CONNECTICUT TRANSPORTATION SAFETY RESEARCH CENTER (CTSRC)

BI-ANNUAL REPORT 2019-2020

CONNECTICUT TRANSPORTATION SAFETY RESEARCH CENTER

The Connecticut Transportation Safety Research Center (CTSRC), located at the Connecticut Transportation Institute at the University of Connecticut, is grant funded by the Connecticut Department of Transportation (CTDOT). The mission of the CTSRC is to support CTDOT in developing and maintaining a state-of-the-art crash data entry, collection, and safety analysis system. The goals of the Center include 1) development of efficient tools for the collection and analysis of crash data 2) tracking, documenting and researching safety improvements and needs in the state 3) researching and developing outreach programs to target Connecticut specific/identified safety concerns 4) developing custom training and early intervention programs to assist law enforcement in collecting uniform, timely and complete crash data, and 5) conducting transportation safety research that has state, national and global implications and applications.

Since its inception in 2012, the CTSRC has grown to become nationally recognized for accomplishments in a wide range of safety areas. The CTSRC has been awarded a number of national awards for innovative programs and projects related to identifying the causes of road crashes and developing programs and policies to address them effectively.

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2021
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A WORD FROM OUR DIRECTOR

Dr. Eric Jackson

We can all look at 2020 as the year that the world changed. COVID-19 has had a dramatic impact on all of our lives. It changed the way we work, the way we shop, and the way we interact with our friends, family, and colleagues. But there was also a dramatic an important impact on the way we traveled, or in most cases didn't. COVID-19 required a serious change in our daily lives, and it exposed new trends in transportation safety. Traffic volumes and total crashes were down drastically, but injuries, fatalities, and traffic speeds increased. The CTSRC had a group of researchers focus on the transportation safety implications of COVID-19 and there are some interesting findings, and lessons to be learned for the future.

As UConn's campus emptied of students, our staff worked remotely for the rest of the year starting in March of 2020. The pandemic stalled our driving simulator work and some of our human factors research that involved research participants. Despite all these changes brought on by the pandemic, the Safety Center continued to grow. We added new staff and expanded our research into connected and automated vehicles. The CTSRC was still able to continue our support of the CTDOT in their crash data collection and safety systems. The Safety Analysis team received a 5-year extension of their work and fully developed a safety management system that is second to none in the world. We were also able to expand our support of the CTDOT's GIS application development and asset management. New staff with expertise in GIS development have worked with the CTDOT to build and expand on their Transportation Enterprise Database (TED). This area is rapidly evolving and also prompted the CTSRC to form a partnership with UConn's Geography department.

As we look ahead to 2021 and beyond with the hope that COVID-19 will become a manageable nuisance, we must explore how 2020 has changed our world forever. What does safety mean in transportation? It is more than just crashes. As we have seen in public transit and movement of goods, safety also means keeping people healthy in shared spaces and ensuring the delivery of essential goods are timely and efficient. We also hope to expand our work on connected and automated vehicles through the development of the UConn Depot Campus into a research facility for smart city technologies and connected and automated vehicles. The promotion, advancement, and innovation of electric and self-driving cars make the next 10 years of transportation exciting and the CTSRC is positioned to be a leader in this space.

Executive Director, Connecticut Transportation Institute
Director, Connecticut Transportation Safety Research Center

2019-2020
IN THIS REPORT

- 2019 Northeast Connected and Automated Vehicle Summit
- Connecticut Roadway Safety Management System (CRSMS)
- CTSRC Projects
- 2019-2020 Publications and Awards
- Crash Data Repository and CTSRC Website Updates
- In-Person and Virtual Presentations

CTSRC
CORE ELEMENTS

1 data

Develop and maintain state-of-the-art crash data entry, collection, and safety analysis system.

Utilize crash, injury, toxicology, driver history and judicial data to target enforcement and messaging efforts

Analyze collected crash data to guide engineering improvements to the infrastructure.

2 behavior

Research and implement current behavioral modification and deterrence strategies to improve the safety of motorists and non-motorists
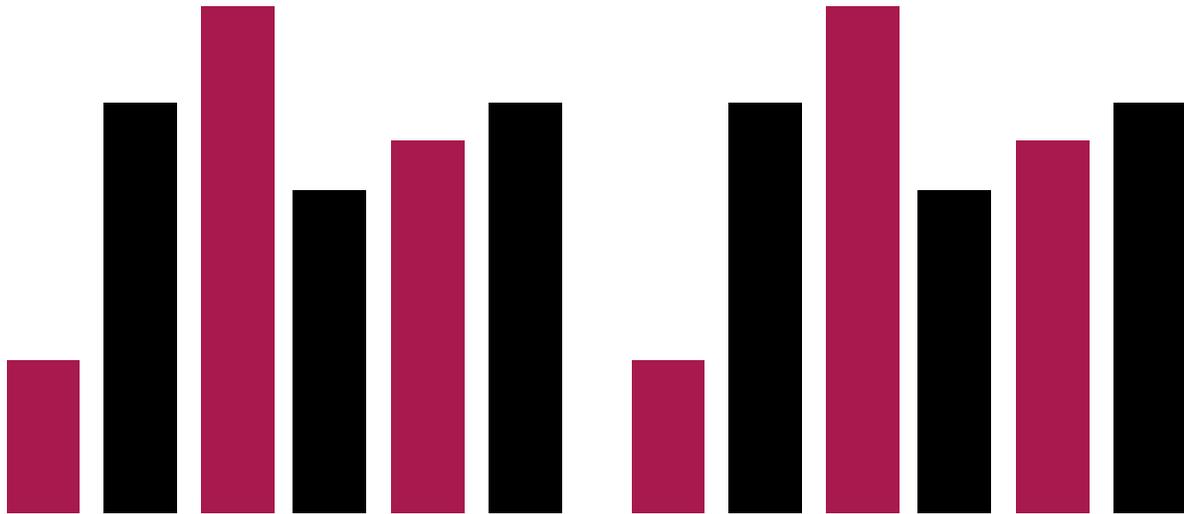
Apply knowledge of social norming and acceptability to engineering treatments.

3 engineering

Expand and enhance safety analysis methods and systems for roadway infrastructure and design.

2019-2020
CTSRC GROWTH

The CTSRC saw its greatest period of growth in 2019 and 2020 with the continued expansion into autonomous vehicle research and the addition of several new staff members. Despite the challenges faced by all in 2020, the Center was fortunate to continue to conduct and publish innovative research. We also welcomed a psychologist, full-stack developer, senior computer programmer, postdoctoral researcher, associate research scientist, and two GIS analysts to our team.

Our Partnerships

CTSRC WEBSITE UPDATE

The CTSRC website got a complete redesign in 2020, with the four main areas of focus at the Center, Crash Data, Safety Analysis, GIS Tools, and Driving Simulator Lab, emphasized prominently on the homepage. Links are provided to learn more about the training offered for the Crash Data Repository and data collection on the PR-1 Motor Vehicle Crash form, the Center's traffic psychology blog, Drivers Behaving Badly, a list of CTSRC current projects and helpful documents. You can also keep up with what's new at the CTSRC by following our media coverage and upcoming events boards.

News

CTSRC's Marisa E. Auguste featured in "Ask the Experts" section of WalletHub's article on SR-22 Insurance

CTSRC featured in the Hartford Courant in an article about the effects of speed in fatal crashes

Events

CT CRASH DATA REPOSITORY
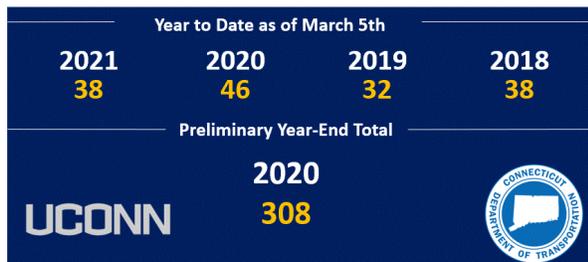
CTCDR Virtual Trainings

CRASH DATA REPOSITORY VIRTUAL TRAINING - OCTOBER 29, 2020

A full scale virtual training event of the CTCDR and was held in the Fall of 2020. The training was for all variety of users, from novice to expert, and covered all topics and features of the CTCDR. Viewers were taken through the pages of the Crash Dashboards, all the available choices of the Advanced Query Tool under both the CTDOT and MMUCC datasets, as well as how to run a query for DUI and pedestrian-involved crashes. The hour long training was recorded and is available on the CTSRC website

REVIEW OF CRASH DATA COLLECTION AND LE TRAINING - DECEMBER 15, 2020

Curious about the process of motor vehicle crash data collection, users of the CTCDR requested a presentation detailing how the state's law enforcement (LE) were trained to collect and classify crash details on the revised police report. The training explained how CTDOT, TRCC and LE came together to discuss updates to the crash report form, the development of the CTCDR at UConn, the flow of data from LE to CTDOT and then UConn and the development of outreach and courses with law enforcement to train them in data collection on the new form.

Connecticut Traffic Deaths

Year to Date as of March 5th

2021	2020	2019	2018
38	46	32	38

Preliminary Year-End Total

2020
308

UCONN

The Fatality Ticker provides year-to-date totals of motor vehicle related fatalities for the current and three most recent years, as well as the year-end total for the last calendar year. Fatality data is derived from the Connecticut DOT Fatality Accident Reporting (FARS) unit, and is updated on a weekly basis. The Fatality Ticker can be found on the CTCDR homepage.

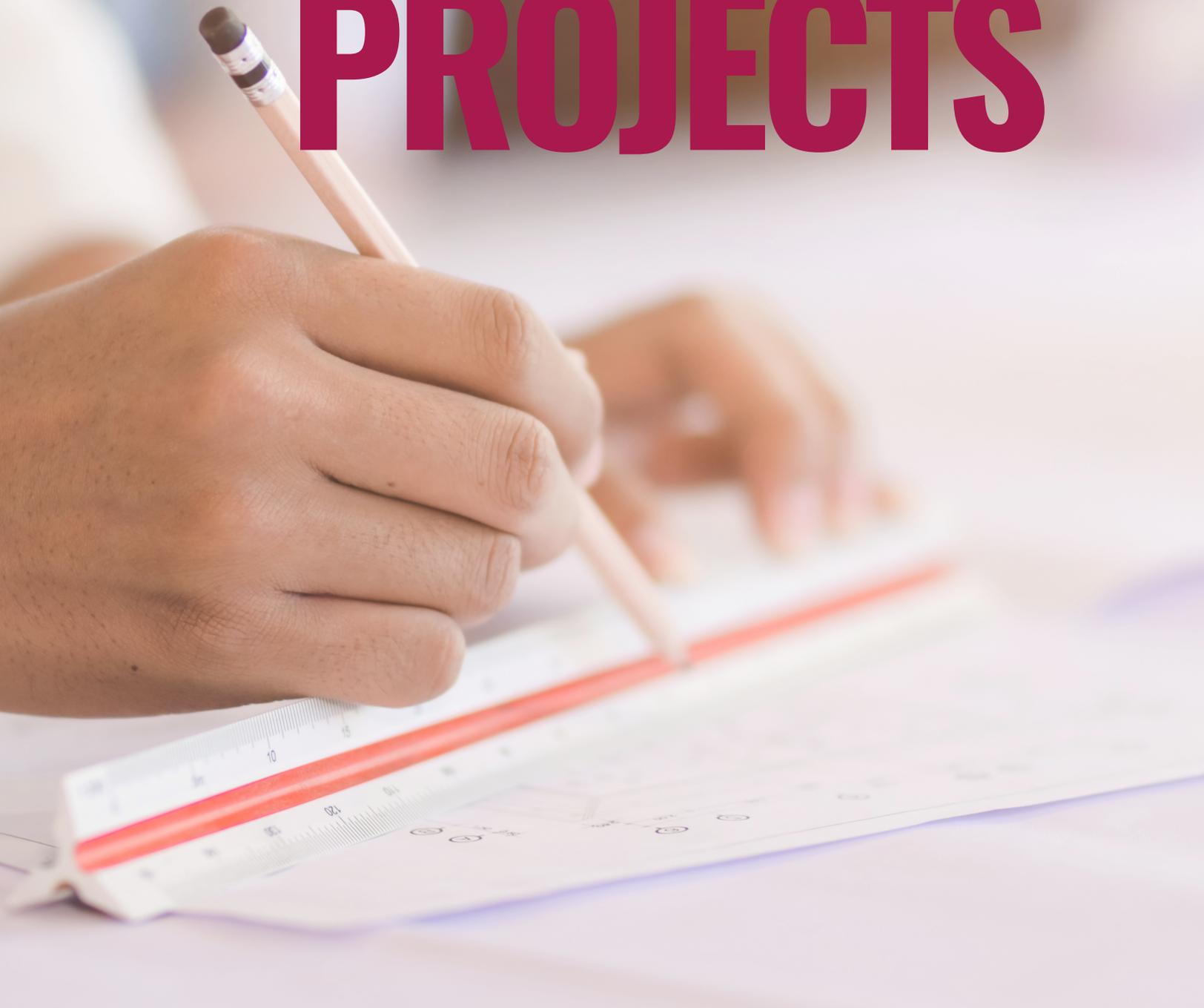1,842 Total Users

23,826 Total Queries

1,249 Total Exports

ctcrash.uconn.edu

CTCDR tutorial videos can be found on the CTSRC website under Resources -> Videos and Tutorials.

CTSRC PROJECTS
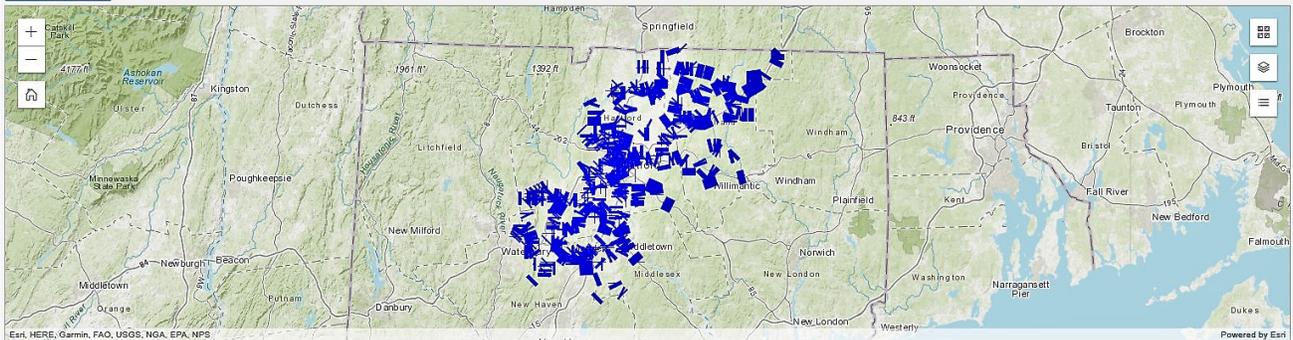
CONNECTICUT ROADWAY SAFETY MANAGEMENT SYSTEM

The Connecticut Roadway Safety Management System (CRSMS) is a data-driven, enterprise-level web application developed for the Connecticut Department of Transportation to implement the latest Highway Safety Manual (HSM) methods. The six-step safety management process as recommended in the HSM includes network screening, diagnosis, countermeasure selection, economic appraisal, project prioritization, and safety effectiveness evaluation.

Network Screening   Diagnosis   Countermeasure Selection

Economic Appraisal   Project Prioritization   Safety Effectiveness Evaluation

	Results	Summary	Chart								
	Site Id	Primary District	Primary Town	Road Name 1	Road Name 2	Start Milepost	End Milepost	Type Code	Facility Type	OtherTowns	OtherDistricts	Start La
☐	3	1	Glastonbury	CT-17		32.81	33.13	SR	Urban non-freeway undivided 2 lanes			41.66
☐	12	1	Hartford	I-91		36.28	36.41	SR	Urban speed-change-lane 5 or more lanes			41.74
☐	26	1	East Windsor	CT-140		5.29	5.49	SR	Urban non-freeway undivided 2 lanes			41.93
☐	29	1	Bristol	US-6		48.16	48.29	SR	Urban non-freeway undivided 4 or more lanes			41.68

EXPAND GRID

The CRSMS is composed of a data management module and six analytic modules from network screening to safety effectiveness evaluation.

The Network Screening module integrates maps and allows identifying locations with the highest potential for safety improvements. The Diagnosis module includes a variety of tools – crash map, tabular data, summary statistics, crash trees, collision diagrams, and site condition view – for users to identify potential factors that contribute to the crash patterns.

Map   Crash Data   **Summary Statistics**   Test of Proportions   Collision Diagram   Crash Tree   Supporting Documentation

Highlights

Crashes	Top 2 Crash Types		Crash Severity				
88	Front to Rear 55	Angle 11	K 0	A 1	B 2	C 6	O 79

Emphasis Areas

Pedestrians 2	Aggressive Driving Related 54	Distracted Driving Related 1	Young Driver 28	Adverse Weather Conditions 16

Wet Road Surface 21   Qualifying Commercial Vehicle 1

Pre-Defined Reports

All pre-defined report data shows counts by number of crashes.

Crash Information	Vehicle Information	Person Information
○ Crash Severity	○ Vehicle Action	○ Driver Actions
○ Crash Type	○ Vehicle Body Type	○ Driver Age
○ Crashes by Town	○ Most Harmful Event	○ Driver Distracted By
○ Traffic Surface Condition	○ Contributing Circumstances Vehicle	
○ Type of Intersection	○ Damaged Areas	○ Pedestrian Actions Prior to Crash
○ Weather Condition	○ Extent of Vehicle Damage	○ Pedestrian Location at Time of Crash
○ Crash Specific Location		
○ Contributing Circumstances Road		○ Severity by Driver Age
○ Contributing Circumstances Environment		○ Pedestrian by Time of Day

CONNECTICUT ROADWAY SAFETY MANAGEMENT SYSTEM

Countermeasure Selection incorporated the latest countermeasures and CMF data from the national CMF Clearinghouse. Economic Appraisal allows users to quantitatively assess the benefits and costs of proposed projects, compare between solutions, and select the most economically promising projects.

Creating competing solutions and adding multiple countermeasures to individual solutions are supported. Project Prioritization enables automatic prioritization and optimization of economically justified projects within specified budget limits. Safety Effectiveness Evaluation provides convenient means to evaluate the effectiveness of projects at different levels – project level, countermeasure level and program level. The results are presented in terms of total crash reduction, severe crash reduction, benefit/cost ratio and shifts of proportions for certain types of crashes, with and without the projects.

The team is further advancing the safety analysis capabilities of the CRSMS, to improve the data-driven decision-making processes and to reduce transportation-related fatalities and severe injuries in the state towards zero. Particularly, the team is working to incorporate the systemic safety analysis and behavior analysis, update the functionalities based on the upcoming new edition of the HSM, complete the statewide intersection inventory and incorporate the CRSMS with project financial tracking systems to assess the effectiveness of safety projects.

AUTONOMOUS VEHICLE RESEARCH

CTSRC and UConn Psychological Sciences faculty are working to understand how drivers manage distraction and interact with others in partially autonomous vehicles. Participants in a driving simulator study engaged in conversation with an in-car partner or over the phone while negotiating hazards in a simulated autonomous vehicle. Reaction times, use of autonomous vehicle functions, conversation dynamics and content were measured to assess when and why drivers take over control from autonomous systems.

GIS DATABASE

The Connecticut Department of Transportation (DOT) and the CTSRC worked together to build the DOT's first enterprise GIS system called TED (Transportation Enterprise Database). The unified effort was to create an infrastructure capable of centralizing spatial data. Through the process authoritative datasets were developed, which included Roadside Barriers, ADA Curb Ramps, and Traffic Signal Assets. Also developed were a series of apps to showcase the capabilities of the new system, aid in data management, and simplify existing DOT workflows.

SHRP-2 DRIVER RISK STUDY

CTSRC and UConn are using naturalistic driving data to develop profiles of psychological factors that are associated with increased risk of crashes and near-crashes. Going beyond typical demographic characteristics, we attempt to assess how psychological and physiological factors like distractibility and visual acuity interact with roadway conditions, potentially leading to conflicts and crashes.

INTERSECTION DATA COLLECTION

Since 2017, the CTDOT and the CTRC have been working collaboratively to develop a comprehensive intersection inventory for the entire state. This effort involves developing an intersection data model from the linear referencing system (LRS) that meet both CTDOT's and UConn's needs for roadway information management, asset management, and advanced safety analysis, collecting MIRE-compliant (Model Inventory of Roadway Elements) intersection data, and utilizing the collected intersection data for safety analysis in the Connecticut Roadway Safety Management System (CRSMS). So far, the CTDOT and UConn team have completed inventorying all state-maintained surface road intersections and are working on the interchange-related junctions as well as surface road intersections on local roads.

MARIJUANA-INVOLVED DRIVING RESEARCH

The Connecticut Department of Transportation (CTDOT) and the Connecticut Transportation Safety Research Center (CTSRC) are taking the initiative to try and get ahead of the probable legalization of recreational marijuana in Connecticut. Continued research on this topic will allow traffic safety professionals in Connecticut to make a well-informed decision regarding the best practices to detect and combat marijuana-involved driving.

DRIVER ASSIST TECHNOLOGIES RESEARCH

Research study examining driver attention monitoring methods in automated/autonomous vehicles and whether they encourage varying levels of driver engagement and attention. The CTSRC's RealTime Technologies RDS-2000 Full Cab with Segmented Screen Driving Simulator is used to measure study participant reaction time, lane position, rate of acceleration/ deceleration, and occurrences of a collision and Tobii Pro Glasses 2 will be used to measure gaze and focal points.

BEHAVIORAL TRAFFIC SAFETY TOOL

The CTSRC is working on developing a comprehensive driver behavior analysis toolkit that can improve and diversify the driver behavioral safety analysis capabilities at CTDOT. Research objectives include 1) enrich safety data by integrating diverse datasets across state agencies with a focus on human factors research and analytics, 2) develop robust analytical models for behavioral crash emphasis areas to identify at-risk target population groups, and 3) evaluate and recommend potential behavioral crash countermeasures to reduce fatality and injury severity related to driver behavior related crashes.

NCHRP PROJECTS*

NCHRP 17-85, Development and Application of Crash Severity Models for the Highway Safety Manual, 2019-2022,

NCHRP 22-48 (subcontractor; University of Central Florida leads), Development of Crash Prediction Models for Short-Term Durations, 2020-2023,

NCHRP 22-49 (subcontractor; University of Central Florida leads), The Effect of Vehicle Mix on Crash Frequency and Crash Severity,

*All three projects are sponsored by the National Academy of Sciences, Engineering and Medicine.

COVID-19 RESEARCH

CTSRC is partnering with researchers at CTDOT, Hartford Healthcare, Connecticut Children's Hospital, and more to understand the impacts of the COVID-19 pandemic on motor vehicle crashes, speeding and aggressive driving, transportation mode choices, commuting behavior, and drunk driving. Crash, speed, toxicology, and VMT (vehicle miles traveled) data are being integrated for a better picture of how the COVID-19 pandemic has reshaped risk in driving.

STATEWIDE DATA LINKAGE PROJECT

The CTSRC staff are continuing the multi-year project of linking the state's motor vehicle related data and discussions are with all relevant state agencies are ongoing. Currently, the CTSRC has been able to link state toxicology and DRE evaluation data with crash data. The next phase of the project will entail citation and hospital data. In addition to creating a comprehensive database, these linked data are being utilized in research studies and many publications will be forthright in the coming years.

OTHER PROJECTS

FMCSA Training Courses:
We received funding from the Federal Motor Carrier Safety Administration (FMCSA) to purchase Synercon cables to assist in the downloads of commercial vehicle Event Data Recorders (EDR). Focused on improving data collection, the funding was also used to develop a classroom presentation style training to familiarize officers with the investigation of commercial motor vehicle crashes. EDR equipment has been purchased to allow for hands-on training with large vehicles. This training would certify 60 law enforcement officers in Commercial Vehicle Crash Investigation II. Finally, this funding will train four persons in EDR operation. POSTC Continuing Education Credits will also be offered for completing this course.

DMV N-105 License Revocation and A-44 Form revision;
The CTSRC is partnering with CTDMV related to the development of a modernized version of the N-105 License Revocation form and the A-44 form. We are also planning to link some data collected on the A-44 form to the state crash data.

Drug Recognition Experts (DRE) Program
Funding was received from CTDOT to purchase Android tablets and software license for Connecticut DRE's. We assisted with the dissemination of upgraded tablets to all DREs and developed a DRE callback system

Marijuana Detection Devices
Research on several marijuana impairment detection devices and meetings with representatives from different manufacturers has been ongoing at the CTSRC. Our Crash Data Liaisons are working with CTDOT to pilot a detection device for law enforcement to use statewide.

Event Data Recorders
CTSRC's Crash Data Liaisons assisted law enforcement with over 50 downloads of Event Data Recorders from vehicles involved in fatal crashes.

In-Person Presentations:

2019 ATSIP Traffic Records Forum - Austin, TX
Drs. Jackson, Wang and Zhao presented "Developing a Data-Driven Roadway Safety Management System for Connecticut."

2019 TRB Annual Meeting - Washington, D.C.
Drs. Jackson, Wang and Zhao presented the papers "Functional Forms of the Negative Binomial Models in Safety Performance Functions for Rural Two-Lane Intersections."; "Multivariate Copula Modeling of Intersection Crash Consequence Metrics: A Joint Estimation of Injury Severity, Crash Type, Vehicle Damage and Driver Error."; and "Connecticut Roadway Safety Management System (CRSMS): Implementation of HSM".

Virtual Presentations:

Technology Takes the Wheel - April 23, 2019
An SPF Development and Assessment Tool (peer exchange), hosted by FHWA - May 14, 2019
CT Crash Analysis tool and data management/collection project, presented to FHWA - May 30, 2019
CT Roadway Safety Management System Presented to South Dakota DOT - August 26, 2019
Safety Data Analysis Peer Exchange, hosted by FHWA - September 5, 2019
ATSIP TRCC Outreach Webinar to All States' TRCC - November 14, 2019
Crash Prediction Tool Demo - November 21, 2019
Connecticut Network Screening Tool and Safety Performance Presented to MassDOT - March 11, 2020
UConn Overview of the CRSMS to CTDOT's Executive Team - July 8, 2020
ATSIP's 2020 Virtual Traffic Records Forum - August 13, 2020
Crash Data Repository Virtual Training - October 29, 2020
Connecticut DOT Predictive Analysis Tool Presented to Arizona DOT - October 30, 2020
Understanding and Using Data to Make Your Roads Safer - November 4, 2020
2019 CMF Clearinghouse webinar, hosted by HSRC/FHWA - December 16, 2020
Review of Crash Data Collection and LE training - December 15, 2020

IN-PERSON
&
VIRTUAL

PRESENTATIONS

AUTONOMOUS VEHICLES

RESEARCH. TECHNOLOGY. INNOVATION.

2019 NORTHEAST CONNECTED AND AUTOMATED VEHICLE SUMMIT

The 3rd annual NECAV Summit was held June 12-13, 2019. The Summit brought together national experts, policy makers, and representatives from transportation agencies, the private sector and academia to discuss a wide range of topics related to this emerging field.

This year, panelist and keynote speakers discussed:

250
Attendees from
25 states

Mapping a Vision for CAV Governance in the NE:
Session on the various CAV policy perspectives established in multiple states, with a focus on identifying key aspects that might help shape a common approach for generating good CAV policy in the Northeast.

Human Factors of CAVs:
Moderated panel discussion with experts from research and industry on the present and future human factors issues facing CAVs.

Digital Playbook for 21st Century Mobility: Cities in the Drivers Seat:
Presentation about INRIX's new autonomous vehicle platform called 'AV Road Rules' that connects road authorities with vehicle operators to establish a ground-truth understanding of local traffic rules and allowable maneuvers.

Smart Vehicle in a Smart World: The Role of 5G V2X:
Session focused on Ford Motor Company's plans to roll out cellular based vehicle-to-X technology (C-V2X) and interests in 5G as the basis for their future connected vehicle fleet.

CAV Impacts on Freight within NE:
Presentations and moderated discussions with representatives from the I-95 Corridor Coalition, Volvo Group North America and Federal Motor Carrier Safety Administration on current and future CAV freight technologies, systems and programs.

CAV Cybersecurity:
Moderated panel discussion with a diverse set of experts on the major issues and challenges facing CAV from a cybersecurity, data and workforce perspective.

GDOT Connected Vehicles: Plans, Progress, and a Few Problems:
This session will include a presentation about Georgia DOT's experience with and plans for connected vehicles from an infrastructure-owner-operator perspective.

Connected Vehicle Technologies:
This session will include a moderated panel discussion with a diverse set of connected vehicle experts that will discuss the current and future benefits, challenges and major issues affecting the ability of infrastructure-owner-operators, automakers and technology providers to develop, deploy and advance various connected vehicle technologies in a world where policies and technologies are constantly evolving.

### Automated Vehicle Mobility Discussion:
This session will include a moderated panel discussion with several mobility providers and automated vehicle experts on the current and future benefits, challenges and major issues facing mobility.

2019 NECAV Speakers:

Richard W. Andreski, Connecticut DOT
Avery Ash, INRIX
Ed Bradley, Toyota
David Benevelli, TransCore ITS, LLC
Alan Davis, Georgia DOT
Elaina Farnsworth, The NEXT Education
Donald Fisher, US DOT Volpe Center
Kelly Funkhouser, Consumer Reports
Diana Furchtgott-Roth, US DOT
Joseph J. Giulietti, Connecticut DOT
Julia Gold, RI DOT
Charles A. Green, Human Factors Consultant
Lauren Isaac, EasyMile
Ryan Jacobs, Aptiv Autonomous Mobility
Brian Kelley, Ohio Tpke and Infrastructure Comm.
Kevin Kerr, Uber
Mark Kopko, Pennsylvania DOT

Tara Lanigan, May Mobility
Jeffrey Loftus, FMCSA
Chan Lieu, Venable LLP
Jill MacKay, IBI Group
Marwan Madi, CDM Smith
Bryan Mulligan, Applied Information, Inc.
Chrissy Nizer, Maryland DOT
Marygrace Parker, I-95 Corridor Coalition
Jeff Plungis, Consumer Reports
Ginna Reeder, I-95 Corridor Coalition
Bryan Reimer, MIT AgeLab
Mark Rolfe, P.E., Connecticut DOT
Daniel Sullivan, Massachusetts DOT
Ashok Tipirneni, Qualcomm Technologies, Inc..
Tim Weber, Adnet Technologies
Skip Yeakel, Volvo Group North America
Jovan Zagajac, Ford Smart Mobility

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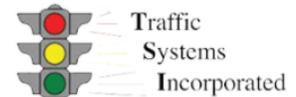
For more information, vistit https://necavsummit.com/

STAFF HIGHLIGHTS

2020 PUBLICATIONS

The CTSRC research staff submitted several papers to various research journals in 2019 and 2020. Research topics were diverse and included COVID-19's impact on traffic patterns, predictive modeling, hot spot identification, and driver error and inattention.

- Wang, K., Zhao, S., & E. Jackson. (2020). Investigating exposure measures and functional forms in urban and suburban intersection safety performance functions using generalized negative binomial - P model. Accident Analysis & Prevention 148.

- Barbieri, D.M., Lou, B. Passavanti, M., Tucker, A. *et al.* (2020). "A survey dataset to evaluate the changes immobility and transportation due to COVID-19 travel restrictions in Australia, Brazil, China, Ghana, India, Iran, Italy, Norway, South Africa, United States." *Data in Brief, 33.* https://doi.org/10.1016/j.dib.2020.106459

- Barbieri, D.M., Lou, B. Passavanti, M., Tucker, A. *et al.* (2020). "Survey data regarding perceived air quality in Australia, Brazil, China, Ghana, India, Iran, Italy, Norway, South Africa, United States before and during Covid-19 restrictions." Data in Brief, 32. https://doi.org/10.1016/j.dib.2020.106169

- Auguste, M, Tucker, A, and E. Jackson (2020). "More Sidewalks, More Bus Stops": Travel Behaviors and Opinions of Connecticut Teenagers". *Transportation Research Interdisciplinary Perspectives, 8.* https://doi.org/10.1016/j.trip.2020.100238

- Doucette ML, A. Tucker, M.E. Auguste, *et al.* (2020). "Initial Impact of COVID-19's Stay-At-Home Order On Motor Vehicle Traffic and Crash Patterns in Connecticut: An Interrupted Time Series and Analysis" *Injury Prevention.* https://doi.org/10.1136/injuryprev-2020-043945

- Sharmin, S., Ivan, J., Zhao, S., Wang, K., Hossain, M., Ravishanker, N. & Jackson, E. (2020). "Incorporating Demographic Proportions into Crash Count Models by Quasi-Induced-Exposure Method". *Transportation Research Record.*

- Wang, Kai, Tanmoy Bhowmik, Shanshan Zhao, Naveen Eluru, and Eric Jackson (2020). "Assessment of Statistical Methodologies for Crash Prediction by Severity". 2020 Transportation Research Board Annual Meeting.

- Hossain, Md Julfiker, John Ivan, Shanshan Zhao, Kai Wang, Sadia Sharmin, Nalini Ravishanker, and Eric Jackson (2020). "The Impact of Demographics of all Drivers on the Highest Driver Injury Severity in Multi-Vehicle Crashes of Rural Two-Lane Roads in California". 2020 Transportation Research Board Annual Meeting.

2019 PUBLICATIONS

- Auguste, Marisa, and Eric Jackson (2019). "Connecticut Pedestrian Safety Guide." Connecticut Department of Transportation, Report No. CT-2303-F-19-1. (2019 AASHTO Sweet Sixteen High-Value Research Award).

- Wang, Kai, Shanshan Zhao, and Eric Jackson (2019). "Functional forms of the negative binomial models in safety performance functions for rural two-lane intersections." *Accident Analysis & Prevention 124.* pp. 193-201. https://doi.org/10.1016/j.aap.2019.01.015A

- Wang, Kai, Tanmoy Bhowmik, Shamsunnahar Yasmin, Shanshan Zhao, Naveen Eluru, and Eric Jackson (2019). "Multivariate copula temporal modeling of intersection crash consequence metrics: A joint estimation of injury severity, crash type, vehicle damage and driver error." *Accident Analysis & Prevention 125.* pp. 188-197. https://doi.org/10.1016/j.aap.2019.01.036

- Zhao, Shanshan, Kai Wang and Eric Jackson (2019). "Evaluation of Not-At-Fault Assumption in Quasi-Induced Exposure Method using Traffic Crash Data at Varied Geographical Levels." *Transportation Research Record.* pp. 1-12. https://doi.org/10.1177/0361198119841036

AWARDS

AASHTO "Sweet Sixteen" High Value Research Award

2019 Pedestrian Safety Guide

The AASHTO Research Advisory Committee (RAC) each year asks states to identify and document recently completed "high-value" research projects. The four RAC regions selects its top four projects to form the "AASHTO Research Sweet Sixteen Awards". These projects are then featured in AASHTO events and publications "Research Makes a Difference" and are also the subject of a poster session and session at the Transportation Research Board (TRB) Annual Meeting.

"CT DOT and CTSRC were one of four recipients selected from RAC Region 1 for the Connecticut Pedestrian Safety Guide."

ATSIP Best Practices Award

2019 Best Practices in Traffic Records

"At the 45th Traffic Records Forum (2019) in Austin, TX, our Connecticut Team from CT DOT and UConn CTSRC, won First Place in Best Practices for the CT Roadway Safety Management System."

Drivers Behaving Badly Blog

Readership of the CTSRC's traffic psychology blog "Drivers Behaving Badly" continued to rise in 2019 and 2020. The blog had a combined total of over 2,700 views and more than 1,400 visitors in 2019 and 2020. Individuals from countries such as China, the Philippines and France visited the site to read posts discussing research on teen travel behavior, COVID-19's impact on motor vehicle crashes and recreational marijuana legalization in other states.

This blog is authored and maintained by Marisa Auguste, Behavioral Research Assistant for the CTSRC. Click here to read additional posts. Click the "Follow" button to get email updates when new content is published.

WITH READERS IN MORE THAN 80 COUNTRIES

CTSRC IN THE MEDIA

The Connecticut Transportation Safety Research Center was mentioned in the news 38 times during 2019 and 2020 in reference to various traffic safety research and local and statewide crash data trends. News outlets such as NPR, FOX 61, NBC Connecticut, CT Post, New Haven Register, Colorado Public Radio, the AASHTO Journal, the Center for Latino Progress and several other state media sources featured excerpts from CTSRC traffic safety experts and crash data obtained from the CT Crash Data Repository.

Follow the CTSRC on:

UConn Media Coverage

- Connecticut Transportation Safety Research Center Receives 5-year Extension to Improve and Expand Safety Analysis Tool - UConn Today

- In the Driver's Seat - UConn Magazine

- Connecticut Teens Want More Transportation Options - UConn Today

DATA
BEHAVIOR &
ENGINEERING

THE CTSRC TEAM

Eric Jackson, Ph.D.
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Marisa Auguste
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Crash Data Liaison

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Tara Simler
Program & Financial Coordinator

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Project Manager

Kai Wang, Ph.D.
Statistician & Transportation
Safety Engineer

Gregory Santone, Jr.
Software Developer

Jennifer Pawelzik
GIS & Database Programmer and
Administrator

Yilian Qin
Sr. Computer Programmer

Dan Russell
Full Stack Application Developer

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