

UTC Project Information	
Project Title	MPC-369 – ND Motor Crash Analysis and Rider Assessment for Improved Conspicuity
University	North Dakota State University
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Agency ID or Contract Number	DTRT12-G-UTC08
Project Cost	\$10,000
Start and End Dates	January 1, 2012 – December 31, 2013
Project Duration	2 Years
Brief Description of Research Project	<p>Research Needs:</p> <p>Advancements in vehicle technology and upgrades to traffic safety laws have produced dramatic nationwide reductions in overall traffic crash fatalities and injury severity over the last few decades. The same cannot be said about motorcycle fatalities where there have been steady increases since 1997 (FARS). Between 2002 and 2010, North Dakota experienced 1877 motorcycle crashes including 63 fatal, 1490 injury, and 324 property damage only (PDO) crash events. When evaluating crash severity over the most recent five years, there have been an average 48 serious injury – including fatal and disabling crashes – per year.</p> <p>Improving motorcycle safety requires a multifaceted approach. Safety standards for vehicle performance (eg. anti-lock brakes), infrastructure upgrades (eg. lighting, road markings, signage), communication and behavioral safety measures (eg. improved helmet use, educational materials, novice and experienced rider training) are all part of this approach (USDOT 2007). While these areas are all vital to reducing motorcycle crash incidence, this project will focus on driver awareness in motorcycle conspicuity with particular attention to right-of-way (ROW) crashes. Research has shown this to be a critical factor in motorcycle crash risk (Pai 2011, Gershon et. al 2012, Tunncliff et. al 2011). When considering multi-vehicle motorcycle crashes between 2002 and 2010, ROW crashes represented the greatest share at 53.7%. In addition, in the previous five years, the frequency of citations issued for failing to yield was greater for vehicle drivers (86.2%) than motorcyclists (13.8%).</p> <p>Two factors frequently involved in ROW crashes are: 1) failure to</p>

	<p>detect the motorcycle, and where detection occurs, 2) an inability to accurately judge the distance (gap) and speed of the motorcycle (Pai 2009). In the majority of ND motorcycle crashes, diminished visibility affecting detection and gap/speed assessment was not related to weather conditions. Crash records from 2002 to 2010 reflect 82.4% of crashes occurred under “clear” weather conditions. Understanding the dynamics of ROW crashes is integral to reducing the crash incidence attributable to these factors.</p> <p>Research Objectives: 1) Provide insight regarding the dynamics of motorcycle crashes relating to ROW breaches in multi-vehicle crashes, 2) raise awareness in both motorcyclists and the general motoring public of motorcycle conspicuity issues, and 3) offer recommendations for ROW crash reduction measures.</p>
Describe Implementation of Research Outcomes (or why not implemented) Place Any Photos Here	
Impacts/Benefits of Implementation (actual, not anticipated)	
Web Links <ul style="list-style-type: none"> • Reports • Project Website 	https://www.ugpti.org/resources/reports/details.php?id=751