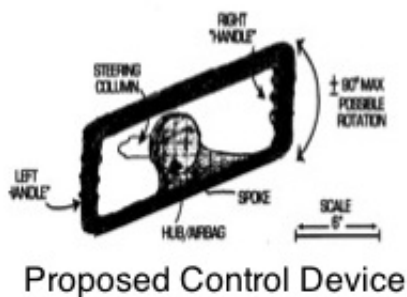


Innovative auto steering device could save lives

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This is a sketch of the proposed control device. Credit: Rene Guerster

It can take up to two and a half turns to steer a modern vehicle. While turning, the driver must release the wheel in the necessary hand-over-hand movement, which is unsafe. In his upcoming HFES 2013 Annual Meeting paper, Rene Guerster, who has been concerned with steering improvement since he was a child, proposes an alternative steering device that could help to prevent hazards such as rear-end collisions and rollovers caused by panic oversteering. He will present his work on October 4 at the Hilton San Diego Bayfront Hotel.

Severe sudden turns are extremely difficult with today's steering systems. Developing what he terms "computer-mediated steering," Guerster believes his proposed technology, already common in engine

controls, would enable steering around a suddenly-appearing obstacle without hand-over-hand fumbling.

Guerster's yoke-like device, currently in the concept stage, requires only a quarter turn in either direction from the straight-ahead position, enabling the driver to keep his or her hands in the same position on the device at all times. A computer would record the degree to which the device is turned, the speed at which it is being turned, and the [vehicle speed](#). It would determine how far the front wheels should be turned and then turn them via an electric motor, whether the driver is [parallel parking](#), performing a gentle lane-change [maneuver](#) at high speed, or turning suddenly to avoid a pedestrian.

Guerster says, "The likelihood of intuitive, safe use of this device will be studied in experiments to be conducted in the future. If computer-mediated steering shows benefits, this is easy to engineer into modern vehicles."

Provided by Human Factors and Ergonomics Society

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