Metadata Schema

Title[1]	DRIVER PERFORMANCE AND BEHAVIOR IN ADVERSE WEATHER CONDITIONS: AN INVESTIGATION USING THE SHRP2 NATURALISTIC DRIVING STUDY DATA—PHASE 2
Creator/contact point	Mohamed Ahmed, Ph.D., P.E. (orcid.org/0000-0002-1921-0724) E-mail: mahmed@uwyo.edu Ali Ghasemzadeh, Ph.D. (orcid.org/0000-0003-1232-251X) Britton Hammit, Ph.D. Candidate (orcid.org/0000-0002-8859-9075) Nasim Khan, MS Student (orcid.org/0000-0001-5996-091X) Anik Das, MS Student (orcid.org/0000-0003-4674-5334) Elhashemi Ali, Ph.D. Candidate (orcid.org/0000-0001-7643-7143) Rhonda K. Young, Ph.D., P.E. (orcid.org/0000-0001-6745-5008) Hesham Eldeeb, Ph.D. (HIS) (orcid.org/0000-0001-9669-5991)
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Description/Abstract	The impact of adverse weather conditions on transportation operation and safety is the focus of many studies; however, comprehensive research detailing the differences in driving behavior and performance during adverse conditions is limited. Many previous studies utilized aggregate traffic and weather data (e.g., average speed, headway, and global weather information) to formulate conclusions about the weather impact on network operation and safety; therefore, research into specific factors associated with driver performance and behavior are notably absent. A novel approach, presented in this report, can fill the gap in previous studies by considering disaggregate trajectory-level data available through the SHRP2 Naturalistic Driving Study and Roadway Information Database. Parametric and non-parametric models were utilized to better understand different behavioral factors including speed selection, car following and lane keeping in adverse weather conditions. The purpose of this study was to gather insights into driver behavior and performance in different weather conditions, such that efficient logic can be implemented to introduce a realistic Variable Speed Limit system, aimed at maximizing speed compliance and reducing speed variations. This study provides valuable information related to drivers' interaction with real-time changes in roadway and weather conditions, leading to a better understanding of the effectiveness of operational countermeasures.
Subject and Keywords	Driver Behavior and Performance, Variable Speed Limit, Adverse Weather Conditions Speed Selection, Lane Keeping, Naturalistic Driving Study, Ordinal Logistic Regression, Classification Tree, CART, SHRP2, Wyoming
Identifier[2] **and/or source**	Phase I: doi:10.15787/VTT1/CDUJU5 Phase II: doi:10.15787/VTT1/90BH6X
Collection and Related Documents	Weather Data for three years (2010-2013) was collected from the national climatic data center NCDC Source: https://www.ncdc.noaa.gov/

[1] *To include alternate title; conference title; and journal title, if they are different.*

[2] *To include record numbers; report numbers; NTIS number; TRIS Accession Number; OCLC Number; ISBN; ISSN; contract number; and DOI if available.*

Edition	4/11/2017
Related Documents	1. Ahmed, M. M., A. Ghasemzadeh, H. Eldeeb, S. Gaweesh, J. Clapp, K. Ksaibati, and R. Young. Driver Performance and Behavior in Adverse Weather Conditions: An Investigation Using the SHRP2 Naturalistic Driving Study Data—Phase 1. DOI: 10.13140/RG.2.2.24061.05602, 2015. 2. Ahmed, M. M., R. K. Young, A. Ghasemzadeh, B. Hammit, A. Elhashemi, N. Khan, A. Das, and H. Eldeeb. Implementation of SHRP2 results within the Wyoming connected vehicle variable speed limit system: Phase 2 early findings report and phase 3 proposal. 2017. 3. Hankey, J. M., M. A. Perez, and J. A. McClafferty. Description of the SHRP 2 Naturalistic Database and the Crash, Near-Crash, and Baseline Data Sets. Virginia Tech Transportation Institute, 2016. 4. Omar Smadi, Neal Hawkins, Zachary Hans, Basak Aldemir Bektas, S. K., and and S. H. Inya Nlenanya, Reginald Souleyrette. SHRP 2 Report: Naturalistic Driving Study : Development of the Roadway Information Database. Washington, D.C, 2015. 5. https://insight.shrp2nds.us/login/auth
Coverage	Florida, Indiana, New York, North Carolina, Pennsylvania, and Washington; 2010-2013
Language	English
Publisher/Distributor	FHWA and Wyoming Department of Transportation
Funding agency	FHWA and Wyoming Department of Transportation
Access Restrictions	Please refer to the attached DUL
Intellectual Property and Other Rights	Please refer to the attached DUL
License	Please refer to the attached DUL
Code and software needs	SAS Enterprise Miner, R, SAS desktop, Wyoming NDS Visualization and Reduction Software
Format	PDF, CSV, Video files
Choice of Repository	All the data are stored on secured UW computers and hard drives in keyed graduate student offices. The data are encrypted while at rest.

NOTE: Each separate report, dataset, collection, existing collection, and software developed must have its own table. All fields in this Schema must be completed at the time of the final report.

NOTE: This Metadata Schema is created as a derivative from the Common Core required fields which can be found at https://project-open-data.cio.gov/schema/.

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