Technical Report Documentation Page

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
UMTRI-2006-13		

4. Title and Subtitle	5. Report Date
Conspicuity of High-Visibility Safety Apparel During Civil Twilight	June 2006
	6. Performing Organization Code 302753
7. Author(s) Sayer, J.R. and Mefford, M.L.	8. Performing Organization Report No. UMTRI-2006-13
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 Industry Affiliation Program for Human Factors in Transportation Safety	13. Type of Report and Period Covered 14. Sponsoring Agency Code

15. Supplementary Notes

The Affiliation Program currently includes Alps Automotive/Alpine Electronics, Autoliv, Avery Dennison, Bendix, BMW, Bosch, Com-Corp Industries, DaimlerChrysler, DBM Reflex, Decoma Autosystems, Denso, Federal-Mogul, Ford, GE, General Motors, Gentex, Grote Industries, Guide Corporation, Hella, Honda, Ichikoh Industries , Koito Manufacturing, Lang-Mekra North America, Magna Donnelly, Muth, Nissan, North American Lighting, Northrop Grumman, OSRAM Sylvania, Philips Lighting, Renault, Schefenacker International, Sisecam, SL Corporation, Stanley Electric, Toyota Technical Center, USA, Truck-Lite, Valeo, Visteon, 3M Personal Safety Products and 3M Traffic Safety Systems.
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16. Abstract

This naturalistic field study examined the effects of garment color (fluorescent yellow-green or fluorescent red-orange), the amount of background material (vest or jacket), pedestrian arm motion (moving or stationary), and driver age (younger or older) on the conspicuity of high-visibility safety garments during civil twilight. Distances at which drivers detected pedestrians wearing high-visibility garments were recorded. All of the challenges normally encountered when driving on public roadways were present, imposing a realistic level of driver workload.

The results indicate that only driver age produced a significant main effect on the conspicuity of pedestrians wearing high-visibility garments during twilight. The remaining findings were similar to the results of previous studies conducted during the day and at night.

The findings from the current study, in combination with several previous naturalistic studies, suggest that, for the levels of the variables examined, 1) color does not affect conspicuity of high-visibility garments in daylight or twilight, 2) the amount of background material does not affect conspicuity in daylight, twilight or at night, 3) pedestrian's arm motion does not affect conspicuity in daylight or twilight, 4) arm motion is significant at night, and 5) older drivers need to be significantly closer to detect a pedestrian at twilight or nighttime.

17. Key Words	18. Distribution Statement
Civil twilight, dusk, dawn, conspicuity, fluorescent, pedestrian, personal protective equipment, road worker	Unlimited

19. Security Classification (of this report)	20. Security Classification (of this page)	21. No. of Pages	22. Price
None	None	15	