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PSI-03-04

Pole Side Impact GTR: Assessment of Safety Need: Updated Data Collection

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3rd Meeting - GRSP Informal Group on a Pole Side Impact GTR

Washington, USA, 9 June 2011

Definition of Pole Side Impact

- Pole Side Impact: A side impact with a rigid narrow object including road signs/traffic signals, lamp posts, telegraph poles, electricity poles, trees, fire hydrants, and bridge supports/abutments.

Note: The data presented here has been compiled solely for the purposes of the GRSP informal group on pole side impact. All data is subject to ongoing review, and therefore also subject to the possibility of future correction, should any issues be identified (e.g. database coding issues/limitations).



Overview of Data Collection

- Significant levels of data provided by USA, UK, Japan, France, Germany, South Korea, Canada, New Zealand and the Netherlands.
 - Some further data collection and refinement required.
- Australia has collected national fatality data (2000-2006) and more detailed fatality and serious injury data for state of Victoria (2000-2009).
- Difficult to get detailed time series data for all countries.
- In many cases, difficult to accurately identify pole side impacts:
 - May be understated due to data coding / definition issues.
- Different vehicle category and serious injury definitions used in the collection of crash statistics.

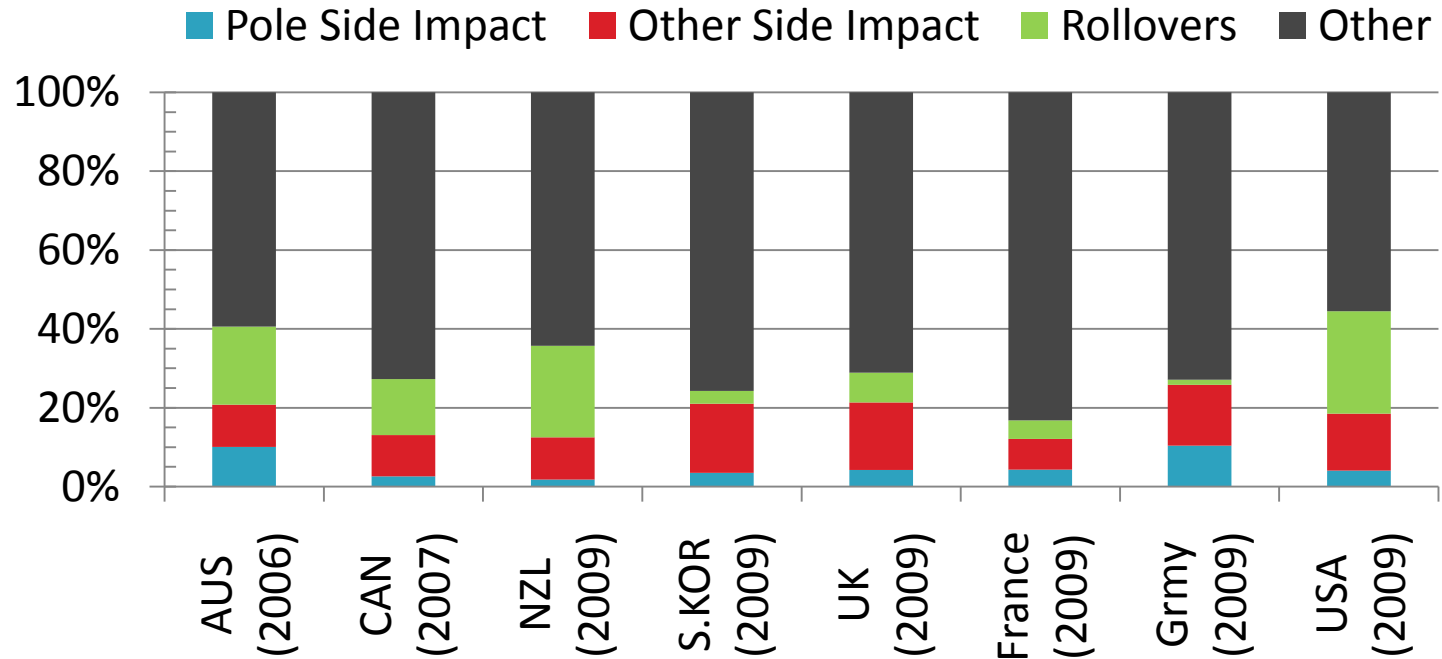


Recent Updates to Data

- Since the last meeting in Brussels, Germany and France have provided data featured in this presentation.
- Germany has also provided some time series data – the pole side impact problem in Germany is very serious and relative to other fatality causes does not appear to be improving.



Vehicle Side Impact & Rollover Fatalities as a percentage of total road toll



- All 4-wheel vehicle occupant side impact fatalities typically around 20% of national road tolls.
- Canadian figures derived from M1 and N1 figures. German figures are for M1 only. Further data required to be able to graph Japan and the Netherlands.
- Other includes all other 4-wheel vehicle occupant fatalities as well as motorcyclist, cyclist and pedestrian fatalities.

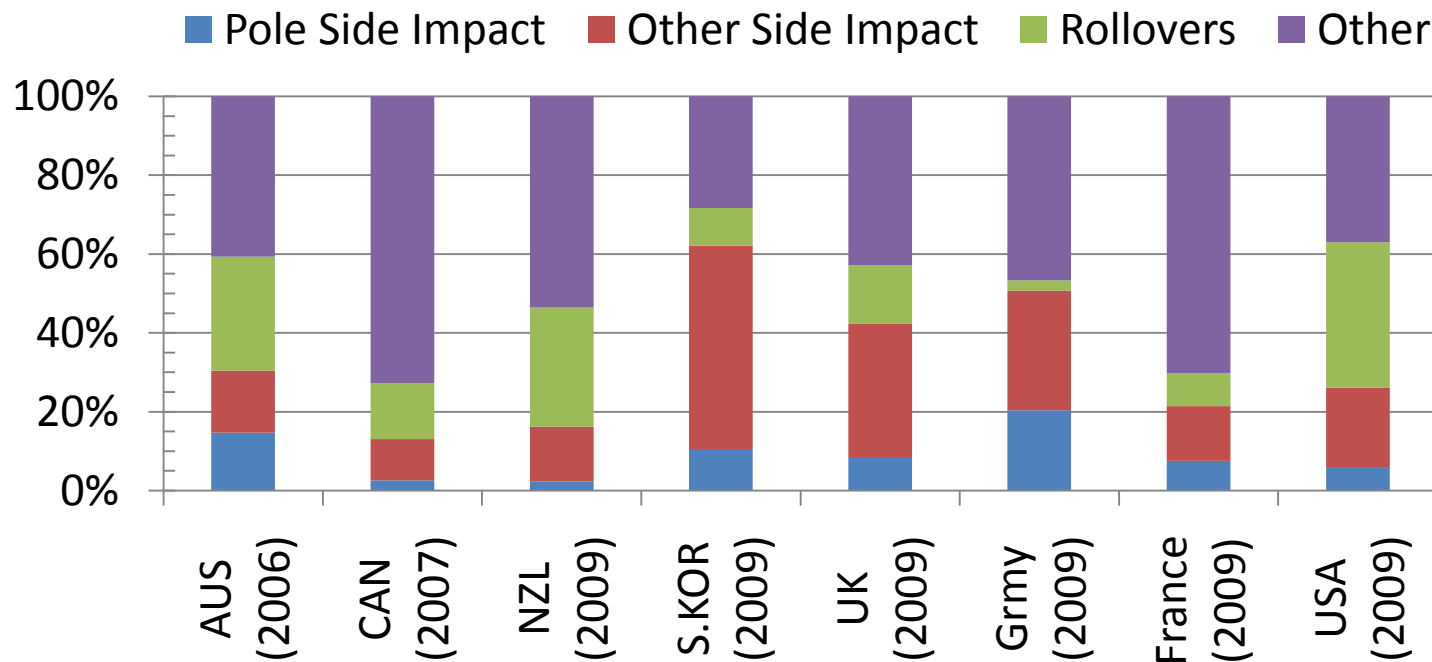


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Side Impact and Rollover Fatalities

as a percentage of all 4-wheeled vehicle occupant fatalities

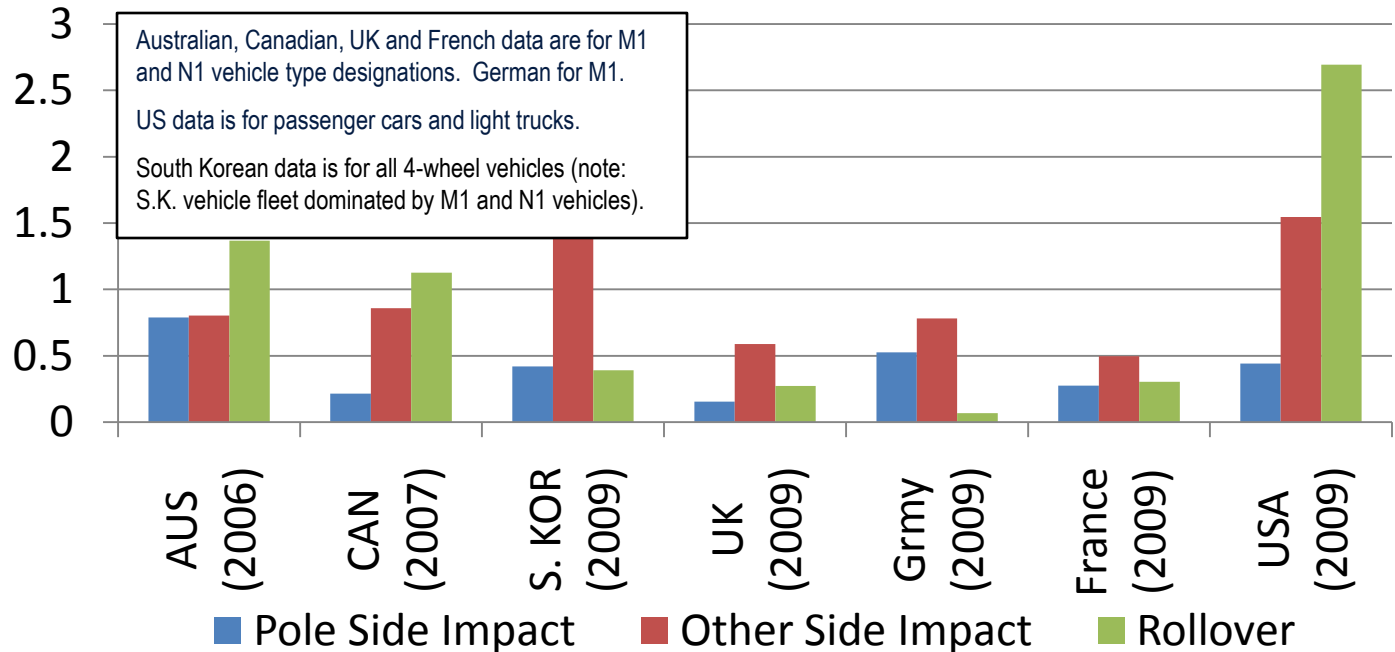


- Side impact fatalities 15-65% of 4-wheeled vehicle occupant fatalities.
 - Pole side impact fatalities 3-13% of all 4-wheeled vehicle occupant fatalities.
 - Other side impact fatalities 10-50% of all 4-wheeled vehicle occupant fatalities.



Passenger & Light Commercial Vehicle Fatality Rates

Fatalities per 100,000 population



- Significant variation by country:

- Pole side impact fatalities between 0.16 and 0.79 per 100,000 population.
- Other side impact fatalities between 0.59 and 2.10 per 100,000 population.

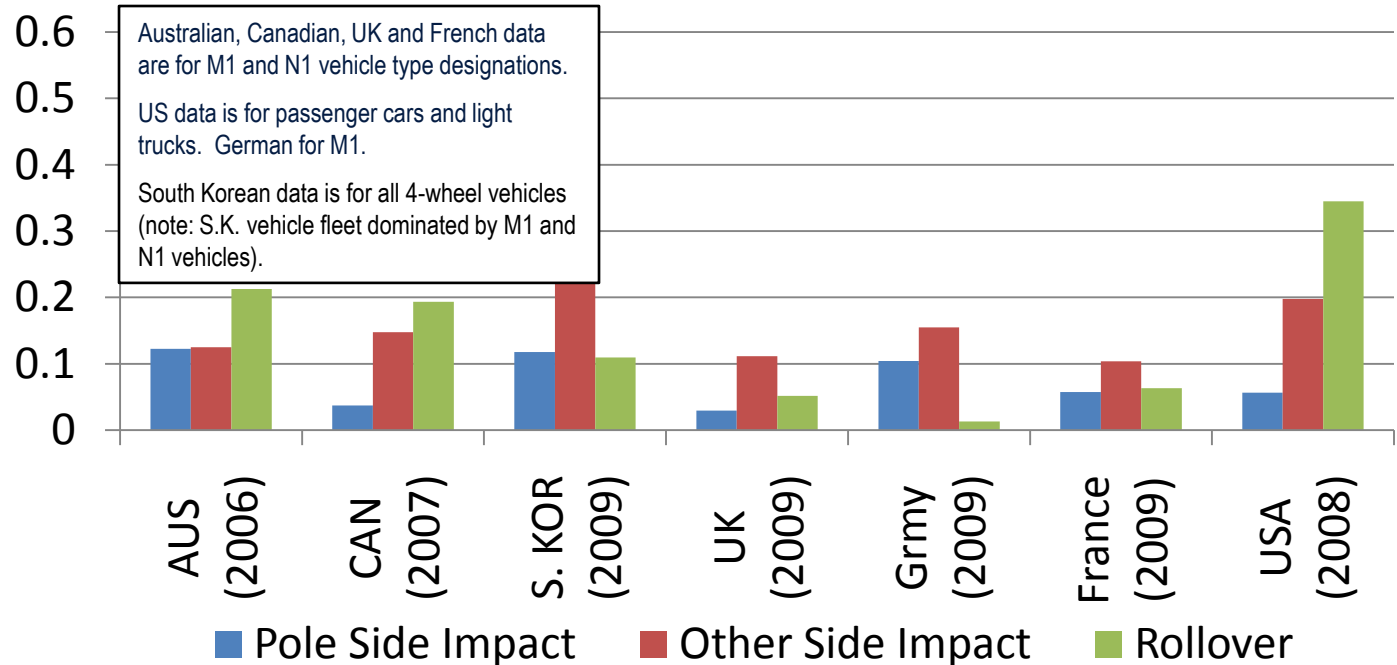


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Passenger & Light Commercial Vehicle Fatality Rates

Fatalities per 10,000 registered vehicles



- Significant variation by country:

- Pole side impact fatalities between 0.03 and 0.12 per 10,000 vehicles.
- Other side impact fatalities between 0.11 and 0.59 per 10,000 vehicles.

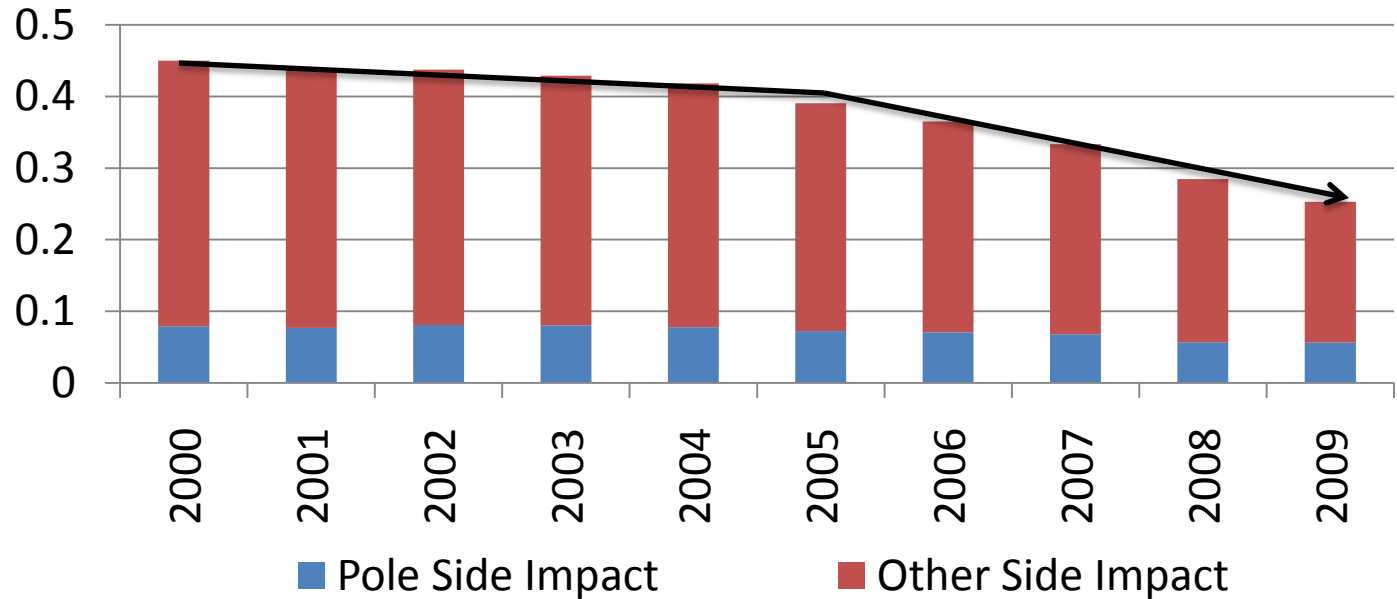


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Passenger and Light Truck Fatality Rate Over Time: United States

Fatalities per 10,000 registered vehicles



- Side impact fatalities per vehicle have declined most rapidly since 2005.
- Other side impact fatalities per vehicle have declined faster than pole side impact fatalities.

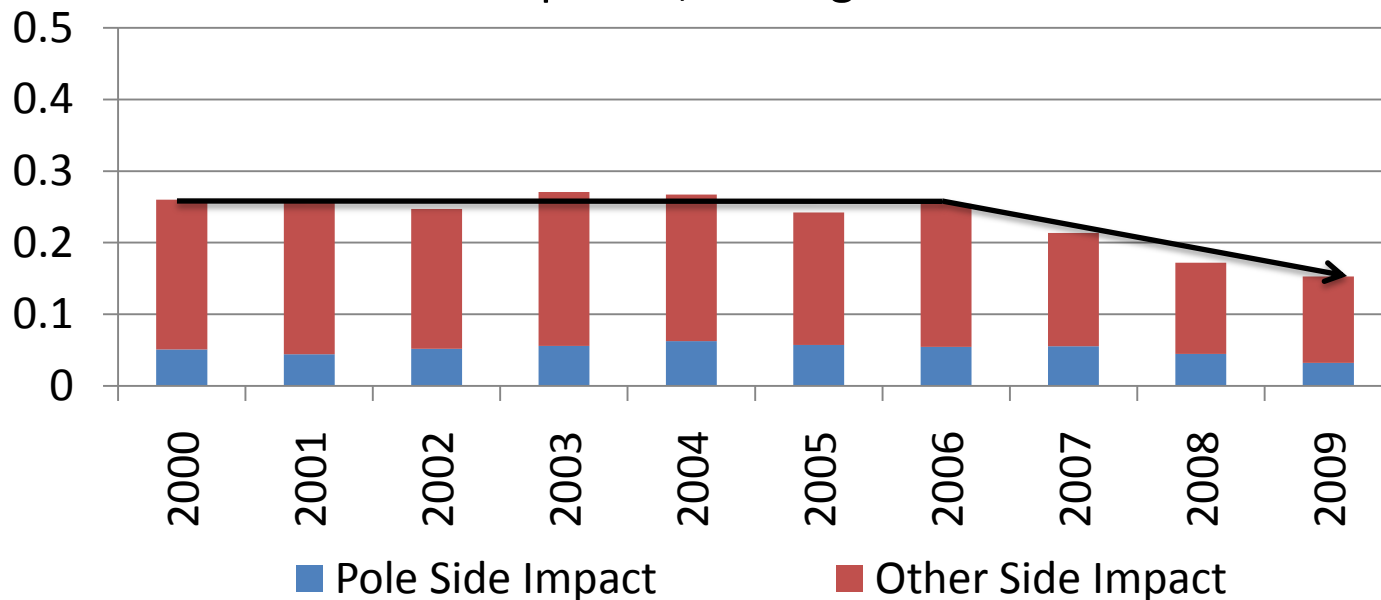


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Passenger Vehicle (M1) Fatality Rate Over Time: United Kingdom

Fatalities per 10,000 registered vehicles



- Side impact fatality rate relatively constant between 2000 and 2006, downward trend since 2006.
- Pole side impact fatalities a similar percentage of all side impact fatalities as in US; although side impact fatality rate per vehicle is much lower.

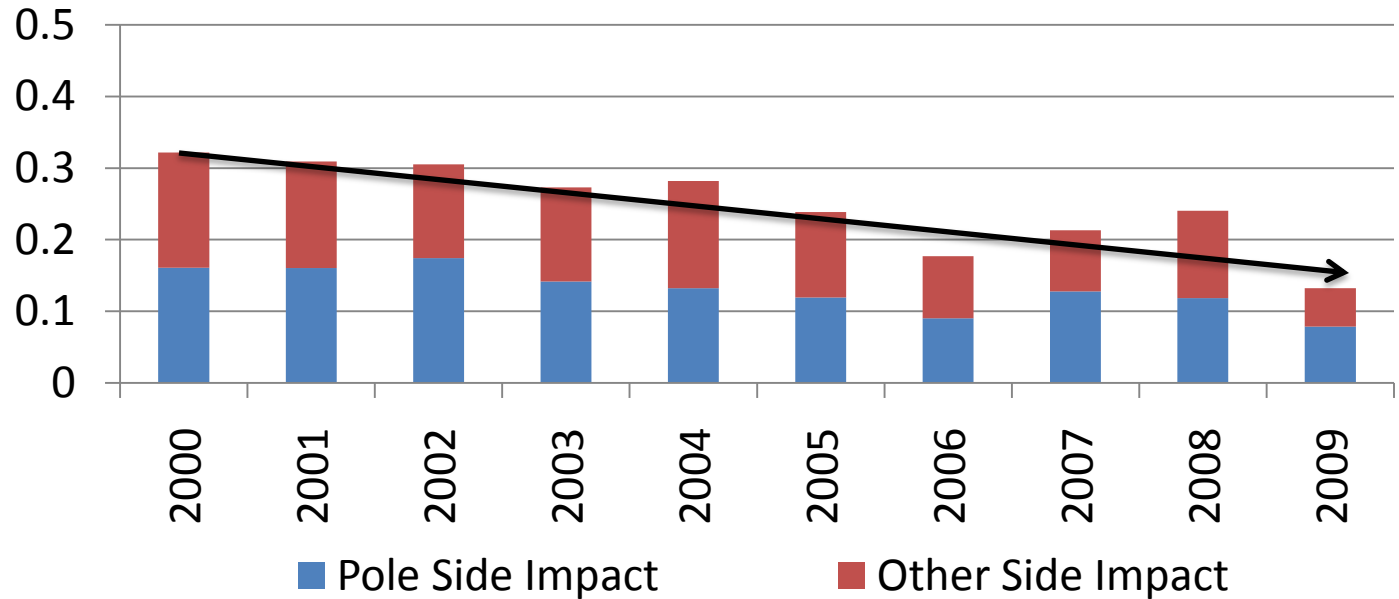


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Passenger (Category 1-1) Vehicle Fatality Rate Over Time: Victoria, Australia

Fatalities per 10,000 registered vehicles



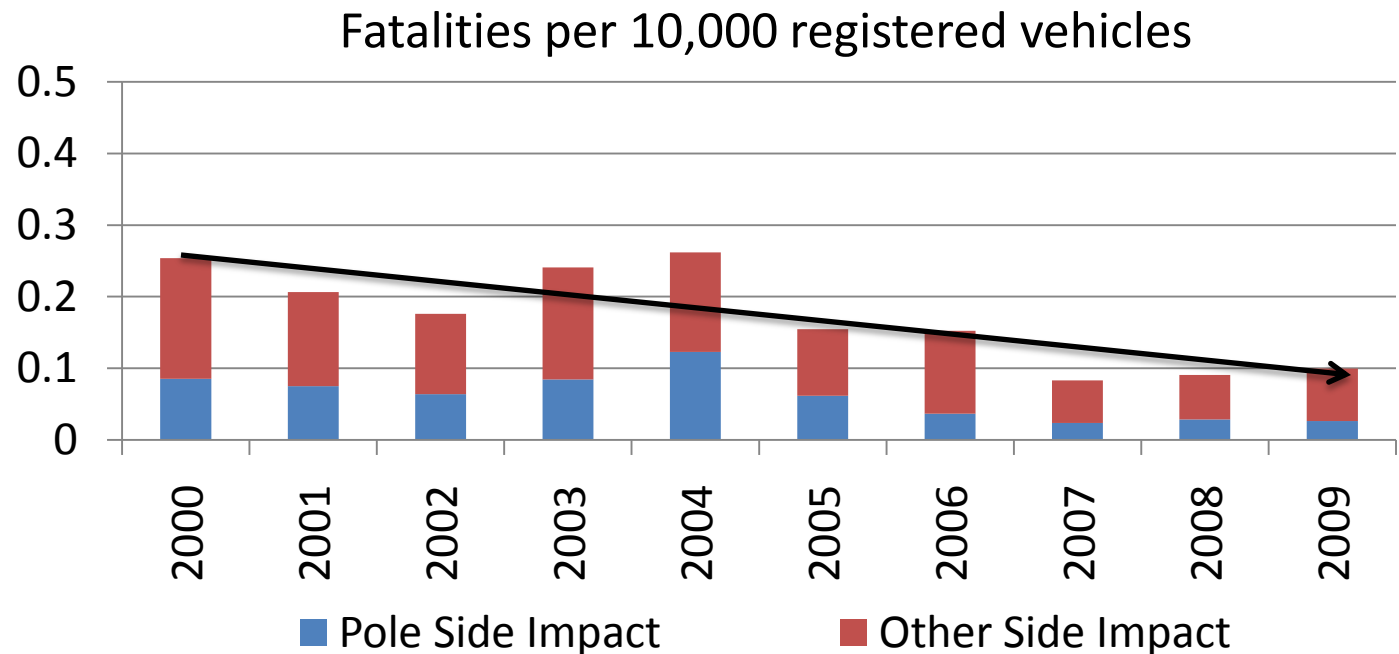
- Steady downward trend in side impact fatalities per vehicle.
- Similar side impact fatality rate per vehicle to UK; but pole side impacts are a much greater proportion of all side impacts.



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Passenger Vehicle (M1) Fatality Rate Over Time: Netherlands



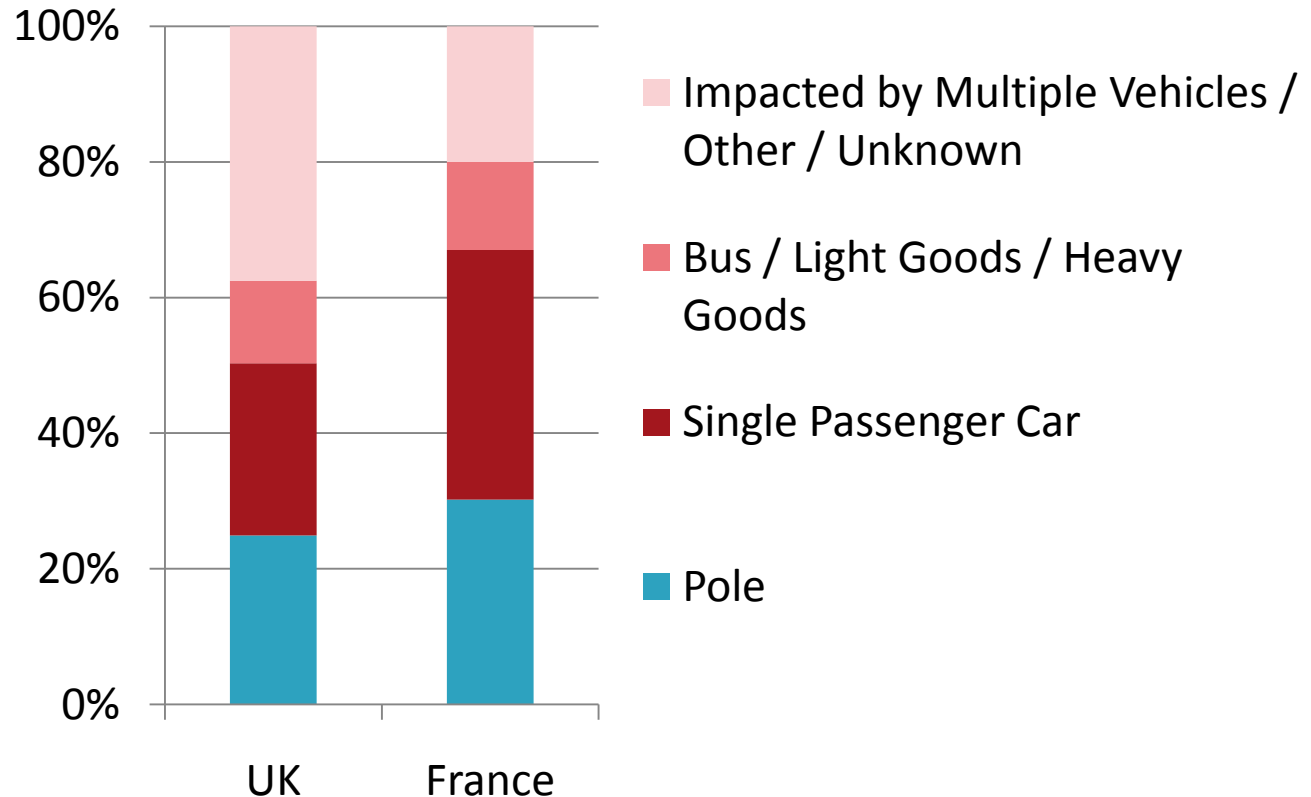
- Overall downward trend with some year to year fluctuation.
- Pole side impact fatalities accounted for around 35% of all side impact fatalities between 2000 and 2009.



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Types of Fatal Side Impacts: Post 1998 Vehicles by impacted / impacting object



Fatal pole side impacts are almost as common as fatal single passenger car to car side impacts simulated in mobile deformable barrier side impact tests.

Source: EENC WG21 Side Impact Analysis

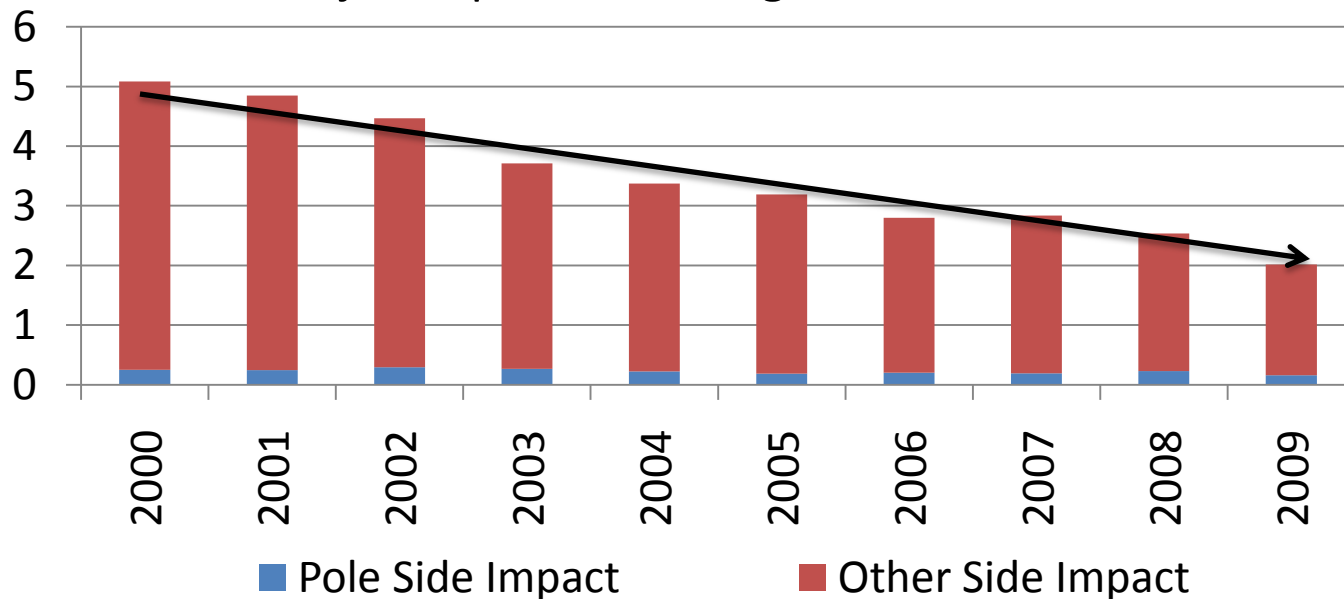


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Passenger and Light Truck Incapacitating Injury Rate Over Time: United States

Injuries per 10,000 registered vehicles



- Incapacitating injuries per vehicle have decreased at a greater rate than fatalities.
- Incapacitating pole side impact injuries have not decreased as much as other side impact injuries.
- Pole side impact injuries are a small proportion of all side impact injuries, but the average cost of injury in each type of side impact may be quite different (need to determine costs).

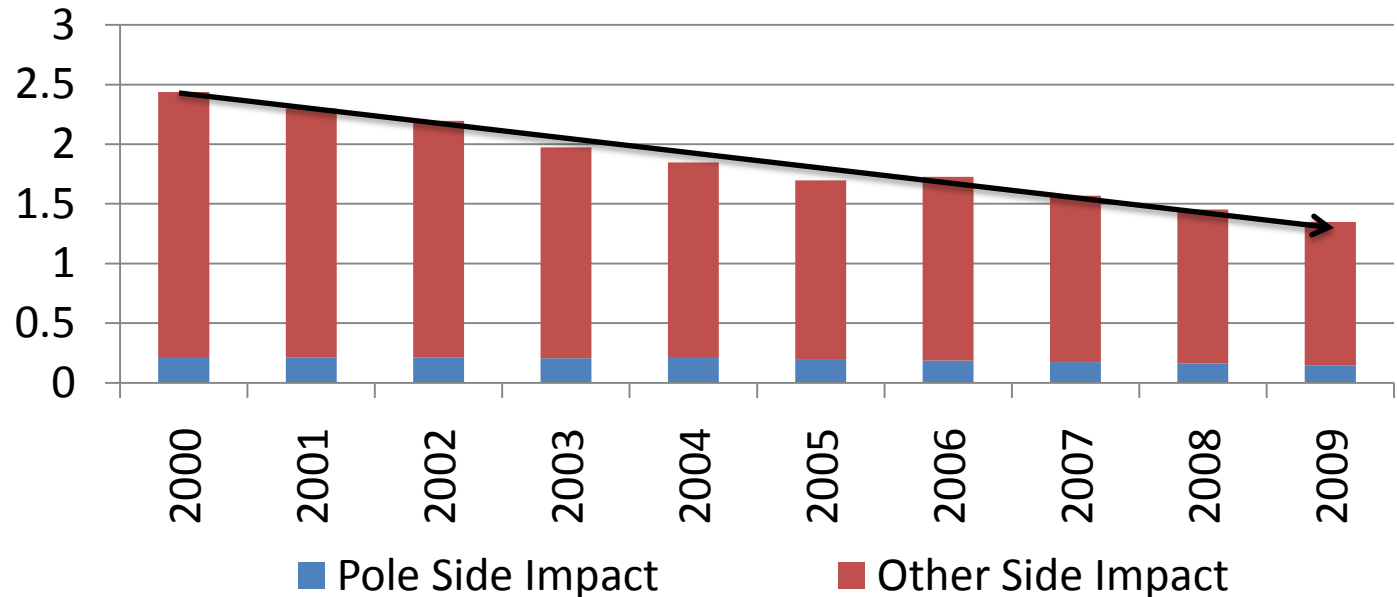


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Passenger (M1) Serious Injury Rate Over Time: United Kingdom

Injuries per 10,000 registered vehicles



- Similar trend to US:

- Serious injuries in side impacts have decreased at a greater rate than fatalities.
- Pole side impact injuries have not shown the same rate of decline.
- Relative injury rates may not be representative of the relative costs of each impact type.

Serious injuries include all those detained in hospital, as well as those known to have received a defined serious injury irrespective of hospital admission status, and those who die more than 30 days after an accident.



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Thank you



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