Crash-EMS Data Linkage Project presentation. James Salvia from Boston EMS felt one chart on EMS response time and fatalities could easily be taken out of context. Cole Fitzpatrick from UMassSafe further explained that the full *Utilization of Crash And Medical Data To Reduce Motor Vehicle Crash Severity Findings Report* provides additional details clarifying possible explanations for this and that no causation was implied. Ridgely Ficks from MDPH-OEMS added that the longer response times and severity of the injury were indicative of the geography of the incidents, with worse crashes happening in rural areas where it is easier to speed and roads are not as well lit. In these areas ambulance services are spread out further. EMS research has proven that outcomes are not affected by response times of 12 minutes vs. 8 minutes.

Crash Report Improvement Sub-Committee

See accompanying EOPSS/OGR/HSD Power Point presentation for Karen Perduyn's remarks on efforts to meet federal Serious Injury Reporting Requirement before April 15, 2019.

Unforeseen business/upcoming event announcements/next meeting

Next meeting expected early May 2019.

Adjournment

Motion to adjourn unanimously approved.

**Massachusetts
Working-level Traffic Records Coordinating Committee (WTRCC) Meeting
January 24, 2019, 10:30 AM to noon
State Transportation Building, Boston
Conference Room 1**

Agenda

- Brief introductions by WTRCC members
- Review / approval of May 18, 2018 WTRCC meeting minutes
- EOPSS/OGR/HSD Updates on TRCC governance, Section 405c-funded Traffic Safety Information Systems Improvement (TSISI) Grant funding, FFY 2019 Traffic Records Assessment, and 2018 Impaired Driving Assessment.
- Updates and Q&A on key current traffic records projects
 - UMassSafe: Crash-EMS Data Linkage
 - MassDOT-MDPH: Crash-Injury Data Linkage
 - MassDOT: Crash Data Portal Presentation
 - EOPSS/OGR/HSD: MassTRAC
- Crash Report Improvement Sub-Committee
 - RMV: Serious Injury Reporting Requirement Update
- Unforeseen business/upcoming event announcements/next meeting: TBD
- Adjourn

Welcome

Working-level Traffic Records Coordinating Committee

January 24, 2019

Mission of TRCCs

Through the coordinated efforts of its member organizations, provide a forum for the creation, implementation, management and dissemination of accessible, accurate, complete, integrated, timely, and uniform traffic records data to aid decision-makers working to reduce transportation-related fatalities, injuries, and economic losses in Massachusetts.

Data Systems Covered



Crashes



Driver Records



Vehicle Information



Roadways



Citation & Adjudication



Injury Surveillance & EMS

TRCC Structure

Massachusetts TRCC has two tiers:

- **Executive**
 - meets once a year - minimum
- **Working**
 - meets three times a year - minimum

TRCC Governance

- New Chair: Undersecretary of Forensic Science and Technology Matthew Moran
- Charters and Membership List Updates
- Remote Participation

FFY 19 405-c funding plan

- Per 5/21/18 ETRCC vote, up to 50% to MassTRAC project, if business plan receives approval
- AGF anticipated \$375k
- Anticipate AGF release in February, responses by April, and awards in May 2019.

FFY 19 AGF for 405-c funding considerations

- Incentive for hard or soft match
- Incentive for full project implementation
- Incentive for projects with a benchmark and performance measure that meet 405-c funding “quantitative improvement” standard

FFY 19 Traffic Records Assessment

- Used NHTSA self-assessment tool in December-January
- Completed by POCs for six data systems
- Also obtained updates for 2014 assessment considerations
- TRCC members will provide feedback in coming weeks
- Available for FFY 2019 AGF process

2018 Impaired Driving Assessment

- Key Traffic Records Recommendations:
 - OUI Tracking System
 - Traffic Records Inventory
 - TRCC subcommittee(s) to address
 - under-reporting of crashes
 - data analysis needs
 - crash report upgrades

Current Project Updates

- UMassSafe: Crash-EMS Data Linkage
- MassDOT-MDPH: Crash-Injury Data Linkage
- MassDOT: Crash Data Portal Presentation
- EOPSS/OGR/HSD: MassTRAC

Crash Report Improvement Sub-Committee

- Follow-up on Crash Data Audit Report – propose how best to prioritize efforts
- Address MMUCC 5th edition and Massachusetts Mapping report recommendations
- New federal requirements regarding serious injury definition per MUCC 4th edition by 4/15/19 in the Crash Data System and Crash Report Form

Suspected Serious Injury Mandate

Federal law mandating change to our crash reporting.

Under Federal Highway Administration's (FHWA) Safety Performance Management Measures Final Rule (23 CFR 490) and National Highway Traffic Safety Administration's (NHTSA) Uniform Procedures for State Highway Safety Grants Program Interim Final Rule (23 CFR 1300), US DOT established single national definition for reporting serious injuries.

States are required to comply by 4/14/19.

Registry of Motor Vehicles Actions

- Crash Data System changes were implemented on 1/1/19.
- IMC - RMS vendor for more than 200 cities/towns piloted and released it 1/1/19.
- New Crash Forms - waiting to be delivered to MassDOT Warehouse week ending 1/25/19.
- Additional 6 RMS vendors informing them of federal mandate by 4/15/19. Remainder to be scheduled is 5.

RMV - Communication

- Law Enforcement Liaison is communicating the change with LEAs and meetings with the Massachusetts Chiefs of Police Association.
- IMC has communicated the change to all of their agencies. As of 1/17/19 28 IMC agencies have downloaded the update.
- Need to contact 5 additional vendors.

RMV – Next Steps

- Train RMV Staff on the new injury status attributes and definitions.
- Track each RMS vendors implementation date and LEAs who have upgraded.
- Review the crash reports that are electronically submitted.
- Plan delivery of crash report forms.

New MassTRAC

(Massachusetts Traffic Records Analysis Center)

January 24, 2019

Vision for New MassTRAC

Online analytical tool residing on Mass.gov to give public access to the most current data from as many traffic records data systems in Massachusetts as possible to enhance efforts to identify highway safety problems, develop effective countermeasures, and appropriately evaluate these efforts.

What Data Systems Are Involved?



Crashes



Driver Records



Vehicle Information



Roadways



Citation & Adjudication



Injury Surveillance & EMS

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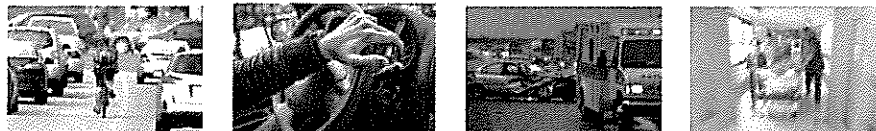
Next Steps

- EOPSS/OGR/HSD works with EOTSS on business plan (spring 2019)
- Secure ETRCC approval of project business plan/funding (summer 2019)
- Secure NHTSA approval of project/funding (fall 2019)

Next Steps for WTRCC

- Unforeseen business
- Upcoming event announcements
- Next meeting: early May 2019
- Adjourn

MA Crash-Hospital Injury Data Linkage



Presentation to the Working Traffic Records Coordinating Committee, Jan. 24th, 2019

Jeanne Hathaway, MD, MPH, Injury Surveillance Program,
Office of Statistics and Evaluation,
Bureau of Community Health and Prevention,
Massachusetts Department of Public Health

Acknowledgements: Linkage of crash and hospital injury data is funded by MassDOT. We thank Strategic Research Partners, LLC for their work to develop and validate the Crash-Hospital Injury data linkage algorithm.

Data Sources

Crash Data



- Compiled by Registry of Motor Vehicle
- Crashes on MA roadways involving injury to any person or property damage over \$1,000
- Reports submitted by state and local police and/or motor vehicle operators

Hospital Case Mix Data



- Compiled by Center for Health Information and Analysis
- Billing data collected by all MA acute care hospitals
- 3 data sets: Hospital Discharges, ED Discharges, and Outpatient Observation Stays

Why Link Crash and Hospital Injury Data?

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Why Link Crash and Hospital Injury Data?



Hospital injury data adds:

Drug/alcohol
intoxication

Medical
diagnoses

Level of care
Injury types
Days in ICU
Days in hospital
Discharge disposition
Hospital charges

Patient
race/
ethnicity

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Progress To Date and Next Steps

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Linkage Timeline

Phase 1: Jan. - June 2017

- Developed linkage algorithm
- Linked 2012 Crash data with all three Hospital data sets (HD, ED, OBS)¹

Phase 2: Oct. 2018 – June 2020

- Validate linkage algorithm
- Analyze linked data (2014-2015 initially)
- Develop data briefs, reports & presentations

1. Inpatient Hospital Discharge, Emergency Department Discharge and Outpatient Observation Stay databases

Linkage Algorithm (Phase 1)

Variables Required to Match

Crash/Admission date (+0/1 day)

Date of birth

Age

Sex

Person-type (occupant, motorcyclist, bicyclist, pedestrian)

One geographic indicator

Zip code (first 4 digits)

Town of Residence

State (other than MA)

Crash-Hospital distance \leq 10 miles

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Phase 1 Linkage Results

Number of Hospital MV Injury Cases that
linked to a Crash report (2012 data)

Person Type	Hospital Discharges (n = 3,869)		
Occupant	1,296 (52%)		
Motorcyclist	267 (45%)		
Bicyclist	62 (42%)		
Pedestrian	240 (38%)		

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Phase 1 Linkage Results

Number of Hospital MV Injury Cases that
linked to a Crash report (2012 data)

Person Type	Hospital Discharges (n = 3,869)	ED Discharges (n = 65,062)	
Occupant	1,296 (52%)	25,565 (44%)	
Motorcyclist	267 (45%)	731 (29%)	
Bicyclist	62 (42%)	353 (27%)	
Pedestrian	240 (38%)	777 (24%)	

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Phase 1 Linkage Results

Number of Hospital MV Injury Cases that
linked to a Crash report (2012 data)

Person Type	Hospital Discharges (n = 3,869)	ED Discharges (n = 65,062)	Observation Stays (n = 627)
Occupant	1,296 (52%)	25,565 (44%)	234 (50%)
Motorcyclist	267 (45%)	731 (29%)	13 (23%)
Bicyclist	62 (42%)	353 (27%)	10 (31%)
Pedestrian	240 (38%)	777 (24%)	18 (26%)

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Phase 2

Validation of Linkage Algorithm

(Oct. 2018 – Dec. 2018)

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Validation of Linkage Algorithm

- **DPH had medical records for over 800 persons hospitalized for MV-related injuries in 2014**
- **We used original algorithm to link these records with 2014 Crash data, then examined:**
 - **50 cases that did NOT match a crash record**
 - **40 cases that partially matched a crash record**
- **Revised and reran algorithm, then examined:**
 - **40 cases that fully matched a crash record**

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Cases that did NOT match a Crash Record

(2014 Hospital Discharge Records, n = 50)

Preliminary Data

Count (%)	Potential Reason for Non-Linkage
15 (30%)	Admitted 2+ days after crash / Follow-up
7 (14%)	Loss of consciousness / confusion
7 (14%)	Boston police involved
5 (10%)	No evidence of police at scene
3 (6%)	Crash occurred outside MA
2 (4%)	Other (no MV involved, illicit activity)
11 (22%)	Unknown

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Cases that Partially Matched a Crash Record

(2014 Hospital Discharge Records, n = 39)

Preliminary Data

Count (%)	Reason for Non-Linkage
Should NOT have been excluded (names matched)	
15 (38%)	Different addresses for same person
12 (31%)	Sex missing (10) or differed (2)
8 (21%)	Person-type did not match
CORRECT to exclude (different names)	
4 (10%)	Different person-type (2), sex (1), geography (1)

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Revised Linkage Algorithm

Original Linkage Algorithm	Revised Linkage Algorithm
Crash/Admission date +0/1 day	Crash/Admission date +0/1 day
Date of birth	Date of birth
Age	
Sex (missing not allowed)	Sex (missing allowed)
Person-type	Person-type
Location Zip code (first 4 digits) Town of Residence State (other than MA) Crash-Hospital distance	<div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>Cases that fully matched a crash record (n = 40)</p> <p>100% Name Match</p> </div>

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Next Steps

- **Link 2014 and 2015 hospital discharge data**
- **Conduct analyses** (initially: truck vs. cyclist crashes; persons injured by impaired drivers)
- **Develop data briefs, presentations and reports**
- **Combine Hospital Discharge, ED and Observation Stay data**
- **Additional validity checks**
- **Add additional years of data**

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Challenges

- Only DPH can access sufficient Hospital Injury data for linkage
- Hospital Injury data must be kept at DPH
- Complicated process to secure MassDOT funding
- MassDOT funding is short-term
- Contractors funded, not DPH staff

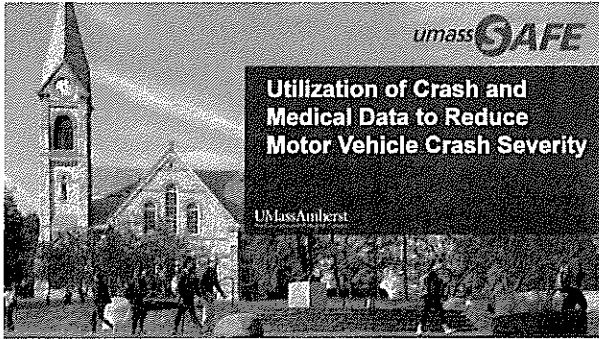
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Questions / Comments

For further information contact:

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Objectives

- Develop method to link EMS and Crash Data
- Evaluate injury outcomes associated with different crash patterns
- Incorporate a third (or fourth) dataset into linkage

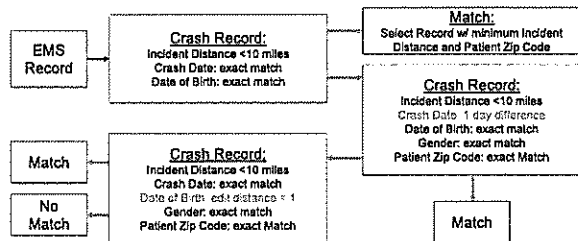
Linkage Procedure

UMassAmherst

- 94,318 EMS-Incident Records
 - Provided by DPH
 - "Cause of Injury" field indicated possible motor vehicle crash
- 1,030,639 Crash-Person Records
- 2014-2016 data

Linkage Procedure

UMassAmherst



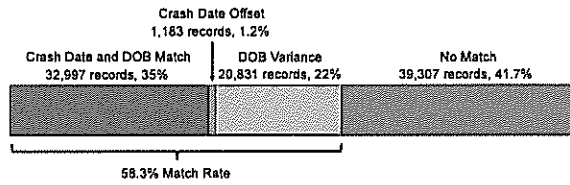
Validation

- Small sample provided to DPH

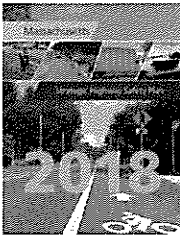
Criteria	Sample Size	Match		No Match		Inconclusive	
		#	%	#	%	#	%
Base	10	7	70%	0	0%	3	30%
Crash Date Offset	25	19	76%	1	4%	5	20%
Date of Birth Variance	20	15	75%	1	5%	4	20%

Final Linkage Result

- 94,318 EMS-Incident Records



Report Structure

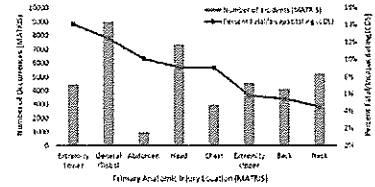


Emphasis Areas based upon average collision rates (2010)

- Head
- Neck
- Shoulder
- Hip
- Ankle
- Wrist
- Hand
- Arm
- Back
- Pelvis
- Leg
- Foot
- Lower Extremity
- Upper Extremity
- Torso
- Head/Neck
- Chest
- Abdomen
- Pelvis
- Lower Extremity
- Upper Extremity

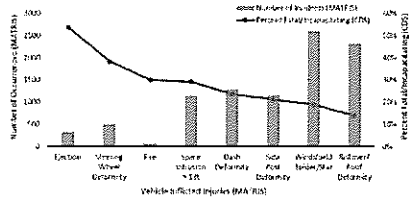
Fields of Interest

- Primary Anatomic Injury Location



Fields of Interest

- Vehicle Inflicted Injuries



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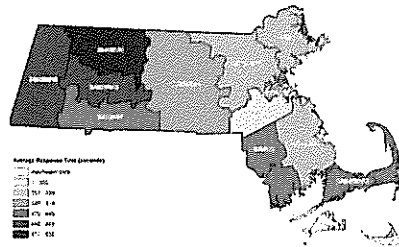
Report Structure

Complicating Anatomic Location (MAITRS)	Driver Contributing Cause (CCC)				Inoperating/Fatal Injury (%)	
	Non-Speaking-Related	Speaking-Related	From SA	EB	Non SA	EB
General/Other	1647	73%	312	7%	12%	15%
Head	432	13%	298	17%	8%	10%
Neck	353	11%	79	7%	3%	4%
Extremity/Upper	1647	12%	144	14%	8%	10%
Back	378	11%	51	8%	6%	7%
Extremity/Lower	2442	17%	118	11%	14%	16%
Chest	1018	8%	68	7%	3%	4%
Abdomen	548	3%	19	2%	10%	17%
Total Patients*	11778		1139	8%		11%

(* only patients with a known primary anatomic injury location/vehicle inflicted injury were included in the total.)

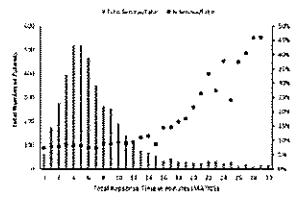
Vehicle Inflicted Injuries (MAITRS)	Driver Contributing Cause (CCC)				Inoperating/Fatal Injury (%)	
	Non-Speaking-Related	Speaking-Related	From SA	EB	Non SA	EB
Wrist/Ankle/Forearm	2420	17%	383	27%	14%	17%
Extremity/Upper	2553	13%	158	4%	14%	16%
Back	1149	13%	108	10%	22%	25%
Side/Front	1054	17%	104	10%	20%	22%
Space between L Foot	1049	17%	123	14%	29%	31%
Speaking/Other	423	7%	64	11%	17%	19%
Other	275	4%	37	5%	12%	14%
Total Occurrences*	11423		1144	10%		13%

EMS Response Time



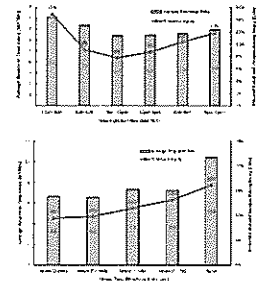
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EMS Response Time



Too many variables to determine if causation exists between response time and injury severity. Example: Time and location of crash, crash type, crash occupants, type of transport, etc.

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Next Steps

- Continue collaboration
 - Medical experts to gain additional insights
 - DPH – Office of Emergency Medical Services & Injury Surveillance Program
- Explore association between crash types and Revised Trauma Score (RTS)

$$RTS = 0.9368 GCS + 0.7326 SBP + 0.2908 RR$$



umass **SAFE**

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