

American Center for Van and Tire Safety

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Facts and statistics supporting the need for an awareness program for owners and operators of 15-passenger vans --- August 2009 Update ---

1. In 2007 there was a 3.9% decrease in overall vehicle traffic crash fatalities from 42,708 in 2006 to 41,059 in 2007.¹ ... a good thing ! ... Unfortunately, there was not a similar decline in fatalities to occupants of 15-passenger vans. In 2007, the number of fatalities to occupants of 15-passenger vans increased 19% from 58 in 2006 to 69 in 2007.²
2. The number of 15-passenger vans that rolled over in fatal crashes increased 50% from a total 20 in 2006 to a total of 30 in 2007. The number of van occupants killed in these rollover crashes increased approximately 73% from 26 in 2006 to a total of 45 in 2007.³ From preliminary analysis of newly published 2008 FARS data, it appears that, unfortunately, the number of fatalities in 15-passenger van rollover accidents increased to 46 in 2008.⁴
3. The number of fatal single vehicle rollover accidents of 15-passenger vans increased dramatically in 2007 from 12 in 2006 to 23 in 2007 ... an increase of 90%. The number of van occupants killed in these crashes nearly doubled from 17 in 2006 to a total of 33 in 2007.⁵ Thus, in 2007, approximately 48 percent of all 15-passenger van occupant fatalities occurred in single vehicle rollovers. From preliminary analysis of newly published 2008 FARS data, the number of fatalities in 15-passenger van single vehicle rollover accidents decreased to 28 in 2008 ... but still well above the 2006 level of 17.⁶
4. In total, from 1997 through 2007 there have been 1,159 fatalities of van occupants resulting from crashes involving 15-passenger vans. Of these 1,159 fatalities, 567 resulted from largely preventable single vehicle rollover crashes of the 15-passenger vans.
5. The death rate for all occupants of 15-passenger vans is higher than for all other passenger vehicles combined ... 200 versus 138 deaths per million registered vehicles.⁷
6. The odds of rollover for a 15-passenger van increase more than 400 percent when the van is fully loaded compared with a driver traveling alone. For other passenger vehicle types, the odds of rollover when fully loaded compared with a driver traveling alone increased 20 percent for cars, 50 percent for pickups, and almost 100 percent for SUV's and minivans.

¹ NHTSA Traffic Safety Facts - DOT HS 811 017 - "2007 Traffic Safety Annual Assessment - Highlights" dated August 2008.

² NHTSA Research Note - DOT HS 811 143 - "Fatalities to Occupants of 15-Passenger Vans, 2003-2007" dated May 2009.

³ id.

⁴ E-Mail from Quality Control Systems Corp - R.A.Whitfield to R.O.Koehler - dated July 31, 2009.

⁵ E-Mail from NHTSA - Rajesh Subramanian to R.O.Koehler dated February 12, 2009.

⁶ E-Mail from Quality Control Systems Corp - R.A.Whitfield to R.O.Koehler - dated July 31, 2009.

⁷ Insurance Institute for Highway Safety & Highway Loss Data Institute, Q&A 15-passenger vans – January 2009

The increased odds of rollover for fully loaded 15-passenger vans is significantly higher than the percentage increase in any other type of passenger vehicle⁸.

7. 15-passenger vans require special driver skills. They are larger, with high centers of gravity making them less stable than vehicles such as cars. Adding passengers increases the center of gravity causing them to be increasingly difficult to handle and less stable⁹.
8. Tire failure is the cause of a significant number of 15-passenger van single vehicle rollover accidents. In a recent study of 15-passenger van accidents reported on the internet, it was found that almost 50% of the reported single vehicle accidents involved some type of tire failure ... and approximately 45% resulted in at least one fatality.¹⁰ From a 2002 NHTSA report on driver reaction to a tire failure as tested in the National Advanced Driving Simulator¹¹, it has been estimated that up to 80% of drivers will lose control of a fully loaded 15-passenger van when an unexpected failure (de-tread) of the left rear tire occurs at highway speed.
9. Tire aging is considered a contributing factor to tire failure involving loss of tread. In a June 2008 Consumer Advisory¹², NHTSA urged motorists to check their tires before summer trips. The advisory included instructions as to how to determine the age of a tire and stated that "Some tire and vehicle manufacturers have issued recommendations for replacing tires that range from six to ten years of age."
10. From 1994 through 2004, NHTSA estimates that about 400 fatalities, annually, may be attributed to tire failures of all types ... current data does not specify the number attributed to tire aging alone, but ... NHTSA states "we do know that tire aging is a significant factor in tire related safety"¹³.
11. According to NHTSA approximately 1% of vehicle fatalities are related to tire issues, while in the case of 15-passenger vans, approximately 11% of fatalities are related to tire issues.¹⁴ From 1997 through 2007 tires were a "related factor" in 19% of all fatal 15-passenger van single vehicle rollover accidents.¹⁵
12. In the recent study of 15-passenger van single vehicle accidents, reported on the internet, it was found that almost 50% of the reported accidents involved church vans ... and over 70% of those single vehicle church van accidents involved tire failure.¹⁶ The high accident and tire failure rate of church vans might be explained by the fact that according to a 2008 survey of church and university 15-passenger vans in the Knoxville TN area, 40% of the vans surveyed had tires that were six or more years old ... and over 20% of the vans

⁸ Insurance Institute for Highway Safety & Highway Loss Data Institute, Q&A 15-passenger vans – January 2009.

⁹ id.

¹⁰ American Center for Van and Tire Safety report - "An Analysis of Several Recent 15-Passenger Van Single Vehicle Rollover Accidents" - dated November, 2008.

¹¹ NHTSA Technical Report - "Investigation of Driver Reactions to Tread Separation Scenarios in the National Advanced Driving Simulator" - issued November, 2002.

¹² NHTSA Consumer Advisory - "Motorists Urged to Check Tires Before Summer Trips" - issued June 2, 2008.

¹³ NHTSA Research report to Congress on Tire Aging (DOT HS 810 799) dated August 2007.

¹⁴ Data received from NHTSA's National Center for Statistics and Analysis at a meeting on December 10, 2007.

¹⁵ E-Mail from NHTSA - Rajesh Subramanian to R.O.Koehler dated February 12, 2009.

¹⁶ American Center for Van and Tire Safety report - "An Analysis of Several Recent 15-Passenger Van Single Vehicle Rollover Accidents" - dated November, 2008.

surveyed had tires that were ten or more years old.¹⁷ This is likely attributed to the relatively low annual use rate coupled with the belief, by most, that tire life is strictly a function of remaining tread depth.

13. According to a 2005 report approximately 74% of all 15-passenger vans had at least one tire misinflated by 25% or more. This compares to 39% of passenger cars with at least one tire misinflated by 25% or more¹⁸. This indicates a lack of training on proper tire maintenance.
14. Impressing upon 15-passenger van drivers the inherent dangers of operating these vehicles, particularly when fully loaded, and educating them about proper handling and control, particularly during emergency situations, can reduce the risk of rollover. Such training can also help dispel the expectation that these vans operate like large passenger cars¹⁹.
15. 80 percent of those who died in 15-passenger van rollovers nationwide between 2003 and 2007 were not buckled up.²⁰ Wearing safety belts dramatically increases the chances of survival during a rollover crash. In fatal, single vehicle rollovers involving 15-passenger vans over the past decade, 91 percent of belted occupants survived²¹. A May 14, 2009 NHTSA study stated, "Wearing a seat belt costs nothing and yet it's the single most effective traffic safety device ever invented".
16. From 2003 through 2007 only 32% of all occupants in fatal 15-passenger van rollover accidents were restrained. This indicates a much lower use of seat belts by occupants of 15-passenger vans. According to a 2008 survey by NHTSA, relating to seat belt use in all passenger vehicles, "Seat belt use for occupants on expressways increased to 90 percent in 2008 from 89 percent in 2007."²²
17. According to a review of state by state restraint laws through December 1, 2008, at least 26 states exclude 15-passenger vans from their current restraint laws ... and of the 25 remaining states (including DC), 14 have required seatbelt use for only the front seat occupants and/or those occupants below a certain age. Only 11 states have laws that cover all occupants of 15-passenger vans ... and of those 11 states only 7 have "primary" seatbelt laws.²³ According to the September 2008 NHTSA Research Note ... States with "Primary" seatbelt laws had an 88% seatbelt use in 2008 while those states with "Secondary" laws only had a 75% seatbelt use.²⁴
18. Recently there have been a number of safety improvements to new 15-passenger vans such as lap/shoulder belts in all seating positions, tire pressure monitoring systems, electronic stability control, expansion of several federal motor vehicle safety standards to now include 15-passenger vans ... all these will improve the safety of new 15-passenger vans but will do nothing for the estimated 500,000 vans currently on the road. Driver education and training,

¹⁷ American Center for Van and Tire Safety report - "Preliminary Study of 15-passenger Van Mileage and Tire Age in Knoxville, Tennessee" – dated April, 2008.

¹⁸ NHTSA report "12 & 15-passenger Vans Tire Pressure Study: Preliminary Results" dated May, 2005.

¹⁹ NTSB letter to American Driver and Traffic Safety Education Assoc. dated August 4, 2003.

²⁰ NHTSA Research Note - DOT HS 811 143 - "Fatalities to Occupants of 15-Passenger Vans, 2003-2007" dated May 2009.

²¹ NHTSA news release dated May 26, 2005.

²² NHTSA Research Note - "Seat Belt Use in 2008 - Overall Results" - issued September 2008

²³ "Key Provisions of Occupant Restraint Laws through December 1, 2008" obtained from NHTSA March, 2008

²⁴ NHTSA Research Note - "Seat Belt Use in 2008 - Overall Results" - issued September 2008

and general awareness of the dangers of these vans are the only viable means of reducing the death rates of these existing vans.

19. Even with all the above mentioned safety improvements, 15-passenger vans have low NCAP rollover ratings. The 2009 Ford E-350 15-passenger van has a two star (out of 5) rollover rating with a 30% chance of rollover.²⁵ The Ford E-350 accounts for approximately 60% of the 15-passenger vans sold from 2001 through 2007.²⁶ The 2009 Chevrolet Express 3500 15-passenger van has a three star (out of 5) rating with a 27% chance of rollover.²⁷ As an additional note of importance, although Chrysler/Dodge no longer manufactures 15-passenger vans ... they quit producing them in 2002 ... they do currently sell a large 12-passenger van called a Dodge Sprinter. The 2009 Dodge Sprinter 2500 12-passenger van has a one star (out of 5) rollover rating with a greater than 65% chance of rollover. On safecar.com, NHTSA states, "This vehicle has risk of rollover in a single vehicle crash greater than 65%. However, because the vehicle's measured static stability score is so low, it is not possible to provide a more specific percentage of rollover risk as is usually done with other vehicles".²⁸
20. In 2007, all the 15-passenger vans involved in fatal single vehicle rollovers were model year 2004 or older.²⁹ This would seem to indicate that the newer vans are indeed safer and perhaps less prone to single vehicle rollover. Unfortunately, from preliminary analysis of newly published 2008 FARS data, it appears that this trend has not continued. In 2008, 15 percent of the fatal 15-passenger van single vehicle crashes involved vans built in 2005 or newer.³⁰
21. In the past these vans have primarily been sold to various schools, universities, churches, day cares and other similar community organizations. As the dangers of these vans have become more apparent and as both federal and state legislation have been passed limiting the use of these vans, many of the vans have been sold by the various organizations to private citizens. In most cases this has been done without disclosure of the dangers these vans pose and the differences in safely operating these vans as opposed to other passenger vehicles. These private citizens purchasing these vans must be made aware of the dangers and precautions to safely operate the vehicles.

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²⁵ NHTSA Safercar.com web site.

²⁶ E-Mail from General Motors - Jeffery Boyer to R.O.Koehler - dated February 11, 2009.

²⁷ NHTSA Safercar.com web site.

²⁸ id.

²⁹ E-Mail from Quality Control Systems Corp - R.A.Whitfield to R.O.Koehler - dated July 16, 2009.

³⁰ E-Mail from Quality Control Systems Corp - R.A.Whitfield to R.O.Koehler - dated July 31, 2009.