



# Improving Commercial Vehicle Safety through University Partnerships

**2025 Southeast CMV Safety Research Summit  
University of Alabama**

**UMassAmherst**  
The Commonwealth's Flagship Campus





# Traffic Safety Research Program

## Housed in ...

- University of Massachusetts Amherst
  - College of Engineering
    - Department of Civil & Environmental Engineering
      - UMass Transportation Center

**Support highway safety through combined multidisciplinary approach**

Scientific data-driven  
problem  
identification,  
program design, and  
evaluation



Traditional highway  
safety practices  
(engineering,  
enforcement &  
education)



# UMassSafe Services

Safety Data Warehousing

Data Analysis & Technical Assistance

Web Data Tool Development

Human Subject Survey Research & Administration

Data Quality Assessments

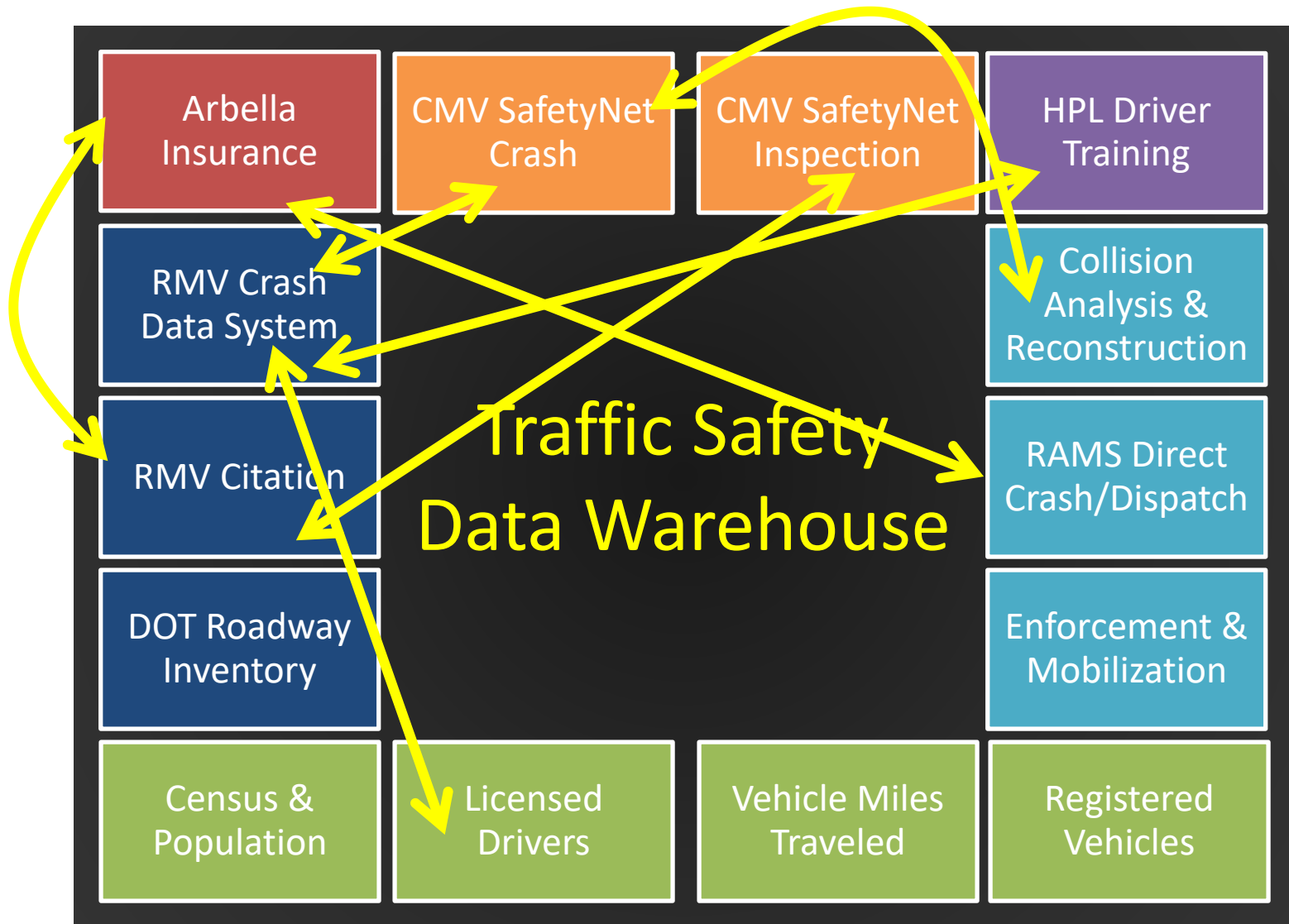
Strategic Planning Development

Curriculum Development & Online Training Creation

Traffic & Pedestrian Data Collection



# Data Linkage



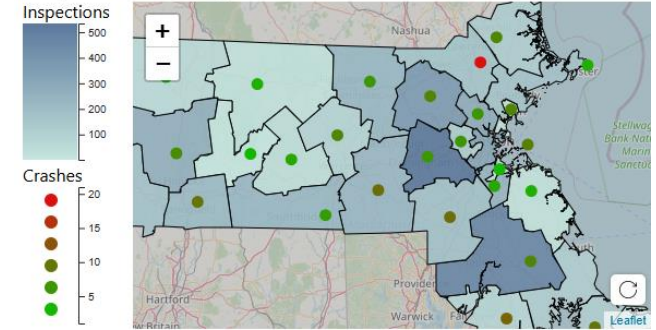
# Our Partnerships



# Why Partnerships?

## We can't all be experts on everything

- Universities provide specialized research, data, and expertise



## It takes a village

- Collaboration between multi-disciplinary stakeholders strengthens safety outcomes. Universities play an important role in this

## Interdisciplinary community

- Universities bring together engineering, public health, psychology, policy, and industry to create innovative, effective safety solutions



## Putting the pieces together

- Like puzzle pieces, universities connect data, technology, and practice



# Why Partner with Universities?

Universities provide **specialized expertise**

- Data Science
- Engineering
- Human Behavior
- Policy

Academic partners are **neutral conveners**, helping bridge enforcement, industry, and community

Research programs are often funded through **grant opportunities**

Students and faculty generate a **long-term pipeline** of innovative solutions



Source: Pexels

# What Resources/Skills Do Universities Have?

Data Warehousing



Data Analysis



GIS Expertise



Training



Marketing/ Demographic Research



Problem Identification



Program Evaluation



Stakeholder Outreach



Event Organization





# What Services Can Universities Provide?

Research  
Collaboration

Data Driven  
Enforcement

Curriculum/  
Training  
Development

Data Linkage

Field Data  
Collection

Web Based  
Data Tools

Conferences/  
Summits

Educational  
Campaigns

Online Content  
Development

Content  
Development

Crash Data  
Analysis

Grant Writing

Communication  
Planning

Event Planning

Survey Design  
&  
Implementation

Graphic Design

# Where to Find University Support

Ask Regional Summit Coordinators

University Transportation Centers

University Departments

State Traffic Records Coordinating Committees

FMCSA State or Regional Service Centers

Professional Organizations/Conferences

Other

# Leveraging University Resources

## Data Analysis Resources

- Crash data
- GIS mapping
- Analytics dashboards

## Human Factors Expertise

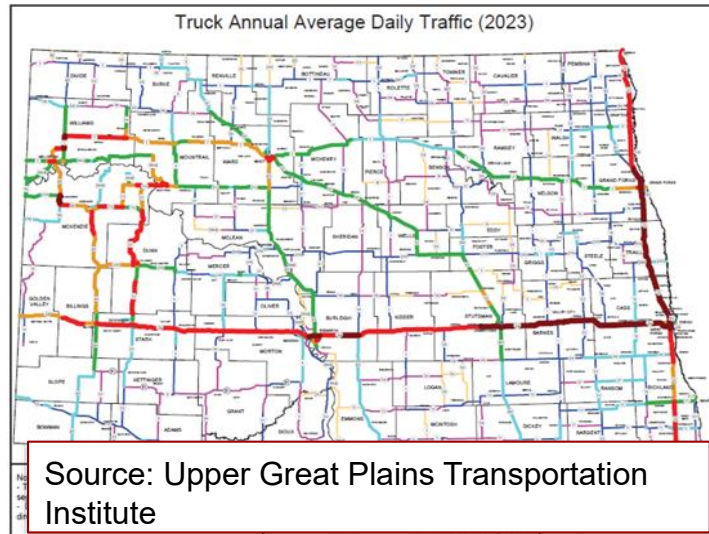
- Driver behavior surveys
- Simulator labs

## Software/Infrastructure

- Enterprise licenses to live traffic volume, ArcMap, Statistical packages, Survey platforms
- Simulator labs

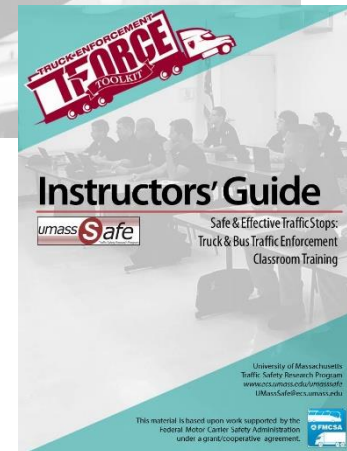
## Technical Services

- Training, curriculum, modules
- Resource-Content Toolkits
- Data collection Mobile apps



## Policy Analysis

- Regulatory evaluations, state of practice
- Unify guidelines
- Federal and state concurrent enforcement

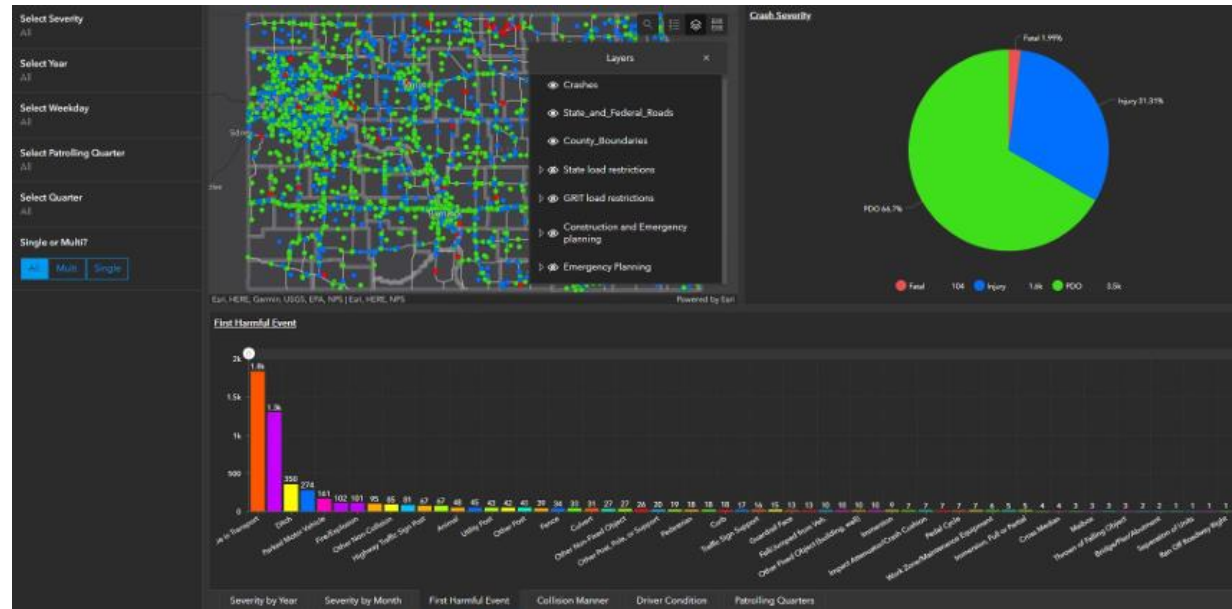




# Building Effective Partnerships With Universities

## Start with **shared goals**

- Crash reduction
- Driver safety
- Data quality



Source: Upper Great Plains Transportation Institute

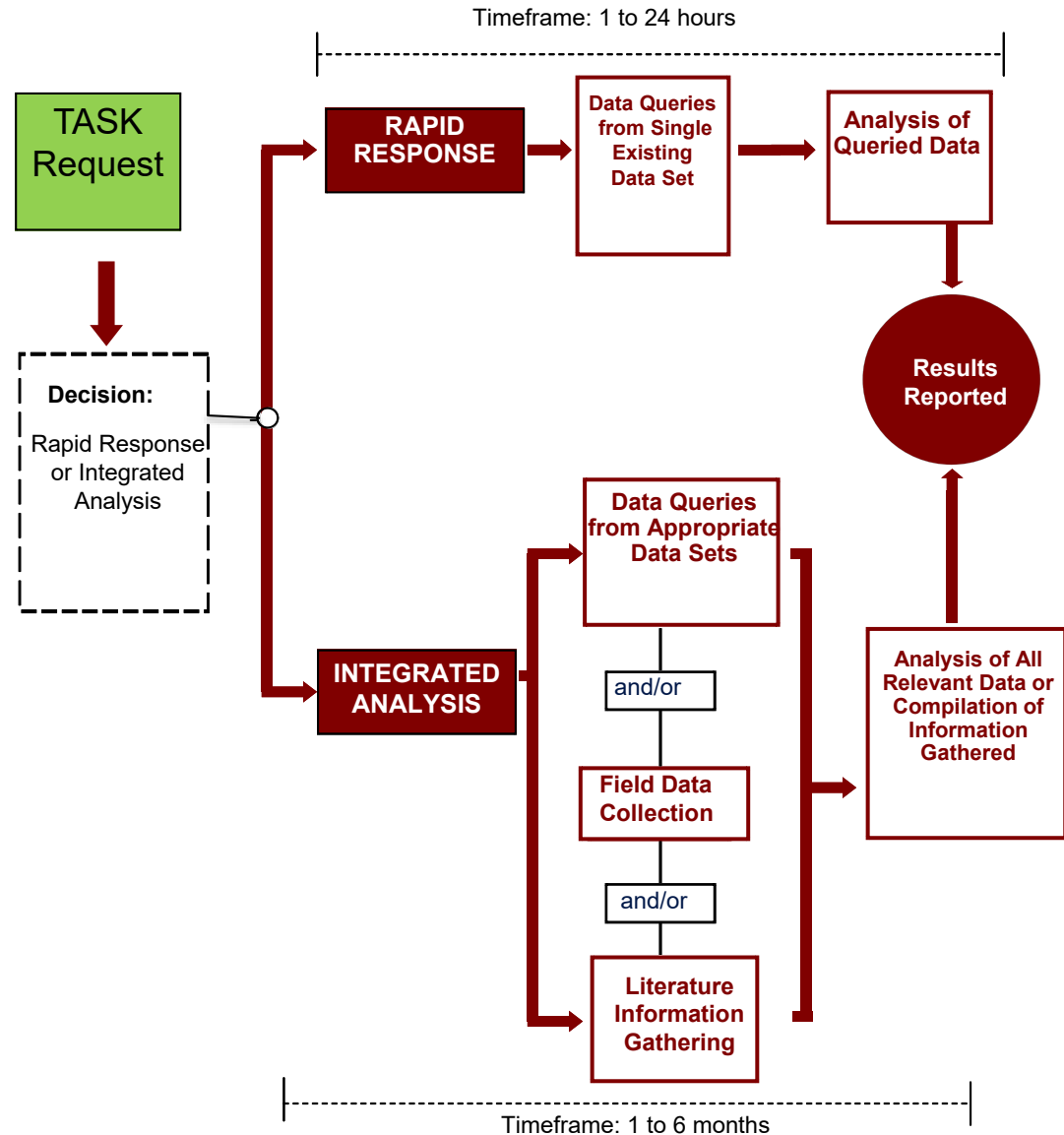
Establish a **formal framework** (MOUs, grant agreements) to clarify roles

**Engage early** – bring partners into the planning stages, not just implementation and evaluation

Maintain **regular communication** via steering committees or ongoing meetings

# Prioritization and Timeline

## Technical Assistance Center: Task-Workflow Conceptual Framework



# Types of Partnerships

## Formal Research Partnerships

Grant funded, structured reporting

## Applied Technical Assistance

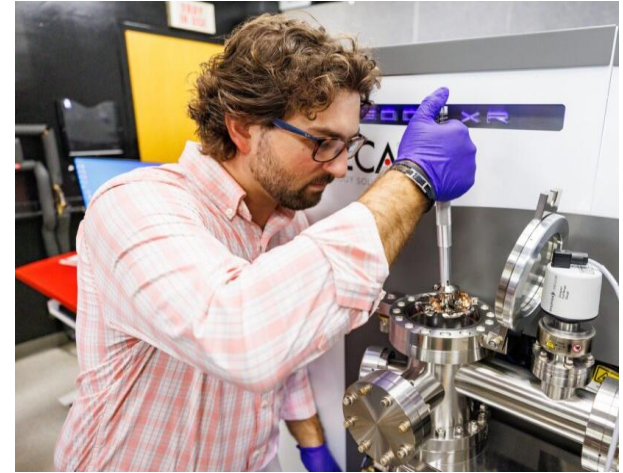
Universities provide staff time/data analysis for agencies

## Community Partnerships

Municipalities and enforcement agencies partner with faculty/student teams

## Industry Partnerships

Fleets and driver-training schools work with universities to test technology or public education campaigns



Source: University of Alabama Center for Advanced Public Safety



Source: Upper Great Plains Transportation Institute



# Types of Grants

## National

- **Federal Grants** (FHWA, FMCSA, NHTSA, USDOT UTCs)
  - Often competitive, multi-year, research-focused.
- **Foundations & Private Sector**
  - Safety-focused foundations, industry research collaborations.

## State

- **MCSAP Grants to Universities**
  - Crash Data Analysis, Planning (CVSP), Training Development.
- **Highway Safety Office Grants (NHTSA 402/405 funds)**
  - Education/outreach, traffic records, enforcement, and data projects.
- **State DOT Research & Innovation Programs**
  - Applied research, pilot projects, evaluations.

# Types of Grants - Continued

## Other Grants

- **Regional & National Consortium Grants**
  - Pooled fund studies, regional and national collaborations.
- **Professional Associations & Non-Profits**
  - CVSA, GHSA, ITE regional chapters, safety coalitions.
- **Industry/Private Sector Grants**
  - Trucking associations, insurance companies, tech firms funding safety pilots.
- **Indefinite Delivery/Indefinite Quantity (IDIQ) Contracts**
  - Federal mechanisms (e.g., Bureau of Transportation Statistics, USDOT task orders) allow multiple projects under a master agreement.
  - Universities can participate as prime or subcontractors to deliver technical assistance, data analysis, or evaluation.

# Examples of University Partnership Projects





# CMV Safety Summits

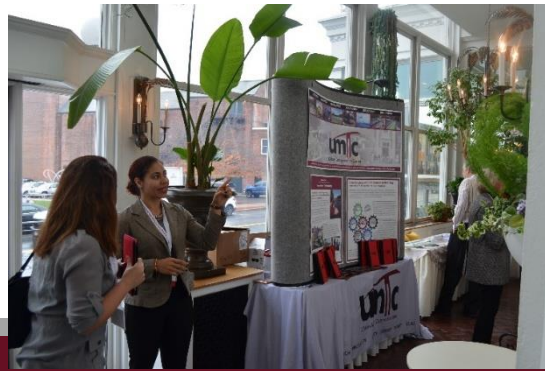


## Eastern Commercial Vehicle Safety Summit

- **2016:** Best Practices for Advancing Safety Through Partnerships with Universities
- **2019:** Best Practices for Industry & Law Enforcement Partnerships
- **2022:** Advancing Technology to Prevent Truck & Bus Crashes
- **2024:** Innovative Best Practices to Prevent Crashes
- **Coming 2026:** Where Research, Enforcement, and Industry move Together

### Post-Summit Survey Results

- 97% of attendees indicated the Summit was excellent/good, with 3% indicating it was adequate
- 100% of survey respondents indicated the Summit should be held regularly, with 59% suggesting a yearly Summit, 33% indicating it should be held every two years, and the remaining 3% suggesting it should be held every three to four years
- Each element of the Summit (keynotes, plenary panels, and concurrent sessions) received more than 90% satisfaction (excellent/good)



# CMV Safety Summits (Cont.)



## Eastern Commercial Vehicle Safety Summit


## Midwest Commercial Vehicle Safety Summit




## Western Region Commercial Vehicle Safety Summit

Commercial Vehicle Safety Summits are a valuable way to gather diverse stakeholders to engage in collaboration, problem solving, and developing innovative approaches.

# Commercial Vehicle Enforcement Toolkit



## Commercial Vehicle Enforcement Toolkit

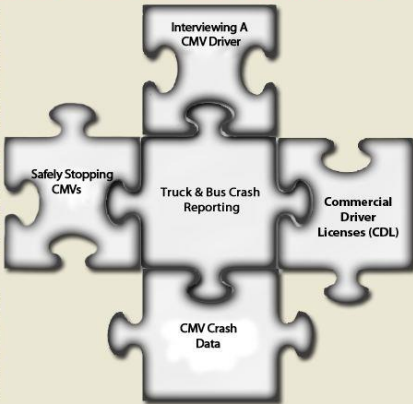


[Home](#)[Crash Reporting](#)[Traffic Stops](#)[MA Crashes](#)[Resources](#)[About](#)

Welcome to the Commercial Motor Vehicle Law Enforcement Toolkit


The Massachusetts Commercial Vehicle Enforcement Toolkit provides law enforcement personnel and other highway safety stakeholders with access to tools that can help reduce commercial motor vehicle (CMV) crashes in the Commonwealth while assisting law enforcement with information for traffic stops, crash reporting and other highway safety issues. The toolbox includes materials on a variety of CMV issues such as commercial drivers' licensing, interviewing truck driver during traffic stops, and hazardous materials. Click on the puzzle pieces for more topics. In addition, information on educational, enforcement and engineering countermeasures to prevent CMV crashes are provided. Crash data is shared, users can query the data with the interactive Commercial Vehicle Data Tool that enables them to identify trends and pinpoint crash information across the State.

The Toolbox will enable practitioners, including law enforcement personnel, State Agency staff and local cities and towns, to effectively review CMV issues, reporting and data quality challenges. It is a joint effort between the Massachusetts State Police Commercial Vehicle Enforcement Section (CVES or 'Truck Team') and the University of Massachusetts Traffic Safety Research Program (UMassSafe).



- Interviewing A CMV Driver
- Safely Stopping CMVs
- Truck & Bus Crash Reporting
- Commercial Driver Licenses (CDL)
- CMV Crash Data

- Crash Reporting
- Traffic Stops
- Officer Safety
- Crash Data Quality



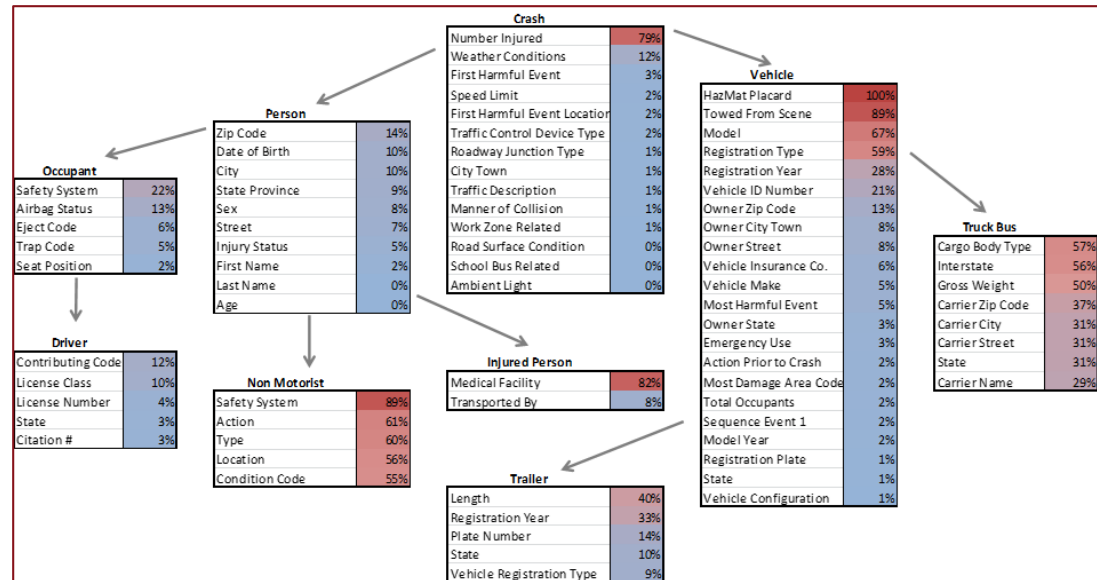
## MASSACHUSETTS Commercial Vehicle Data Tool

[Home](#)[Crash Maps](#)[Data Explorer](#)[Data Quality](#)

### Data Quality Reports

Police officers complete crash reports and submit them to the Registry of Motor Vehicles (RMV) where they are entered into the Crash Data System (CDS). Crash reports specific to CMVs are then sent to the Massachusetts State Police Commercial Motor Vehicle Enforcement Section where they are entered into the Federal Motor Carrier Safety Administration (FMCSA) SafetyNet database.

This tool enables users to examine data quality issues specific to CMV crashes by town, troop and Massachusetts as a whole. Specifically, one can query which crash fields are completed and which are left empty within the crash report. In addition, a comparison of the completeness of those fields on the crash reports to that data in CDS and SafetyNet can help determine what data that is missing on crash reports is then researched and completed before they are entered into SafetyNet.





# T-Force Toolkit

Tool for identifying similarities and differences between traffic enforcement with heavy trucks/buses and passenger cars

- Officer Safety: Location, Approach, Visibility
- Understanding Commercial Driver License classes

The screenshot shows the T-Force Toolkit website. At the top, there is a header with the T-Force Toolkit logo (a red truck with 'T-FORCE TOOLKIT' written on it) and the text 'SAVE LIVES Traffic Patrol Officers: Increase Bus/Truck Traffic Enforcement'. Below the header is a navigation bar with links: Home, Fast Facts, Web Resources, Instructor Portal, Library, and About. The main content area is divided into three sections: 'Fast Facts' (with a photo of a truck accident), 'Web Resources' (with a YouTube video thumbnail titled 'Save Lives Increase Truck/Bus Traffic Enforcement'), and 'Instructor Portal' (with a photo of a classroom setting). At the bottom, there is a footer with the text 'UMassSafe • UMassSafe@ecs.umass.edu • www.ecs.umass.edu/UMassSafe' and a small UMassSafe logo.

The image shows the covers of two guides from the T-Force Toolkit. The top cover is the 'Participants' Guide' and the bottom cover is the 'Instructors' Guide'. Both covers feature the T-Force Toolkit logo (a red truck with 'T-FORCE TOOLKIT' written on it) and the UMassSafe logo. The 'Participants' Guide' cover has a background image of a hand holding a pen over a document. The 'Instructors' Guide' cover has a background image of a classroom with students. The 'Instructors' Guide' cover also includes the text 'Safe & Effective Traffic Stops: Truck & Bus Traffic Enforcement Classroom Training' and 'University of Massachusetts Traffic Safety Research Program www.ecs.umass.edu/umasssafe UMassSafe@ecs.umass.edu'. At the bottom of the 'Instructors' Guide' cover, there is a small text box that reads 'This material is based upon work supported by the Federal Motor Carrier Safety Administration under a grant/cooperative agreement.' and a small FMCSA logo.

# T-Force Analytics

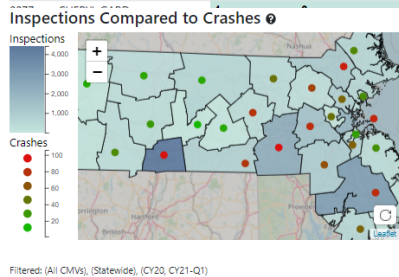
Massachusetts  
Inspections: Trooper

Jurisdiction: Troop H x Vehicle Type: All CMVs Inspection Level: Select Time Range: CY20 x Reset

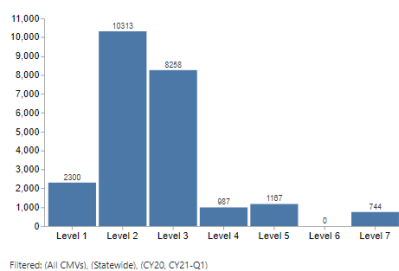
4,650 CMV INSPECTIONS 1,326 CMV OOS INSPECTIONS 28.52% CMV OOS RATE 10,768 CMV VIOLATIONS 2,32 CMV VIOLATIONS / INSPECTION

Troopers

Code	Name	Inspections	OOS Inspections	Violations
3275	TPR J. GRAY	753	263	2675
1882	SGT. J. SHEA	722	157	1107
1747	TPR P. POWELL	617	66	1136
3323	TPR JAMES MORRIS	523	164	1399
0004	WILLIAM BARRY	452	3	18
0887	SGT CHARLES DEVIN	388	126	1069
3185	TPR JEFFREY SULLIVAN	387	197	1096
3368	TPR GREGORY TURCO	197	111	777
3553	TPR MICHAEL CLEMENT	102	29	583
1006	DAVE DILAURO	102	10	29
0120	PCONNORS	67	2	22
0020	D PROUTY	48	10	82
3158	TPR V. NOE	43	6	75
3529	TPR PAUL ATEN	42	80	263
3737	TPR ANDREW AMARAL	39	13	99
3284	TPR PATRICK HAYNES	37	0	7
2398	TPR SC MAGUIRE	23	24	54
3362	TPR D. M. TAVARES	19	10	68
117	WAYNE A. LAWSON	14	2	10
3296	TPR. C. KASZYK	12	8	26
2488	TPR. JJ BATES	12	1	17
4015	JOHN O'ROURKE	10	3	32
3668	TPR DANIEL MORO	9	20	38
4165	TPR NICHOLAS LORENCO	7	9	41
3190	TPR M. TUCKER	7	8	27
2646	TPR C. MANISCALCHI	4	0	1



## Number of Inspections by Level



## Violation Summary

Violation	Count
Violation of Local Laws	1459
Inoperable Required Lamp	1060
No medical certificate in driver's possession	496
No/discharged/unsecured fire extinguisher	428
Not marked	
Lane Restrict	
Operating a	
Failing to use	
Inoperable H	
INTRASTATE vehicle in int	
USDOT num	

Filtered: (All CMV)

## Inspecti



## Top Carriers - Violations per Inspection

Carrier	# Inspections	Avg Violations per Inspection
ARTHUR STANLEY	1	31
DANIEL KELLER DBA PARADISE POOLS	1	31
ALCALA BROS	1	29
D M KOLODZIEJ TRUCKING INC	1	29
BROCKS BUILDING LLP	1	27
ROADRUNNER'S LOGISTIC LLC	1	27
WF LANDSCAPE SERVICES	1	27
JK DELIVERY LLC	1	26
ZAQUEU FRANCISCO DA SILVA	1	26
MTM AUTO TRANSPORT INC	1	25

Filtered: (All CMVs), (Statewide), (CY20, CY21-Q1)

## Crash Risk Explorer

Weather: Precipitation: None Wind: None/Light Temperature (°F): 41-60

Date: Start: 2021-04-01 End: 2021-05-28

Traffic: Typical Road Work: No Inspection Activity: Typical

Mode: +

Crash Probability: 1.591% Annual Baseline: 1.478%

# T-FORCE ANALYTICS

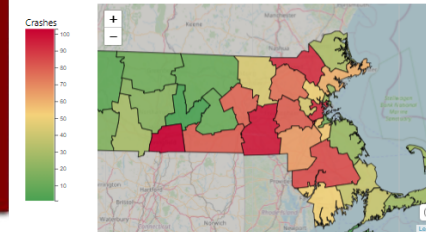
INSPECTION DASHBOARDS

CRASH DASHBOARDS

Custom region and trooper analysis

Interactive data visualization and mapping

## Crash Map



## Top Carriers with Contributing Factors in Crashes

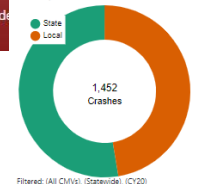
Carrier	# Crashes
RYDER	5
COSMOS GRANITE and MARBLE	4
JRM HAULING AND RECYCLING SERVICES II INC	4
CASELLA WASTE MANAGEMENT OF MA INC	3
FIRST STUDENT INC	3
MBTA	3
ALLIED WASTE SERVICES OF BOSTON OR ALLIED WASTE SERVICES OF TYNGSBORO OR REPUBLIC SERVICE	3
DISILVA TRANSPORTATION INC	2
DAVID CURVING	2
EXPRESS AUTO REPAIR LLC	2

Filtered: (All CMVs), (Statewide), (CY20)

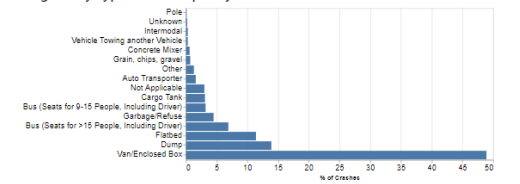
UMassSafe • UMassSafe@UMass.edu • www.UMassSafe.org

This material is based upon work supported by Federal Motor Carrier Safety Administration under grant/cooperative agreement

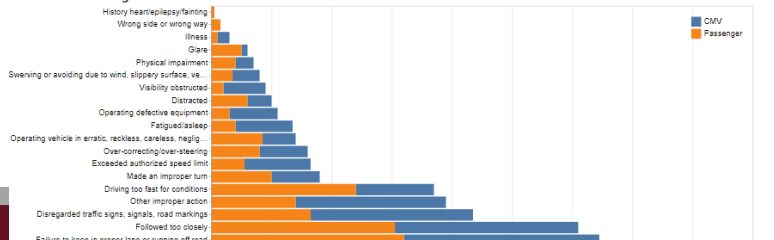
## Local/State Police Breakdown



## Cargo Body Type Crash Frequency



## Driver Contributing Code in CMV-Involved Crashes



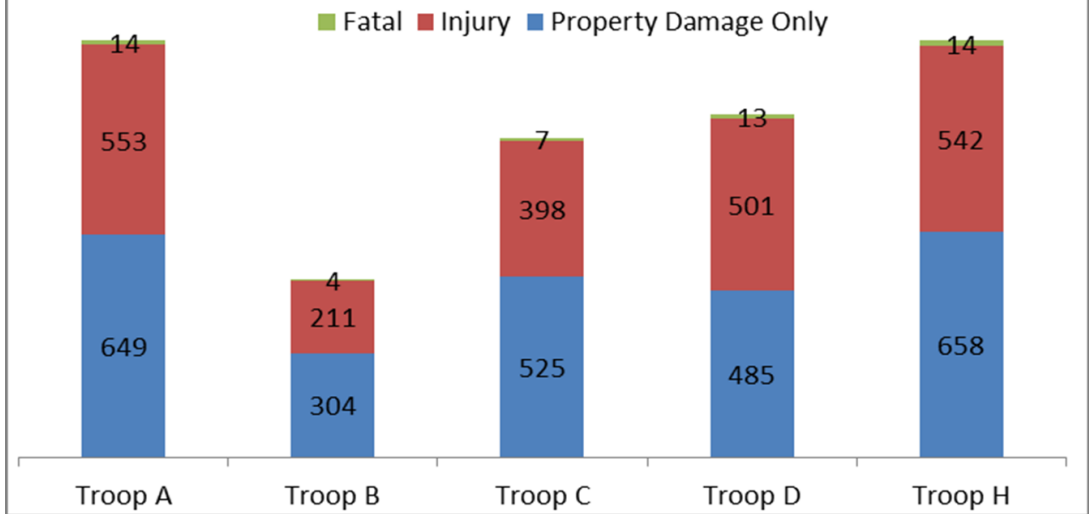


# Commercial Vehicle Safety Plan

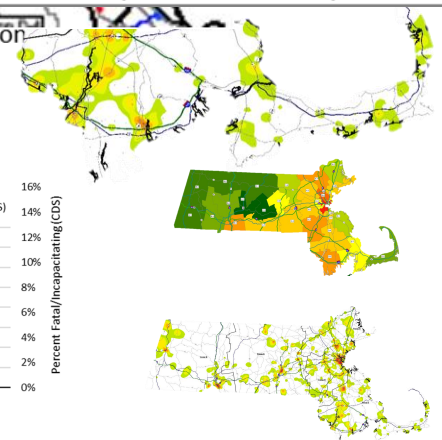
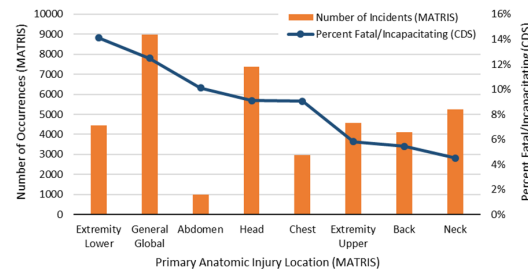
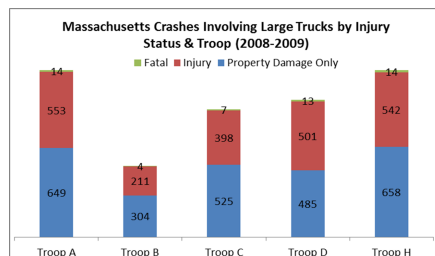
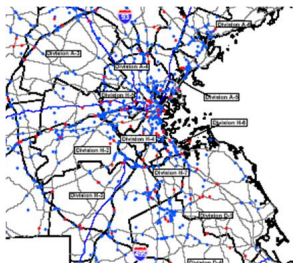
- Developed & implemented by MA State Police with support from UMassSafe
- Goals, Trend Analysis, Problem Identification, Crash Reduction Plan & Monitoring Plan
- Methodology has evolved over time based on feedback of agency usability and technology advancements



**Massachusetts Crashes Involving Large Trucks by Injury Status & Troop (2008-2009)**



Primary Anatomic Injury Location



# CMV Driver Distraction Pilot Project



Massachusetts State Police are strictly enforcing distracted driving regulations for commercial vehicle drivers.

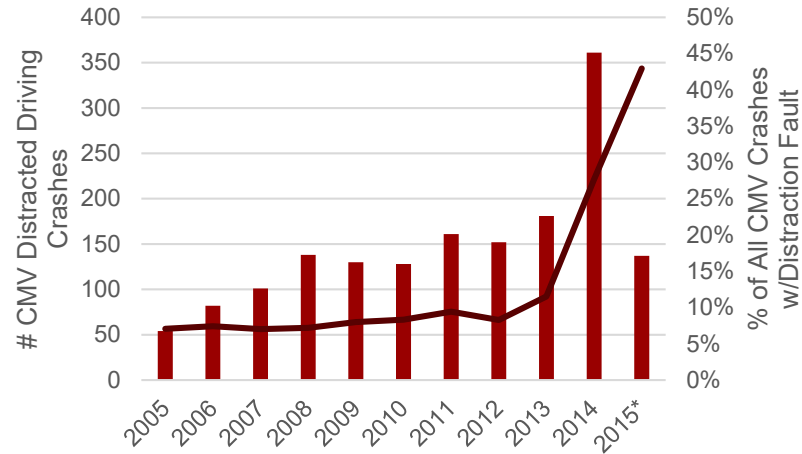
Commercial vehicle drivers are not allowed to use cell phones (only hands-free) or send, type, or read electronic messages while operating a motor vehicle. This includes use of the internet and text messaging.



Produced with funds from the Federal Motor Carrier Safety Administration

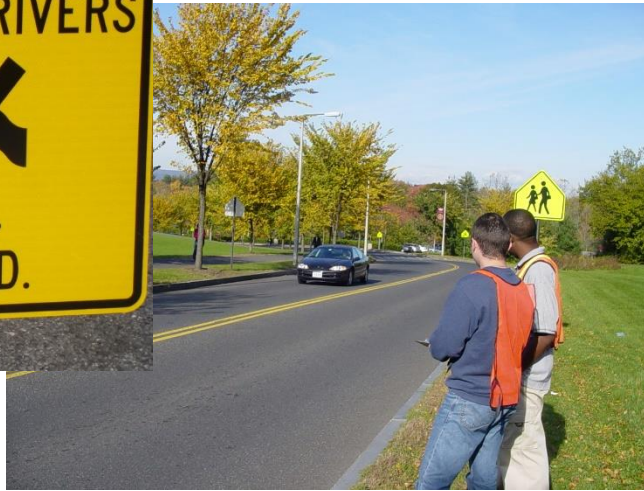


Massachusetts Crashes with CMV Driver Contributing Code of Inattention, 2005-2015

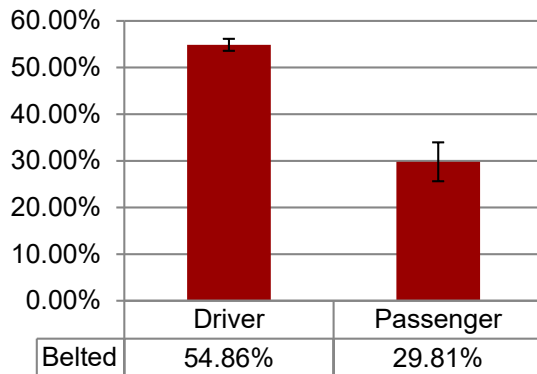




# CMV Seat Belt Survey & Campaign



CMV Seat Belt Use Among Drivers and Passengers



# Crash E-Manual - Crash Report Data Dictionary

[www.MassCrashReportManual.com](http://www.MassCrashReportManual.com)

- Data Dictionary
- Interactive Crash Report Overlays
- Crash Report Review Guidelines
- Traffic Records News
- And more



[Data Importance▼](#)[Reporting Components▼](#)[Data Dictionary▼](#)[About▼](#)[Search](#)

## Massachusetts Law Enforcement Crash Report E-Manual

Search the Data Dictionary

Try these: [Traffic Device Functioning Code](#), [Non-Motorist Action](#), [Non-Motorist Location](#), [License Class](#), [Towed From Scene](#), [Safety System Used](#), [Latitude/Longitude](#), [Speed Limit](#), [Time](#), [Hit/Run](#), [Non-Motorist Indicator Box](#)

Content filters

Filter by Categories

☒ Search in field names

☐ Search in definitions

☐ Search in rationales



[Home](#) / [Truck & Bus Level Fields](#) / [Interstate](#)

**Instructions:**

Identify the type of carrier that was involved in the crash.

**Definition:**

The type of carrier that was involved in the crash.

**Rationale:**

The Federal Motor Carrier Safety Administration (FMCSA) has the authority to fine and sanction unsafe interstate (and some intrastate) truck and bus companies.

Code	Attribute	Definition
0	Intrastate	This attribute represents a motor carrier that operates entirely within the state and does not have the authority to engage in interstate commerce. Intrastate operators are not required to have a USDOT Number by the Federal Motor Carrier Safety Administration; however, some states do require that certain intrastate operators secure a USDOT Number.
1	Interstate	A commercial vehicle in the United States where the transit between the points of origin and termination does not occur entirely within the borders of the State of origin. A motor carrier that has authority to operate across state lines. Interstate operators are required to have a USDOT Number by the Federal Motor Carrier Administration.
2	Not in Commerce (Other Truck or Bus)	Personal rental vehicles (e.g., U-Haul, Ryder, Penske) that qualify by size (over 10,000 lbs. GVWR/GCWR) that are operated by a private individual. In these situations the rental company is not the carrier and should not be recorded.
3	Not in Commerce (government)	Any government vehicle, whether it is operated by the local, State, or federal government. In most circumstances, the government-owned vehicle will not have a USDOT Number.
4	Other Operation/Not Specified	This attribute is used for a variable that is not addressed by the previous attribute options. If this attribute is used, an explanation in the narrative is recommended.



Zoom

Non

The local roadway

<https://mass.gov/motors>

Code

1

2

3

4

5

6

7

8

9

10

99

At Intersection but no Crosswalk

Non-Intersection Crosswalk

In Roadway

Not In Roadway

Median (But not on Shoulder)

Island

Shoulder

Sidewalk

Shared-Use Paths or trails

Unknown

Police Use Only

Commonwealth of Massachusetts

Motor Vehicle Crash Report

RMV Document Number

Date of Crash

City/Town

County

State

AT INTERSECTION

LOCATION

NOT AT INTERSECTION

Name

Address

City/Town

State

Zip

Vehicle 1

Vehicle 2

Vehicle 3

Vehicle 4

Vehicle 5

Vehicle 6

Vehicle 7

Vehicle 8

Vehicle 9

Vehicle 10

Vehicle 11

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# LEA/LEO Specific Data Quality Reports

Name	# Analyzed Crash Reports	% Invalid/Incomplete Entry by Field													
		Crash	Vehicle	Occupant				Driver			Non-Motorist				
		Speed Limit	Vehicle Travel Direction	Safety System	Airbag Status	Ejection Code	Transported by Code	License Class	Driver Contributing Code	Driver Distracted By	Type	Action	Location	Condition	Transported by Code
TOTAL Cambridge Police	832	6%	13%	24%	24%	25%	35%	18%	15%	15%	15%	19%	18%	20%	82%
JEAN-BAPTISTE, JERRY	87		26%	92%	92%	92%	96%	9%	13%	13%	4%	17%	13%	4%	100%
CALLINAN, JASON	72		18%	6%	6%	6%	19%	18%	17%	17%	13%	13%	13%	13%	83%
DONAHUE, MARK	28		2%	80%	87%	93%	7%	20%	13%	13%	100%	100%	100%	100%	100%
MICELI, MELISSA	24		3%	82%	82%	82%	18%	25%	19%	19%	71%	71%	71%	71%	71%
CIRIELLO, ROBERT	23		8%	15%	15%	19%	26%	33%	33%	33%	33%	33%	33%	33%	67%
VALENTIN, SIMON	22	95%		14%	14%	14%	5%	10%	10%	10%	50%	50%	50%	50%	50%
ROSA, DAVID	22		33%	28%	44%	22%	11%	11%	11%	17%					50%
EDWARDS, GARY	20			16%	16%	16%		64%	59%	59%					
GRASSI, JOSEPH	18			21%	21%	21%	16%	19%	13%	13%	33%	33%	33%	33%	100%
JOSEPH, DONYELL	15		4%				15%	24%	24%	19%					50%
ALLEN, STEVEN	15	100%		4%	4%	4%	92%	4%	4%	4%					100%
BARTLETT, DANIEL	14		16%	5%	5%	5%	73%	11%	11%	11%					100%
LOWE, SEAN	13		20%	6%	13%	13%	75%	20%						100%	
BROWN, ZACHARY	13		4%	25%	25%	25%	13%	21%	21%	21%	67%	67%	67%	67%	33%
CLAVETTE, MARK	12		9%				87%	23%	15%	15%					100%
CHERUBINO, MICHAEL	12		11%				14%	17%							67%
BROWN, RICHARD	11		29%	11%	11%	11%	56%	38%	13%	13%	100%	100%	100%	100%	100%
COSTA, EDMUND	11		5%	37%	37%	37%		9%	9%	9%	50%	50%	50%	50%	
DIGGINS, JAMES	10		6%	17%	17%	17%	17%	36%	27%	27%					100%
SMITH, MARK	10			21%	21%	21%		25%	17%	17%					100%
BUILES, LUIS	10		14%	27%	27%	27%		18%	9%	9%					100%
CAZEAU, ANDY	9			13%	6%	6%		50%	50%	50%	67%	67%	67%	67%	67%
MORRISSEY, MICHAEL	9		7%	100%	100%	100%	20%	40%	40%	40%					
CROWLEY, JOHN	9	11%					29%			14%				50%	100%
FOSTER, EDDIE	9		6%	15%	15%	15%	31%	10%	10%	10%					100%
VIEIRA, LEE	9	100%	14%	100%	100%	100%	11%								
AYOUB, NICHOLAS	9	11%					22%								67%
ALI, ASIF	9		28%	14%	14%	14%	36%			10%					100%
GALUSKI, KYLE	9		25%					14%	14%	14%					100%
AMES, CHRISTOPHER	8		25%	29%	29%	29%	50%	9%							
HUDSON, LAWRENCE	8		40%	14%	14%	14%	29%	14%	14%	14%					100%
PADGETT, IVELISE	8		25%				46%	11%			50%	50%	50%	50%	100%
ANTONOPOULOS, MILTIADES	8						13%	8%	8%	8%					100%
CROWLEY, JOSEPH	8		15%				33%	44%	44%	44%					
BUXBAUM, JOSHUA	8						15%	17%	17%	17%					
O'REGAN, BRIAN	8			18%	18%	18%	91%	11%	11%	11%					100%
MCMAHON, DEVIN	8		21%	25%	25%	25%	50%								



# Crash E-Manual – LEA Quality Scorecard

Select LEA:

<https://masscrashreportmanual.com/crash-report-quality-scorecard/>

CHICOPEE POLICE DEPT ▼

Submit

## Driver

Field	LEA Grade	LEA Data Quality	Statewide Data Quality	LEA vs State Difference
Driver License Class	B	86%	94%	-8 ▼
Driver Contributing Code	B	86%	96%	-10 ▼
Driver Distracted	B	85%	89%	-4 ▼
Alcohol Suspected	F	55%	71%	-16 ▼

## Person

Field	LEA Grade	LEA Data Quality	Statewide Data Quality	LEA vs State Difference
Seating Position	A+	99%	99%	0
Safety System Used	B-	80%	96%	-16 ▼
Airbag Status	B-	80%	98%	-18 ▼

## Non-Motorist

Field	LEA Grade	LEA Data Quality	Statewide Data Quality	LEA vs State Difference
Non-Motorist Type	B	86%	88%	-2 ▼
Non-Motorist Action	B	83%	86%	-3 ▼

- Used by LEAs to assess their officer-submitted crash reports for completeness and validity
- Table compares the percentage of records with acceptable DQ for each specific field, alongside the respective statewide DQ percentage

# Making the Most of Grants

- **Leverage multiple sources:** combine state funds with university research capacity.
- **Build sustainability:** use pilot project funding to position for larger grants.
- **Grow workforce:** Expose CMV-realm to college students
- **Engage early:** universities can help write and structure proposals for stronger competitiveness.
- **Align with national priorities:** Safe Systems, CMV Safety, Vision Zero, MMUCC, Work Zone Safety.



# Challenges for Universities

While universities bring expertise and innovation, they face structural challenges that can impact collaboration. Recognizing these barriers helps agencies and industry partners **set realistic expectations** and design stronger partnerships.

## Grant Process Complexity

Lengthy proposal reviews, institutional approvals, and compliance steps.

## Grant Restrictions

Federal and state funding comes with rigid eligibility, allowable expenses, and procurement rules.

## Grant Reporting Requirements

Frequent progress reports, financial audits, and documentation.

## Institutional Overhead (Indirect Costs)

Indirect cost rates (facilities and administration) increase project budgets.

# Professional Networking Organizations

## Forums and Events for Finding the Right Partners

- **TRB Annual Meeting (Jan 11–15, 2026, DC)** → Meet Primary Investigators and State Partners.
- **CVSA (Commercial Vehicle Safety Alliance)** → Brings together FMCSA, state enforcement, tech vendors, and increasingly university projects.
- **ATSSA Convention & Traffic Expo** (work zones + TIM; Feb 20–24, 2026, Houston) CMV work-zone pilots and state DOTs.
- **NOCoe “Talking TIM” webinars** (monthly)—Identify potential partners doing real deployments.
- **FHWA National Coalition on Truck Parking** A policy + implementation space with agencies, labs, and researchers.
- **SAE COMVEC** Engineering-focused but useful for tech pilots and OEM links
- **AAMVA International Conference** Great for finding implementation partners.

## Funding & pipelines (to find like-minded university consortia)

- USDOT University Transportation Centers (2022–2026)
- FMCSA CMV Roadside Technology Corridor

# Questions & Contact Information

Robin Riessman - [riessman@ecs.umass.edu](mailto:riessman@ecs.umass.edu)

University of Massachusetts

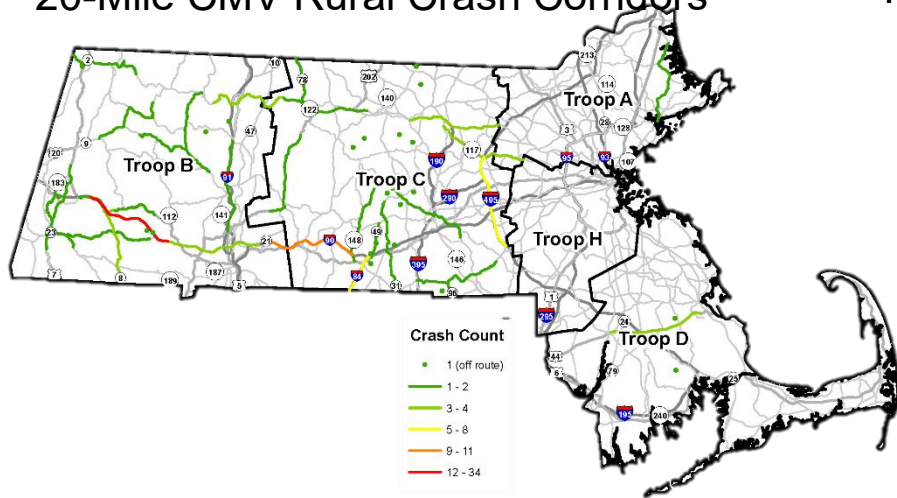
[www.umasssafe.org](http://www.umasssafe.org)



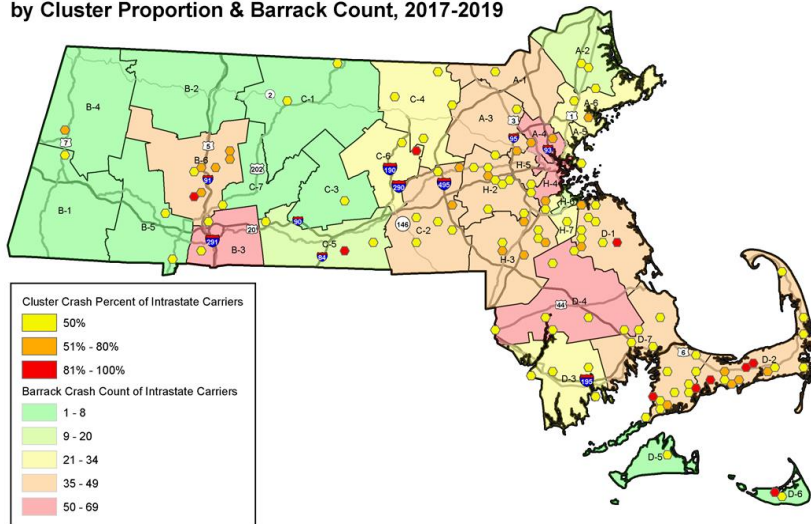


# Using Data to Guide Safety Programming

## 20-Mile CMV Rural Crash Corridors



Massachusetts Intrastate Carrier CMV Crashes by Cluster Proportion & Barrack Count, 2017-2019

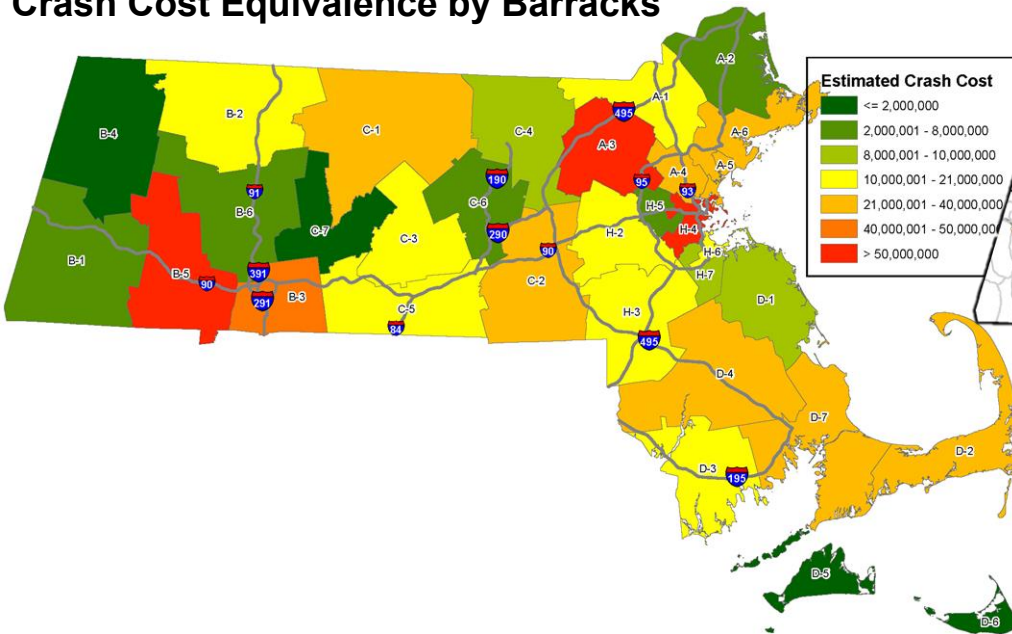


## Problem Identification of Intrastate Carrier Crashes

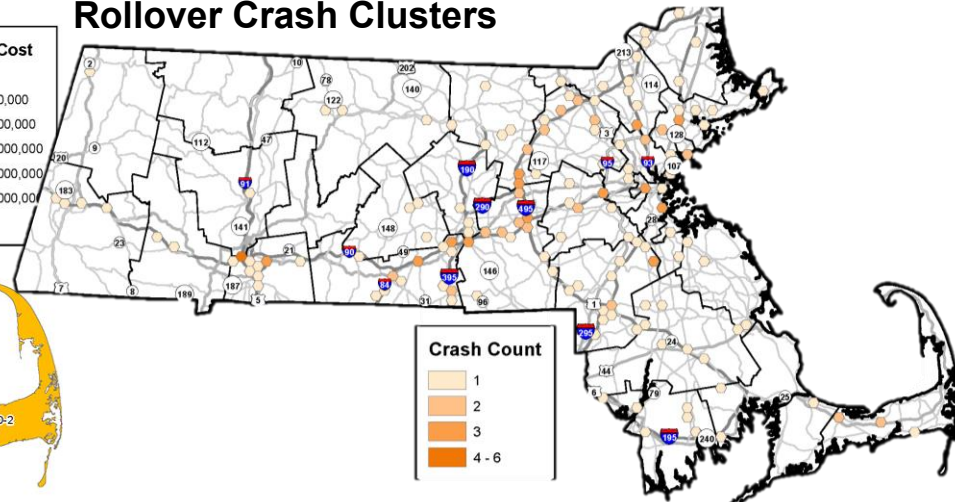
First Harmful Event	Intrastate	Interstate
Collision w/ motor vehicle in traffic	78.2%	78.6%
Collision w/ parked motor vehicle	6.1%	3.6%
Collision w/ guardrail	1.5%	3.1%
Overturn/rollover	1.6%	2.0%
Collision w/ pedestrian	2.0%	0.9%
Collision w/ bridge overhead structure	0.9%	1.5%
Collision with bridge	0.3%	1.3%
Collision with utility pole	1.4%	0.9%
Collision with tree	1.6%	0.9%
Collision with median barrier	0.2%	1.0%
Jackknife	0.1%	0.7%
Collision with embankment	0.4%	0.6%
Collision with curb	0.6%	0.4%
Collision w/ other light pole or other post/support	0.9%	0.4%

# Using Data to Guide Safety Programming

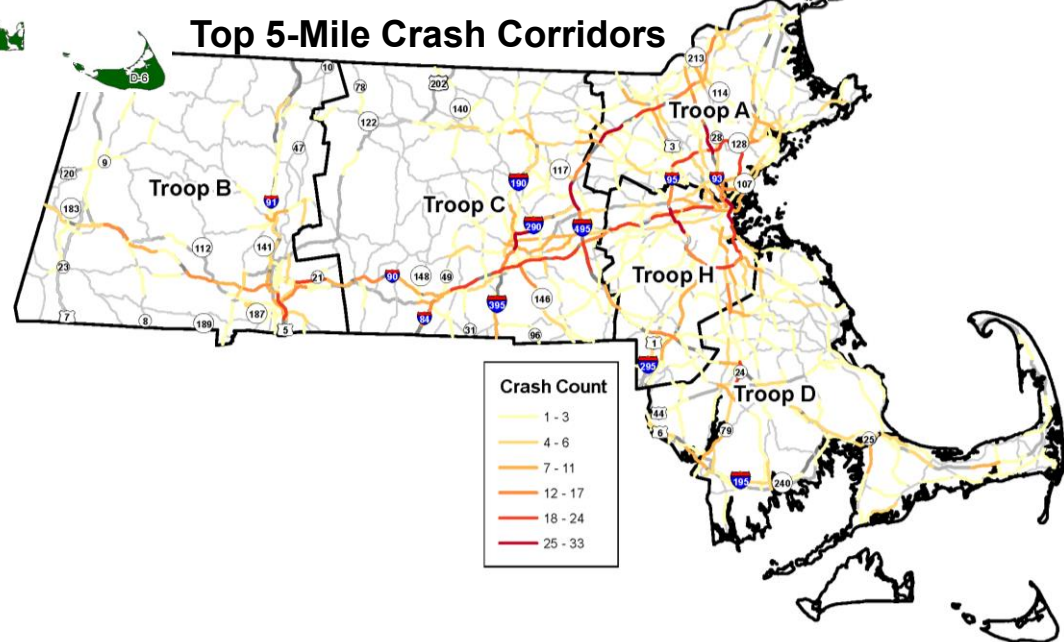
## Crash Cost Equivalence by Barracks



## Rollover Crash Clusters



## Top 5-Mile Crash Corridors



## Top 5-Mile CMV Crash Corridors

Crash Count	Route	Mile Marker	Troop
33	I-495	78-83	A
30	I-93	14-19	H
27	I-290	5-10	C
27	MA-128	8-13	H
26	I-495	64-69	C
26	I-93	28-33	A
24	M-128	21-26	A

# Using Data to Guide Safety Programming

Crash Report: Driver Contributing Code	Passenger-Car Driver	CMV Driver
No improper driving	45.5%	55.1%
Unknown	13.3%	13.5%
Inattention	7.2%	5.6%
Failed to yield right of way	6.4%	3.4%
Followed too closely	4.6%	5.1%
Failure to keep in proper lane or running off road	4.6%	2.7%
Other improper action	3.8%	3.9%
Driving too fast for conditions	2.9%	2.1%
Operating vehicle in erratic manner	2.2%	1.0%
Disregarded traffic signs, signals, road markings	2.1%	2.1%
Made an improper turn	1.5%	1.1%
Distracted	1.1%	0.6%
Fatigued/asleep	0.9%	0.7%
Glare	0.9%	0.2%
Swerving or avoiding	0.7%	0.7%
Exceeded authorized speed limit	0.7%	0.6%
Over-correcting/over-steering	0.5%	0.5%
Visibility obstructed	0.4%	0.9%
Wrong side or wrong way	0.4%	0.2%
Physical impairment	0.4%	0.1%





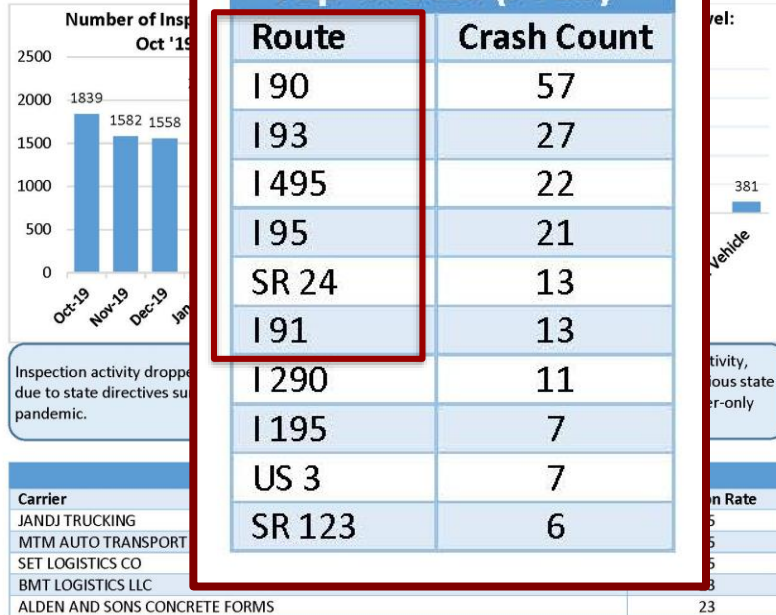
# Management Reports



University of Massachusetts Amherst  
Amherst, MA 01003  
www.umasssafe.org

## Massachusetts Commercial Motor Vehicle Management Report Inspections: Oct 2019 – May 2020 (data sourced as of 7/31/2020)

In order to conduct data-driven enforcement, the Massachusetts State Police Commercial Vehicle Enforcement Section examines the inspection and crash details of the most recent quarters for trends and anomalies. The following charts and tables depict the recorded SafetyNet data to aid in the formation of directives for both inspection and traffic enforcement and the reconciliation of a



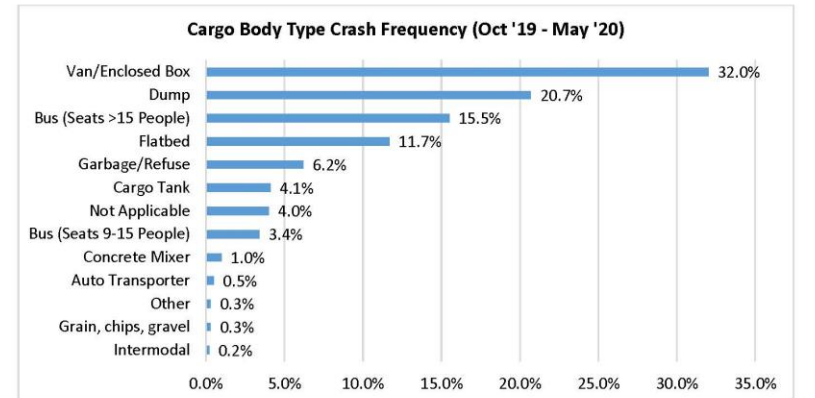
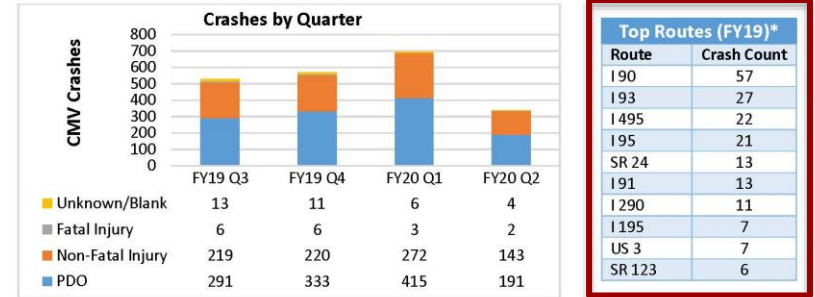
### Top Routes (FY19)\*

Route	Crash Count
I 90	57
I 93	27
I 495	22
I 95	21
SR 24	13
I 91	13
I 290	11
I 195	7
US 3	7
SR 123	6

### Top Violations for Vehicles Inspected (Oct '19 – May '20)

Violation Description	Count
VIOLATION OF LOCAL LAWS	2489
INOPERABLE REQUIRED LAMP	2332
NOT MARKED IN ACCORDANCE WITH REGULATIONS	1034
OPERATING A PROPERTY-CARRYING VEHICLE WITHOUT POSSESSING A VALID MEDICAL CERTIFICATE.	942
NO/DISCHARGED/UNSECURED FIRE EXTINGUISHER	922

## Massachusetts Commercial Motor Vehicle Management Report Crashes: Oct 2019 – May 2020 (data sourced as of 7/31/2020)



Top Carriers in Crashes with Contributing Factors: Oct '19 – May '20	
Carrier	Count
PVTA	5
ALLIED WASTE/REPUBLIC SERVICES	4
MERRIMACK VALLEY REGIONAL TRANSIT AUTHORITY	3
NEW ENGLAND ICE CREAM	2
DURHAM SCHOOL SERVICES	2

\*Latest available data is for FY19 only

# Understanding At-Risk Driving Attitudes & Behaviors



## CMV Driver Attitude & Behavior Survey

- Online self-reported survey of
- 20 multiple choice questions (~4 minutes)
- Aiming to quantify driver's attitudes/beliefs of risky behaviors
  - Sending a text message
  - Exceeding HOS regs
  - Driving after consuming alcohol & cannabis
- Results and recommended uses in CMV crash prevention at [Commercial Vehicle-Safety Technical Assistance Center \(CV-STAC\)](#)



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- Aiming to quantify driver's attitudes/beliefs of risky behaviors
  - Sending a text message
  - Exceeding HOS regs
  - Driving after consuming alcohol & cannabis

- Distribution through state and federal trucking associations, Facebook, and respondent acquisition services
- Convene a *CMV Data-Driven Safety Work Group* of ESC stakeholders to guide use of findings –  
**Seeking volunteers!**
- Share results to inform safety programming efforts for improved efficiency and industry-relations

**Seeking Professional Drivers:**  
A Survey of Safety-Related  
Experiences and Beliefs

-Completely Anonymous  
-Only Five Minutes



bit.ly/UMassCMVstudy



# Commercial Vehicle Safety Technical Assistance Center (CV-STAC)

***cvstac.umasssafe.org***

## Online Resource Center

- Multi-agency Partnerships
- Safety Programming

*Develop - Expand - Replicate*

- Best Practice Guides
- Webinars
- Education Materials
- News Highlights



## Previous Presentations



**Distracted Driver Awareness Program -**  
D.R. Ike Iketani, The California Trucking Association and the California Highway Patrol



## Driver Distraction in Commercial Vehicles

Driver distraction can take many forms - using a mobile device, adjusting an interface, and even fatigue can take driver's

## Important Information

International Association of Police Chiefs: Law Enforcement's Role in Distracted Driving

FMCSA: Distracted Driving Guidelines

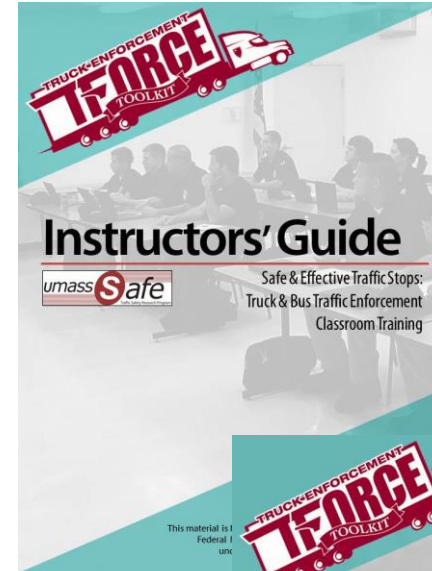
National Safety Council: Ending Distracted Driving is Everyone's Responsibility

National Conference of State Legislatures: Distracted Driving Cellphone Use

NHTSA: Evaluating the Enforceability of Texting Laws

# Classroom Training

- Traffic stop from start to finish
- Similarities and Differences between traffic enforcement with trucks/buses and passenger cars
  - Officer Safety
  - Choosing the location
  - Approaching a large truck/bus
  - Visibility issues
  - Commercial Drivers License
  - Assisting the truck in re-entering traffic



# Types of Grants

- **Federal Research Grants** (FHWA, FMCSA, NHTSA, USDOT UTCs)
  - Often competitive, multi-year, research-focused.
- **Foundations & Private Sector**
  - Safety-focused foundations, industry research collaborations.
- **Strengths:** Universities are skilled at writing and managing research grants; provide continuity across projects.
- **Challenges:** Indirect costs, long timelines, academic publication focus may differ from agency “on-the-ground” needs.



# Types of Partnerships

## University

- Typically a formal partnership facilitated by a grant

## Community

- Either a formal or informal partnerships with a community entity, such as a Department of Transportation, municipality, etc.

# Crash Data Web Interface



## MASSACHUSETTS Commercial Vehicle Data Tool

[Home](#) [Crash Maps](#) [Data Explorer](#) [Data Quality](#)

The Commercial Vehicle Data Tool provides access to commercial vehicle crash data collected by police officers in Massachusetts.



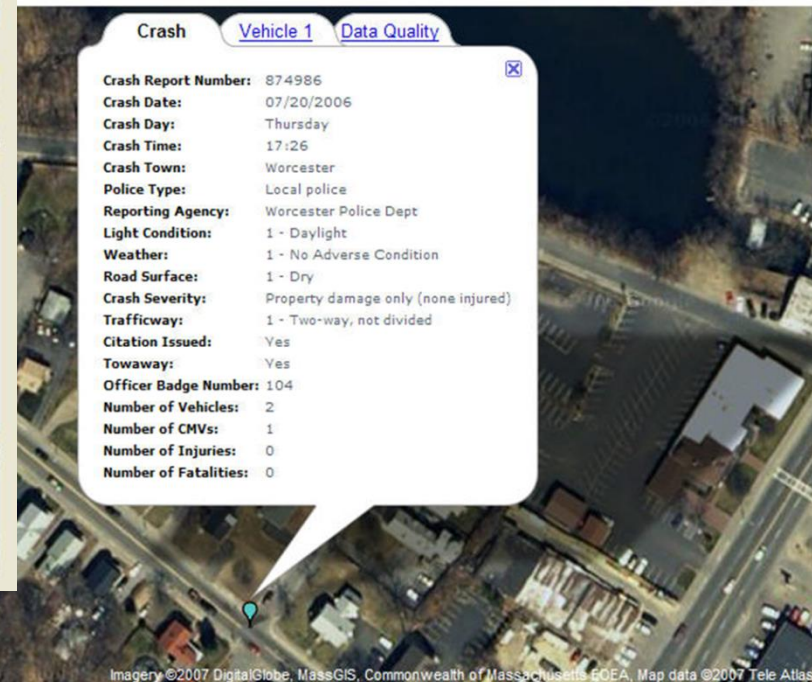
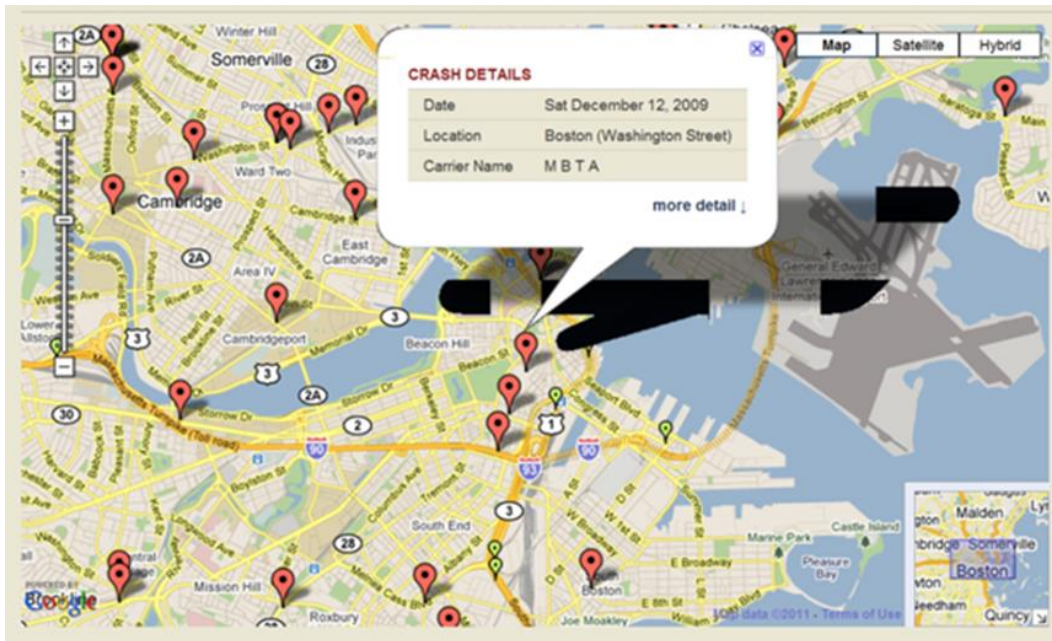
### UMASSSAFE SAFETY DATA WAREHOUSE

The UMassSafe Safety Data Warehouse has been developed as a tool for maximizing the use of highway safety data. Data stored in the warehouse include traditional datasets such as crash and citation data as well as less traditional highway safety data such as health care data and commercial vehicle safety data.

### THE IMPORTANCE OF CRASH DATA

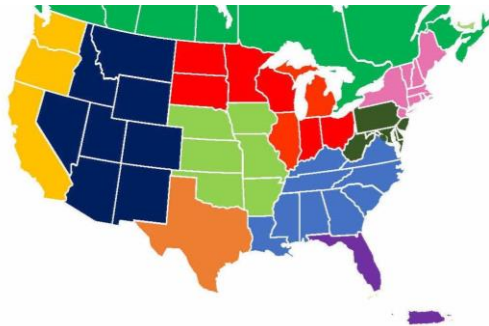
Law enforcement personnel and highway safety stakeholders utilize crash data to plan crash prevention programming and targeted enforcement. The integrity of crash data is fundamental to the work done by the Massachusetts State Police Commercial Vehicle Enforcement Section (MSP CVES) and other safety professionals across the Commonwealth, in order to prevent crashes. Thus, improving the accuracy, speed and completeness of commercial vehicle crash (CMV) data continues to be an ongoing goal of the Commonwealth.

In addition, states are required to CMV crashes to the Federal Motor Carrier Safety Administration (FMCSA) who compiles this data and evaluates the quality of each states crash data, specifically the data's completeness, timeliness, accuracy, and consistency. States receive a ranking of 'Good,' 'Fair' or 'Poor' for each measure as well as an overall rating.

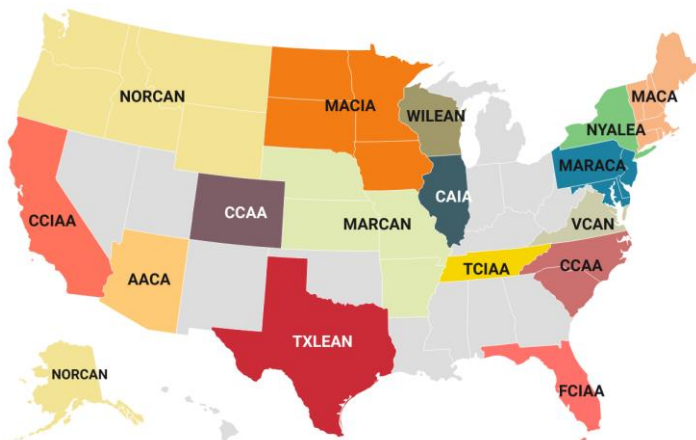


# Professional Networking Organizations

- Transportation Research Board
- Lifesavers
- American Traffic Safety Information Professionals:
- **ITE** Institute of Transportation Engineers (regional sections & student chapters)



- International Association of Crime Analysts (regional chapters)



Go-to forums & events (where the right people are)

- **TRB Annual Meeting** (Jan 11–15, 2026, DC) → meet Pls/state partners.
- **CVSA (Commercial Vehicle Safety Alliance)** → draw FMCSA, state enforcement, tech vendors, and
- **ATSSA Convention & Traffic Expo** (work zones, CMV work-zone pilots and state DOTs. [ATSSACC](#))
- **NOCoe “Talking TIM” webinars** (monthly)—low-cost warning, EDC-7, etc.). [transportationops.orgtrans](#)
- **FHWA National Coalition on Truck Parking**—po researchers. [Trucking Research](#)
- **SAE COMVEC** (engineering-heavy but useful for
- **AAMVA** (CDL/CMV program side): CDL coordinator for implementation partners. [comvec.sae.orgSAE](#)

Funding & pipelines (to find like-minded universities)

- **USDOT University Transportation Centers** (202
- **FMCSA CMV Roadside Technology Corridor**—states/ORNL. [FMCSA](#)

# COVERLAB Analytics – North Carolina

Decision Support Analytics for Enforcement Planning

Special Overtime Projects (SOP) Tracking / Analytics / Reports

Mobile Technologies Tracking / Analytics / Reports

COVERLAB Applications:

- Developing performance metrics
- Uploading and formatting grant proposals
- Coordinating with CVE staff for cooperative proposal development
- Providing statistical charts / graphs for improved content messaging

for

- Annual CVSP (MCSAP)
- Size & Weight Plan (ITD)
- High Priority Grants (HP-CMV and HP-ITD)

**COVERLAB**  
COMMERCIAL VEHICLE ENFORCEMENT RESOURCE LAB

About Us Data Vis

**IMPROVING  
COMMERCIAL  
VEHICLE  
ENFORCEMENT  
EFFECTIVENESS**

COVERLAB helps commercial vehicle enforcement programs increase operational effectiveness through data driven analytics, program development assistance, and applied research.

