

Federal Motor Carrier Safety Administration
Office of Analysis, Research and Technology

2010 Large Truck and Bus Crash Data: An Overview

Webinar

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2010 Macro Data

Fatal Large Truck Numbers, 2009 to 2010

Three levels of fatal crash data:

Fatalities: Up 8.7% - 3,380 to 3,675

Large Trucks: Up 8.5% - 3,211 to 3,484

Crashes: Up 9.3% - 2,983 to 3,261

Source: Fatality Analysis Reporting System (FARS) of the
National Highway Traffic Safety Administration (NHTSA)

Large Trucks Carrying Hazardous Materials in Fatal Crashes, 2010

- Large trucks in fatal crashes – 3,484
 - Carrying hazardous materials (HM) – 107 (3%)
 - Spillage of HM from cargo compartment – 36
 - Thus, 1% of all large trucks involved in fatal crashes leaked HM from the cargo compartment
- Total people injured by exposure to hazardous materials in large truck crashes – 10 killed, and 17 hospitalized

Sources: FARS, NHTSA; Pipeline and Hazardous Materials Safety Administration, 2010 Incident Report

Fatal Crash Bus Numbers, 2009 to 2010

- Motorcoach Fatal Crashes
 - Fatalities: Up 15% - 46 to 53 total fatalities
 - *Occupant Fatalities: Up 67% - 9 to 15*
 - Motorcoaches in Fatal Crashes: Down 3% - 38 to 37
- All Bus Fatal Crashes (school, transit, motorcoach, other)
 - Fatalities: Up 9% - 254 to 276
 - Buses: Up 13% - 221 to 249

Source: FARS, NHTSA

All Motor Vehicles in Crashes, 2010

Crash Type	Total Vehicles	Large Trucks	All Other Vehicles	% Trucks
Fatal	44,858	3,484	41,374	8%
Injury	2,785,000	56,000	2,729,000	2%
Property Damage Only	6,737,000	207,000	6,530,000	3%
Total	9,567,000	266,000	9,300,000	3%

Sources: FARS, General Estimates System (GES), NHTSA



Recent Trends

Large Truck and Passenger Vehicle Fatalities, 2005 to 2010

Year	Large Trucks		Passenger Vehicles		% Point Difference: Large Trucks/ Pass. Vehicles
	Fatalities	Year Over Year % Change	Fatalities	Year Over Year % Change	
2005	5,240	0%	38,933	+0.4%	0.4
2006	5,027	-4.1%	38,140	-2.0%	2.1
2007	4,822	-4.1%	36,460	-4.4%	0.3
2008	4,245	-12.0%	32,638	-10.5%	1.5
2009	3,380	-20.4%	29,940	-8.3%	12.1
2010	3,675	+8.7%	28,828	-3.7%	12.4

Source: FARS, NHTSA

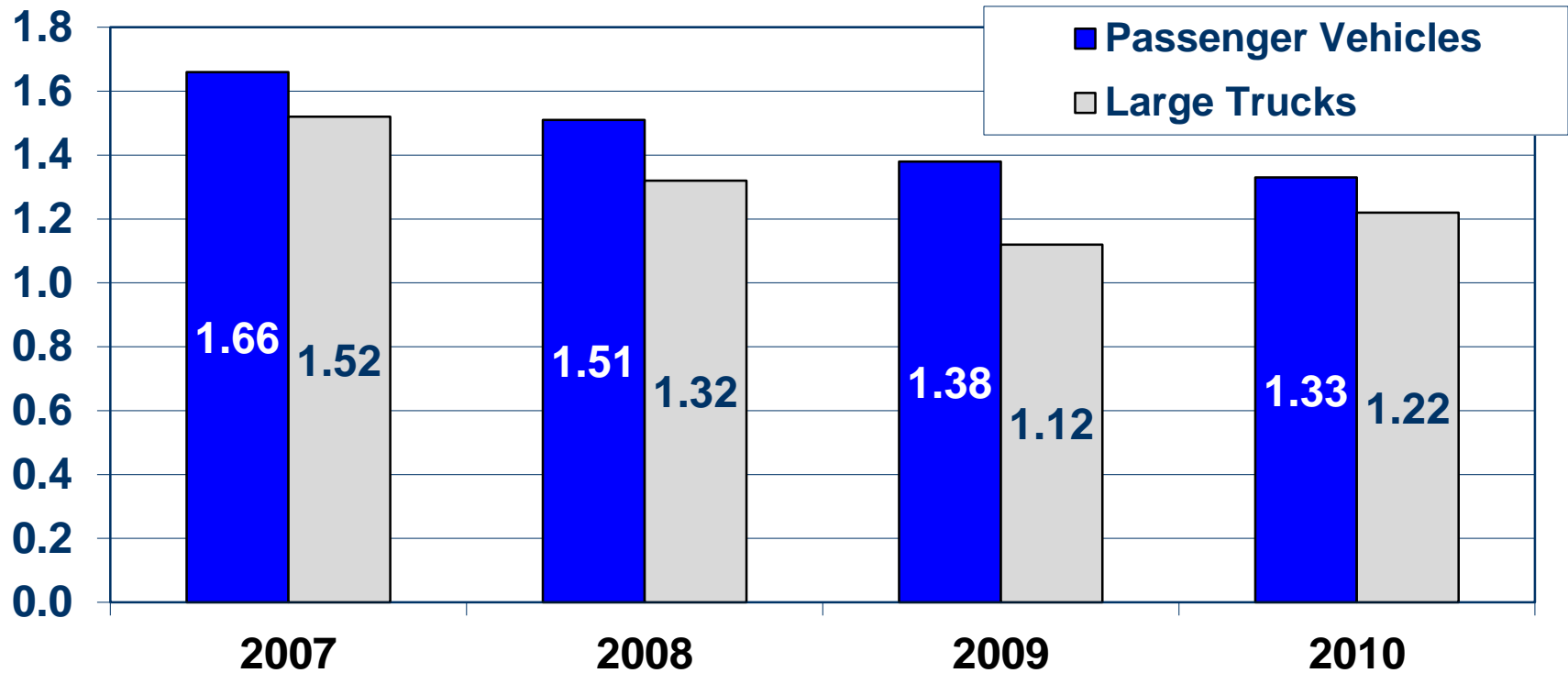
Three Year Trend – 2007 to 2010

- Fatalities in Large Truck crashes dropped 23.8%
- Fatalities in Passenger Vehicle crashes dropped 20.9%

Difference between Large Truck and Passenger Vehicles: 2.9 percentage points. Truck fatalities dropped faster than passenger vehicle fatalities.

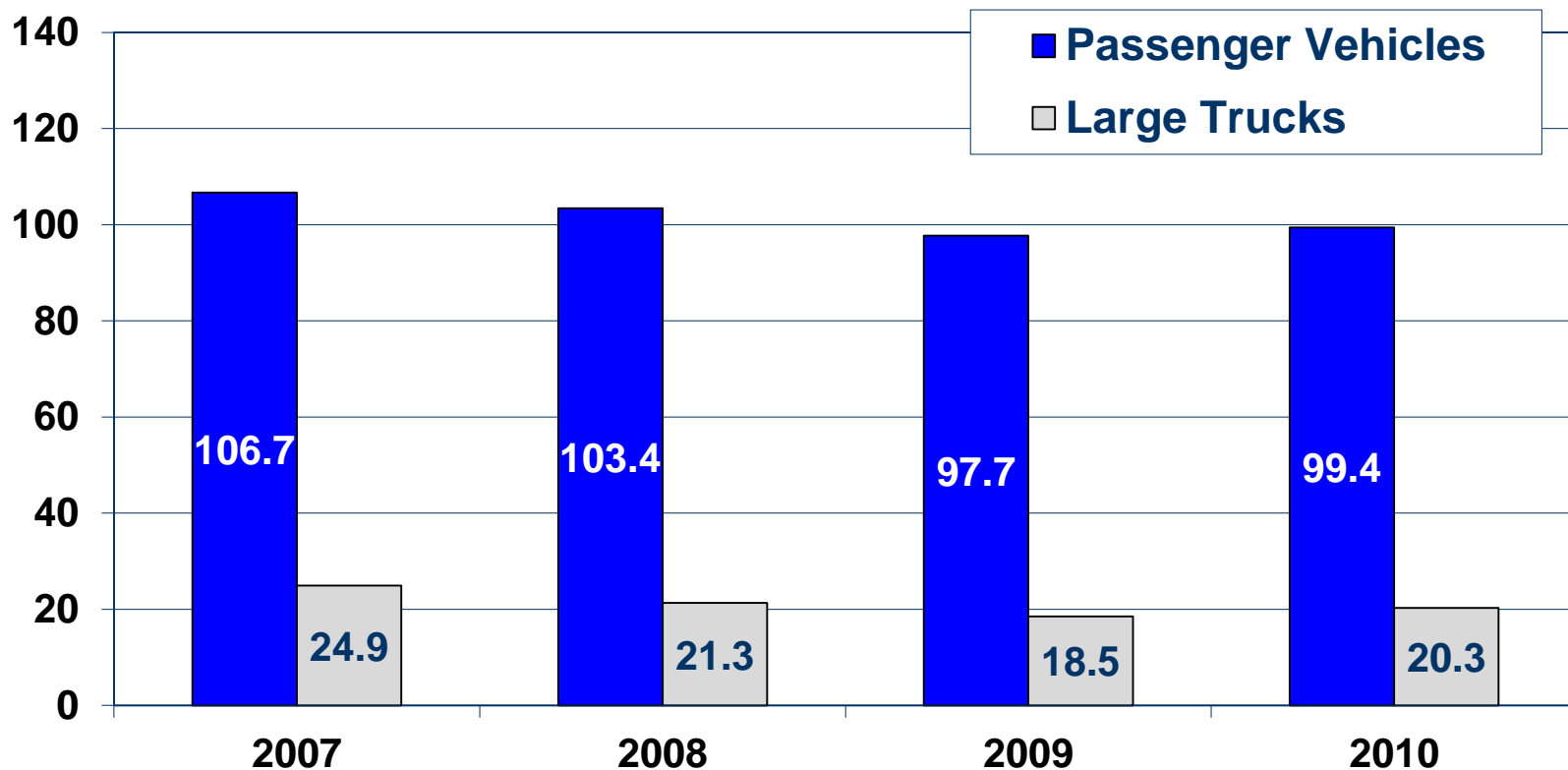
Source: FARS, NHTSA

Vehicles in Fatal Crashes per 100 million Vehicle Miles Traveled



Sources FARS, NHTSA; Federal Highway Administration (FHWA)

Vehicles in Injury Crashes per 100 million Vehicle Miles Traveled



Sources: GES, NHTSA; FHWA

Changes in Crash Rates: Large Trucks & Passenger Vehicles, 2007 to 2010

Vehicles Involved in Fatal Crash Rates (crashes per 100 million vehicle miles traveled):

- Large Trucks – down 20%
- Passenger Vehicles – down 20%

Vehicles Involved in Injury Crashes Rates:

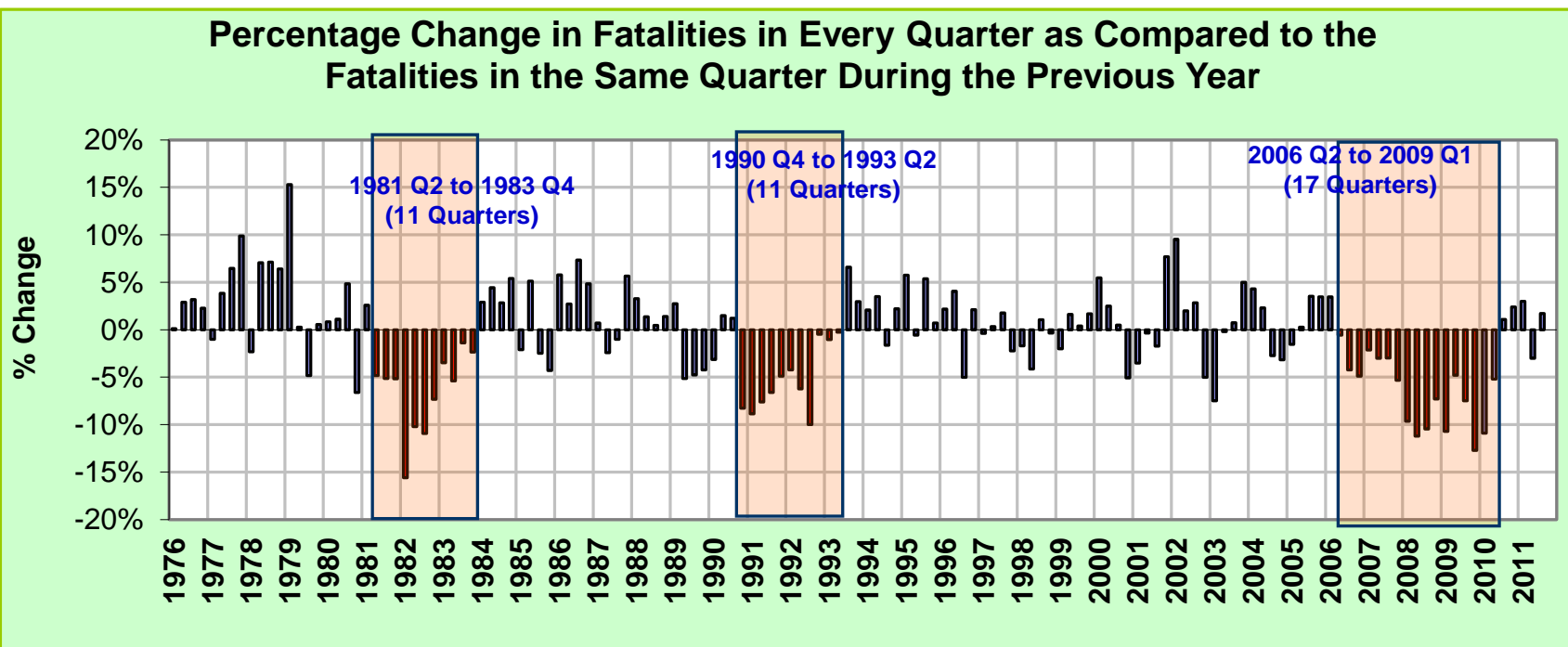
- Large Trucks – down 18%
- Passenger Vehicles – down 7%

Sources – FARS and GES, NHTSA; FHWA



The Economy and Crashes

Long Term Quarter to Quarter Changes in All Motor Vehicle Fatalities, 1976-2011



- There have been three periods of 11 quarters or more when fatalities for a quarter were lower than the same quarter the previous year. There was a recession in each of the three periods.

Source: FARS, NHTSA

Truck Traffic Changes

- The For-Hire Truck Tonnage Index (2000 = 100) dropped from 113.3 in 2008 to 103.5 in 2009. Since then the index rose to 109.5 in 2010 and to 115.8 in 2011.
 - American Trucking Association
- From 2007 to 2009 Intermodal freight hauled by Class 1 railroads dropped 18%, then increased 20% from 2009 to 2011.
 - Association of American Railroads



Crash Description and Factors

First Harmful Event in Large Truck Crashes, 2010

Collision with another vehicle in transport	76%
Collision with fixed object	8%
Collision with Pedestrian	7%
Rollover	4%
Collision with bicycle	2%
Collision with parked motor vehicle	1%
Other and/or unknown	2%
Total	100%

Sources: FARS, NHTSA

Large Trucks Involved in Single or Multiple Vehicle Crashes, 2009 to 2010

- Single vehicle large truck crashes* increased 2% (from 603 to 617).
- Multiple vehicle large truck crashes increased by 11% (from 2,384 to 2,644).

* A “single vehicle large truck crash” is defined as a crash where the first harmful event is the truck colliding with a fixed object or parked motor vehicle, or suffers a rollover or explosion/fire.

Source: FARS, NHTSA

Fatal Head-on and Rear End Crashes in Two Vehicle Large Truck/Passenger Vehicle Crashes, as Percentage of all Fatal Crashes, 2010

Crash Type and Striking Vehicle	Total Large Truck Fatal Crashes (n=3,261)
Rear End: Large truck strikes passenger vehicle	4%
Rear End: Passenger vehicle strikes large truck	13%
Head-on: Large truck crosses center line	3%
Head-on: Passenger vehicle crosses center line	18%

Source: FARS, NHTSA

Percent of Drivers Coded with Selected Fatal Crash Factors, 2010

Factors	Large Truck Drivers	All Passenger Vehicle Drivers
Speeding	8.4%	21.2%
Distraction/inattention (talking, eating, etc.)	6.2%	7.8%
Failure to keep in proper lane	5.8%	18.1%
Failure to yield right-of-way	4.1%	8.2%
Impairment (fatigue, alcohol, illness)	3.9%	20.7%
Following improperly	2.2%	1.1%
Failure to obey traffic signs	2.1%	4.8%
Erratic or reckless driving	1.9%	5.5%
Overcorrecting	1.4%	5.4%
Driving on wrong side of road	1.1%	3.3%
Percent fatal crashes with driver factors coded	33.5%	64.5%

Source: FARS, NHTSA

Percent of Vehicles Coded with Selected Fatal Crash Factors, 2010

Factors	Large Trucks	All Passenger Vehicles
Brake System	1.3%	0.2%
Tires/wheels	1.1%	1.5%
Lights	0.3%	0.1%
Percent fatal crashes with vehicle factors coded	4.2%	3.1%

Source: FARS, NHTSA

Challenges in Obtaining Driver Behavior Data - FARS Compared with the Large Truck Crash Causation Study (LTCCS)

Truck Driver Factors	FARS	LTCCS
Fatigue	2%	13%
Speeding	8%	23%
Distraction/Inattention	6%	20%
Following improperly	2%	5%
Illness	0.6%	3%
Unfamiliar with Road	0.1%	22%

Source: FARS, NHTSA; LTCCS, FMCSA

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FARS: <http://www.nhtsa.gov/FARS>

GES: <http://www.nhtsa.gov/NASS>

LTCCS: www.ai.fmcsa.dot.gov/lccs/default.asp