



Rear-End Accident Statistics Stationary Vehicles vs. Stopped and Moving

Henrik Clasen

Delphi Electronics & Safety

Mölnadalsvägen 36

400 20 Göteborg, Sweden

henrik.clasen@delphi.com

Phone: +46 708904831



Information from Three Studies

- NHTSA report from February 2003
 - “Analyses of Light Vehicle Crashes and Pre-Crash Scenarios Based on the 2000 General Estimates System”
 - 6,4 Million Police reported accidents US
- German Accident Reports
 - “Statistisches Bundesamt, Fachserie 8, Reihe 7, 2008”
 - 320614 Police reported accidents with personal injuries 2008 in Germany
- The 100-Car Naturalistic Driving Study
 - Video recording of 82 crashes in US



How to define a Stationary Vehicle?

- Stationary Vehicle is easy to define from a Sensor System perspective:
 - “a target that the sensor system has not seen as moving”
- But from a Accident Statistics perspective is not so easy. The accidents is coded by a Police Officer after the accident has occur
- The reports have different definition for data that include rear end collision with stationary vehicles
 - NHTSA report:
 - “stopped lead vehicle that has not just decelerated and stopped”
 - German report (translation from the report):
 - “Starting or stopping are here to be seen in connection with a deliberate stopover which is not caused by the traffic situation. Stationary vehicles within the meaning of this kind of accident are vehicles which stop or park at the edge of a carriageway, on shoulders, on marked parking places directly at the edge of a carriageway, on footpaths or parking sites.”
 - 100-Car Study:
 - “a car that been stopped in more than 2s” (analysed from the recorded video)



Summery of the three studies

	Total number of reported accidents	Reported Rear-End Collisions		Reported Rear-End Collision (involving 2 light vehicle)	Reported Rear-End Collision with a "Stationary" Vehicle	
		number	% of all Accidents		number	% of Rear-End Collisions
NHTSA report	6389000	1816000	28	1513000	463000	28% "vehicle not just decelerated and stopped"
German Report	320614	69984	22	-	20789	30% "start/stopped not caused by traffic situation + Stationary"
100-Car Study	82	23	22	-	10	43% "stand still more than 2 sec"