

Tackling Headlamp Glare

Headlamp glare is an exasperating problem to the U.S. driving public. Americans have complained in record numbers to the National Highway Traffic Safety Administration (NHTSA) about the issue. Standards for headlamp performance have not caught up with new vehicle designs and with new lighting technologies that promise to make nighttime driving easier and more comfortable.

The LRC is working with NHTSA to provide a basis for understanding what causes glare, how it can be fixed, and how new technologies might improve visibility (and safety) for drivers while minimizing glare. These new technologies include: high-intensity discharge (HID) headlamps; light-emitting diode (LED) headlamps; and advanced forward-lighting systems (AFS).

Research

LRC studies underway include a number of surveys, experiments, and demonstrations, including:

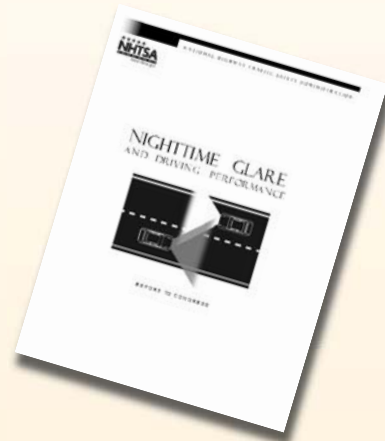
- A survey of headlamp aim in U.S. vehicles
- A study of visual recovery after exposure to glare from headlamps
- Investigation of driver behaviors and potential safety in real-world glare conditions
- Demonstration of a prototype AFS system for assessing drivers' visual needs

The LRC's glare recovery experiment used three visual targets, a fixation point (center), and a dynamic glare source (left of center).



Report to Congress

The LRC prepared the text of a report from NHTSA to the U.S. Congress outlining the current state of knowledge and recommendations for ongoing research, which the LRC is now carrying out for NHTSA.



Results of the studies and a follow-up to the first Congressional report will be released in 2008.

Sponsor

National Highway Traffic Safety Administration



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Lighting
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