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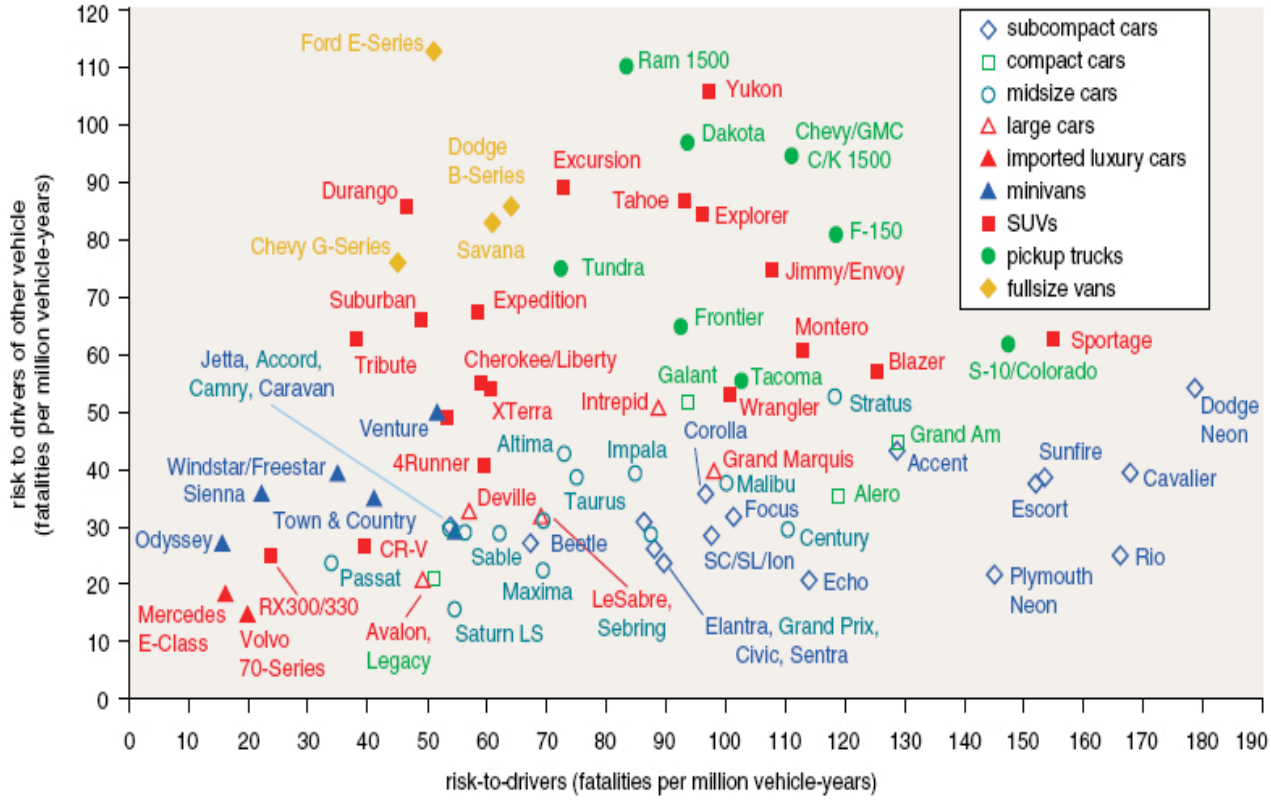
Risks: Driver Deaths/Year per Million Vehicles (models shown below for 2000-2004) An exercise: consider model & crash years 1997-2001. Risk-to-driver for Toyota Camry is the deaths of those Camry drivers, 234, divided by Camry "registration years" in the period, 5.51 million. So *risk-to-driver* is 234/5.51 = 42. *Risk-to-other-drivers* is deaths of drivers in vehicles which crash with Camrys, over the same denominator, a risk of 29.



The two risks are sensitive to design & equipment, shown by the MY 2002 Explorer

"Risk by.....xls"	Excel row	Risk-in	Risk-by	Deaths-in	Deaths-by	sales
SUV model 02-04"	12	62	72	191	221	3.07
pop model 00-04"	206	98	86	415	509	4.2
pop model 97-01"	90	91	61	496	336	5.47

Readings from Our Work

Wenzel & Ross
"Safer Vehicles for People and the Planet"
American Scientist, March-April 2008, vol 96, pp 122-128

Patel & Ross
"Intrusion in Side Impact Crashes"
SAE technical paper, 2007-0678

Ross, Patel & Wenzel
"Vehicle Design & the Physics of Traffic Safety"
Physics Today, vol 59, pp 49-54, Jan 2006

Wenzel & Ross
The Effects of Vehicle Model & Driver Behavior on Risk"
Accident Analysis & Prevention, vol 37, pp 479-494, 2005

The experience from 1980, shown below, gives hope that major fuel (and carbon) savings could be achieved relatively quickly by making vehicles lighter (and we argue with safety) if the US has the will.