Technical Report Documentation Page

Information about Sustainable

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.	
UMTRI-2013-10			
4. Title and Subtitle		5. Report Date	
Effects of Vehicle Fuel Economy, Distance Travelled, and Vehicle		February 2013	
Load on the Amount of Fuel Used for Personal Transportation:		6. Performing Organization Code	
1970-2010		383818	
7. Author(s)		8. Performing Organization Report No.	
Michael Sivak		UMTRI-2013-10	
9. Performing Organization Name and Address		10. Work Unit no. (TRAIS)	
The University of Michigan			
Transportation Research Institute		11. Contract or Grant No.	
2901 Baxter Road			
Ann Arbor, Michigan 48109-215	0 U.S.A.		
12. Sponsoring Agency Name and Address		13. Type of Report and Period Covered	
The University of Michigan			
Sustainable Worldwide Transportation		14. Sponsoring Agency Code	
15. Supplementary Notes			
The current members of Sustainable Worldwide Transportation include Autoliv Electronics,			
Bridgestone Americas Tire Operations, 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			

16. Abstract

This study examined the changes in the U.S. in vehicle fuel economy, distance travelled, and vehicle load (occupants carried) between 1970 and 2010, and the effects of those changes on the amounts of fuel consumed. All light-duty vehicles were included in the analysis.

America, and Volkswagen Group of North America.

Worldwide Transportation is available at http://www.umich.edu/~umtriswt.

The results indicate that during the 40-year period examined, vehicle distance travelled increased by 155%. However, because vehicle load decreased by 27%, occupant distance travelled increased by only 84%. Vehicle fuel economy (of the entire fleet of light-duty vehicles) improved by 40%. However, because of the decrease in vehicle load, occupant fuel economy improved by only 17%. As a consequence of the changes in vehicle fuel economy, vehicle distance travelled, and vehicle load, the total amount of fuel used increased by 53%.

Also included in the report is a brief discussion of the effects of potential future changes in vehicle fuel economy, vehicle distance travelled, and vehicle load on the amount of fuel used. Considerations included were increased vehicle distance travelled as a consequence of improved vehicle fuel economy, and decreased vehicle distance travelled and worsened vehicle fuel economy as consequences of increased vehicle load.

17. Key Words			18. Distribution Statement
Energy, personal transportat distance travelled, vehicle lo	Unlimited		
19. Security Classification (of this report)	20. Security Classification (of this page)	21. No. of Pages	22. Price
None	None	9	