|  |  |
| --- | --- |
| **UTC Project Information** | |
| Project Title | MPC-631 – Enhancing Crash Data Reporting to Highway Safety Partners in Wyoming by Utilizing Big Data Analysis and Survey Techniques |
| University | University of Wyoming |
| Principal Investigator | Anas Alrejjal  Milhan Moomen, Ph.D.  Khaled Ksaibati, Ph.D., P.E. |
| PI Contact Information | Anas Alrejjal  Graduate Research Assistant  University of Wyoming  Phone: (307) 761-3899  Email: aalrejja@uwyo.edu  ORCID: 0000-0003-1661-6697  Milhan Moomen, Ph.D.  Postdoctoral Research Associate  University of Wyoming  Phone: (765) 237-8230  Email: mmoomen@uwyo.edu  ORCID: 0000-0001-8324-7540  Khaled Ksaibati, Ph.D., P.E.  Professor and Director of the Wyoming Technology Transfer Center  University of Wyoming  Phone: (307) 766-6230  Email: khaled@uwyo.edu  ORCID: 0000-0002-9241-1792 |
| Funding Source(s) and Amounts Provided (by each agency or organization) | USDOT, Office of the Assistant Secretary for Research and Technology  $65,633  Wyoming Department of Transportation  $117,879 |
| Total Project Cost | $183,512 |
| Agency ID or Contract Number | 69A3551747108 |
| Start and End Dates | August 25, 2020 to July 31, 2023 |
| Brief Description of Research Project | Crash reporting forms are an integral part of any system aimed at improving traffic safety. Reliable and accurate data generated from crash reports are needed to diagnose safety problems, identify factors impacting crashes, implement countermeasures, and monitor performance. In Wyoming, crash reporting is done by the Wyoming Department of Transportation (WYDOT). The reports are then distributed to safety partners who also contribute to safety in the state. However, there is a gap between the data expectations of the safety agencies and what is being provided by WYDOT in terms of type and quality. This research aims to identify the safety needs of traffic safety partners in Wyoming and to make recommendations on improving crash reporting. Also, the study will identify human factors that significantly impact crash severity and frequency using big data analysis. An analysis of the reporting intervals of important human factors will then be determined. |
| Describe Implementation of Research Outcomes (or why not implemented)  Place Any Photos Here | Suggestions made for WYDOT include the provision of the following data for WHP, WASCOP and Wyoming’s counties:   * Crash statistics by crash type * Crash injury severity levels statistics by age/gender * Seat belt use statistics * DUI statistics * Fatigued driving related crash statistics * Distracted driving related crash statistics * Traffic violation statistics * Truck policy violation statistics * Crash statistics by weather condition * Crash statistics by lighting condition * Crash statistics by day of the week * Crash statistics by time of day * Motorcycle crash statistics * Hot spots by crash severity level and description (seat belt improper use or non-use, CMV related, etc.) * Other noteworthy suggestions entail the planning for research studies relating to the following topics: * Effectiveness of speed, seat belt use and other violation enforcement policies * Effectiveness of traffic safety educational campaigns * Response times of emergency services, particularly for fatal, suspected serious injury and suspected minor injury crashes |
| Impacts/Benefits of Implementation  (actual, not anticipated) | It is anticipated that WYDOT not only implements the recommendations suggested in this study but also develops a strategy to conduct follow-up studies on the suggested research topics (e.g., effectiveness of traffic safety educational campaigns, etc.). |
| Web Links   * Reports * Project Website | * MPC Research Report – [Enhancing Crash Data Reporting to Highway Safety Partners in Wyoming by Utilizing Big Data Analysis and Survey Techniques](https://www.ugpti.org/resources/reports/details.php?id=1101) |