



KITTELSON LLC

FORENSIC TRANSPORTATION ENGINEERING

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AREAS OF EXPERTISE

Roadside Safety, Advanced Driver Assist Systems, Human Factors of Transportation Safety, Crash Injury Biomechanics

EDUCATION

Ph.D.	Biomedical Engineering, Virginia Tech	2019 – 2023
	Graduate Certificate: Human Factors of Transportation Safety	
B.S.	Mechanical Engineering, Rowan University	2015 – 2019

PROFESSIONAL CERTIFICATIONS

Road Safety Professional (RSP) 1, Certification No. 1287

EXPERIENCE

July 2023 – Present	Engineering Associate, Kittelson and Associates, Inc.
June 2019 – May 2024	Engineering Research Associate, Virginia Tech

PROFESSIONAL SERVICE

Committee Member, TRB Standing Committee on Roadside Safety Design (AKD20)
Panel Member, NCHRP Project 22-66, Determining Critical Impact Points and Angles for Assessing Roadside Safety Hardware

AWARDS

2024 Best Safe System Paper, 2nd International Roadside Safety Conference, TRB
2023 Best Session Presentation (Doctoral Student Research in Transportation Safety), TRB
2023 Three Minute Thesis Competition Finalist, TRB
2022 Rodney Herriott Best Poster Presentation, Ohio State University Injury Biomechanics Symposium
2021 Best Student Symposium Presentation, AAAM
2021 Best Presentation (Vulnerable Road Users, Crash Avoidance), IRCOB
2021 Gundolf Beier Award Recipient, IRCOB

SELECTED PEER-REVIEWED JOURNAL ARTICLES

Morgan E. Dean, Luke E. Riexinger, Zac Doerzaph. “A Safe System Approach to Setting Speed Limits Through the Development of Injury Modification Factors” Accident Analysis and Prevention. Transportation Research Record. DOI: 10.1177/03611981251327216

Morgan E. Dean, Nils Lubbe, Rikard Fredriksson, Simon Sternlund, Hampton C. Gabler. “Assessing the Applicability of Impact Speed Injury Risk Curves Based on US Data to Defining Safe Speeds in the US and Sweden” Accident Analysis and Prevention. DOI: <https://doi.org/10.1016/j.aap.2023.107151>.

Morgan E. Dean, Douglas J. Gabauer, Hampton C. Gabler, Luke E. Riexinger. “Comparison of Vehicle-Based Crash Severity Metrics for Predicting Occupant Injury in Real-World Oblique Crashes” Transportation Research Record. DOI: 10.1177/03611981221107640

Paolo Terranova, **Morgan E. Dean**, Cosimo Lucci, Simone Piantini, Trevor J. Allen, Giovanni Savino, Hampton C. Gabler. “Applicability Assessment of Active Safety Systems for Motorcycles Using Population-Based Crash Data: Cross-Country Comparison Among Australia, Italy, and USA” Sustainability. DOI: 10.3390/su14137563

SELECTED PEER-REVIEWED CONFERENCE PROCEEDINGS

Morgan E. Dean, Luke E. Riexinger. “Estimating the Contributions of Automatic Emergency Braking to Achieving Vision Zero for Frontal Crashes,” Proceedings of the 26th Enhanced Safety of Vehicles Conference, April 2023, Yokohama, Japan.

Morgan E. Dean, Luke E. Riexinger. “Estimating the Real-World Benefits of Lane Departure Warning and Lane Keeping Support,” SAE Paper 2022-01-816, April 2022. DOI: 10.4271/2022-01-0816

Morgan E. Dean, Douglas J. Gabauer, Luke E. Riexinger, Hampton C. Gabler. “Comparison of Vehicle-Based Crash Severity Metrics for Predicting Occupant Injury in Real-World Oblique Crashes,” Proceedings of the 101st Transportation Research Board Annual Meeting, January 2022, Washington, D.C.

Morgan E. Dean, Samantha H. Haus, Rini Sherony, Hampton C. Gabler. “Potential Crash Benefits of Motorcycle-Detecting Automatic Emergency Braking Systems,” Proceedings of the 2021 International Research Council on Biomechanics of Injury Europe Conference, September 2021, Virtual.

SELECTED TECHNICAL REPORTS

Douglas J. Gabauer, **Morgan E. Dean**, Luke E. Riexinger, Hampton C. Gabler, Joel Stitzel. “Evaluation of Roadside Crash Injury Metrics in MASH.” Final Report to the National Cooperative Highway Research Program Transportation Research Board of the National Academies of Sciences, Engineering, and Medicine, NCHRP Project 17-90 (September 2021).

Morgan E. Dean, Hampton C. Gabler. “Development of Injury Risk Curves as the Basis for Safe System Speed Limits Using USA Data.” Final Report to the Swedish Transport Administration (January 2021).

Hampton C. Gabler, Max Bareiss, **Morgan E. Dean**, Samantha H. Haus, Luke E. Riexinger, Whitney M. Tatem. “Predicted Benefits of Integrated Safety Systems: Residual Safety Problem for After Implementation of Integrated Safety Systems.” Final Report to Toyota (November 2019).

SELECTED INVITED PRESENTATIONS

Morgan E. Dean, Luke E. Riexinger, Zac Doerzaph. “A Safe System Approach to Setting Speed Limits Through the Development of Injury Modification Factors” In-Service Performance Evaluation Session of AKD20 Roadside Safety Design Committee, TRB Annual Meeting, January 2025, Washington D.C.

Morgan E. Dean, Luke E. Riexinger. “In-Service Performance Evaluation of Lane Departure Prevention Active Safety Systems,” TRB Summer Meeting, AKD20 Roadside Safety Design Committee, August 2022, Kansas City, Missouri.

Morgan E. Dean, Douglas J. Gabauer, Luke E. Riexinger, Hampton C. Gabler. “NCHRP 17-90: Evaluation of Roadside Crash Injury Metrics in MASH,” In-Service Performance Evaluation Session of AKD20 Roadside Safety Design Committee, TRB Annual Meeting, January 2022, Washington D.C.

Morgan E. Dean, Douglas J. Gabauer, Luke E. Riexinger, Hampton C. Gabler. “MASH 101: Evaluation Criteria & NCHRP 17-90 Update: Evaluation of Roadside Crash Severity Metrics in MASH,” TRB Summer Meeting, AKD20 Roadside Safety Design Committee, July 2021, Virtual.

SELECTED CONFERENCE ABSTRACTS

Morgan E. Dean, Luke E. Riexinger. “Estimating the Contributions of Automatic Emergency Braking to Achieving Vision Zero for Frontal Crashes,” 66th Annual Proceedings of the Association for the Advancement of Automotive Medicine, Student Symposium, October 2022, Portland, Oregon.

Morgan E. Dean, Luke E. Riexinger. “Using Vehicle-Based Crash Severity Metrics to Predict the Societal Cost of Occupants in Oblique Traffic Crashes,” World Congress of Biomechanics 2022, July 2022, Taipei, Taiwan.

Morgan E. Dean, Luke E. Riexinger. “Using Event Data Recorders to Compare the Frontal Cash Injury Prediction Capabilities of Six Vehicle-Based Crash Severity Metrics,” 17th Annual Injury Biomechanics Symposium, May 2022, Columbus, Ohio.

Morgan E. Dean, Douglas J. Gabauer, Hampton C. Gabler. “Evaluation of Roadside Crash Injury Metrics in Side Crashes Using Event Data Recorder Data,” 65th Annual Proceedings of the Association for the Advancement of Automotive Medicine, Student Symposium, October 2021, Virtual.

Paolo Terranova, **Morgan E. Dean**, Simone Piantini, Michael Fitzharris, Hampton C. Gabler, Giovanni Savino. “Motorcycle Active Safety Systems: A Cross-National Comparison of Applicability in the Australian, Italian, and US fleets,” Australasian Road Safety Conference, September 2021, Virtual.

Morgan E. Dean, Samantha H. Haus, Hampton C. Gabler. “Target Population for Motorcycle-Detecting Automatic Emergency Braking Systems,” 64th Annual Proceedings of the Association for the Advancement of Automotive Medicine, Student Symposium, October 2020, Virtual.