

1. Report No. UMTRI-2013-2		2. Government Accession No.		3. Recipient's Catalog No.	
4. Title and Subtitle Estimation of Seatbelt and Frontal-Airbag Effectiveness in Trucks: U.S. and Chinese Perspectives				5. Report Date January 2013	
				6. Performing Organization Code 383818	
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9. Performing Organization Name and Address The University of Michigan Transportation Research Institute 2901 Baxter Road, Ann Arbor, Michigan 48109-2150 U.S.A.				10. Work Unit no. (TRAIS)	
				11. Contract or Grant No.	
12. Sponsoring Agency Name and Address The University of Michigan Sustainable Worldwide Transportation				13. Type of Report and Period Covered	
				14. Sponsoring Agency Code	
15. Supplementary Notes The current members of Sustainable Worldwide Transportation include Autoliv Electronics, China FAW Group, General Motors, Honda R&D Americas, Meritor WABCO, Michelin Americas Research, Nissan Technical Center North America, Renault, Saudi Aramco, Toyota Motor Engineering and Manufacturing North America, and Volkswagen Group of America. Information about Sustainable Worldwide Transportation is available at: http://www.umich.edu/~umtriswt					
16. Abstract <p>The objectives of this study were (1) to estimate the effectiveness of seatbelts and driver airbags for mitigating medium- and heavy-truck driver injuries, and (2) to discuss the implication of these estimates with respect to truck-driving conditions in the U.S. and China.</p> <p>U.S. data showed that fatal or serious injuries of truck drivers are caused mainly by rollover, collision with a light vehicle or another truck, or collision with fixed objects. Rollover crashes account for most serious injuries, and pose the highest injury risk per crash. By controlling for the difference in crash-type distributions between trucks and light vehicles, seatbelts were estimated to be about 58% effective in reducing truck-driver injuries—comparable to the value for light vehicles. Airbags' effectiveness was calculated to be about 6% for unbelted truck drivers and 4% for belted truck drivers—lower than that for light vehicles, primarily because of the higher proportion of rollover injuries sustained by truck drivers.</p> <p>The main relevant difference between truck-driving conditions in the U.S. and China is the seatbelt-use rate of truck drivers: greater than 70% in the U.S., but likely less than 10% in China. This difference would likely reduce the true effectiveness of seatbelts. Therefore, it is important to encourage Chinese truck drivers to wear seatbelts, because the effectiveness of seatbelts at high use rates is much greater than that for airbags. In addition, the lower truck traveling speeds in China would likely result in a lower percentage of truck rollover crashes than in the U.S. Consequently, the effectiveness of both seatbelts and airbags in reducing truck driver injuries may be slightly higher in China than in the U.S.</p>					
17. Key Words Medium/Heavy Trucks, Seatbelt Effectiveness, Airbag Effectiveness				18. Distribution Statement Unlimited	
19. Security Classification (of this report) None		20. Security Classification (of this page) None		21. No. of Pages 41	22. Price