Hour-of-the-Week Crash Trends between the Years 2005-2010 for the Chicago, Illinois Region

Presented July 19, 2012
Regional Transportation Operations Coalition (*RTOC*)

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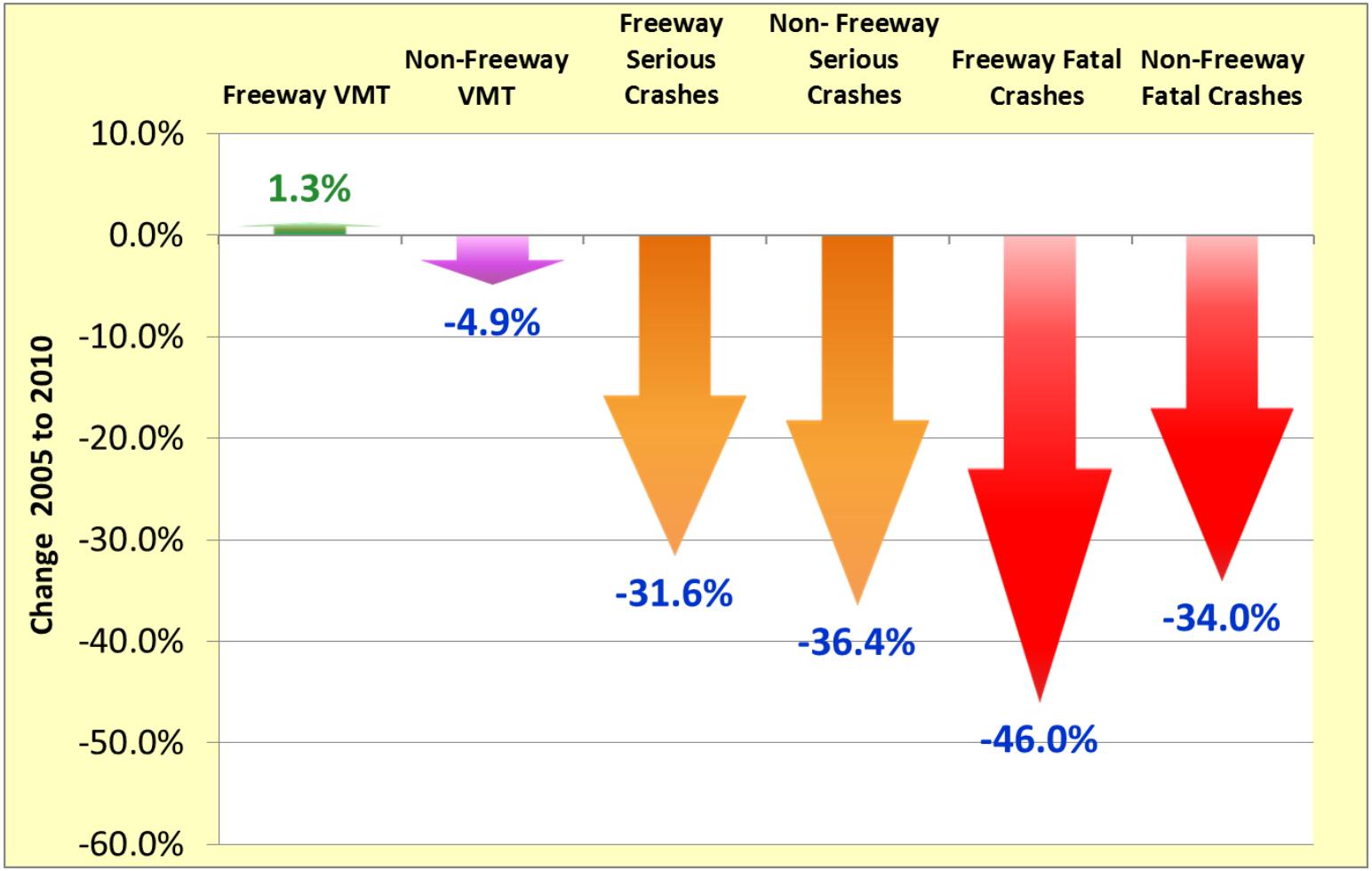
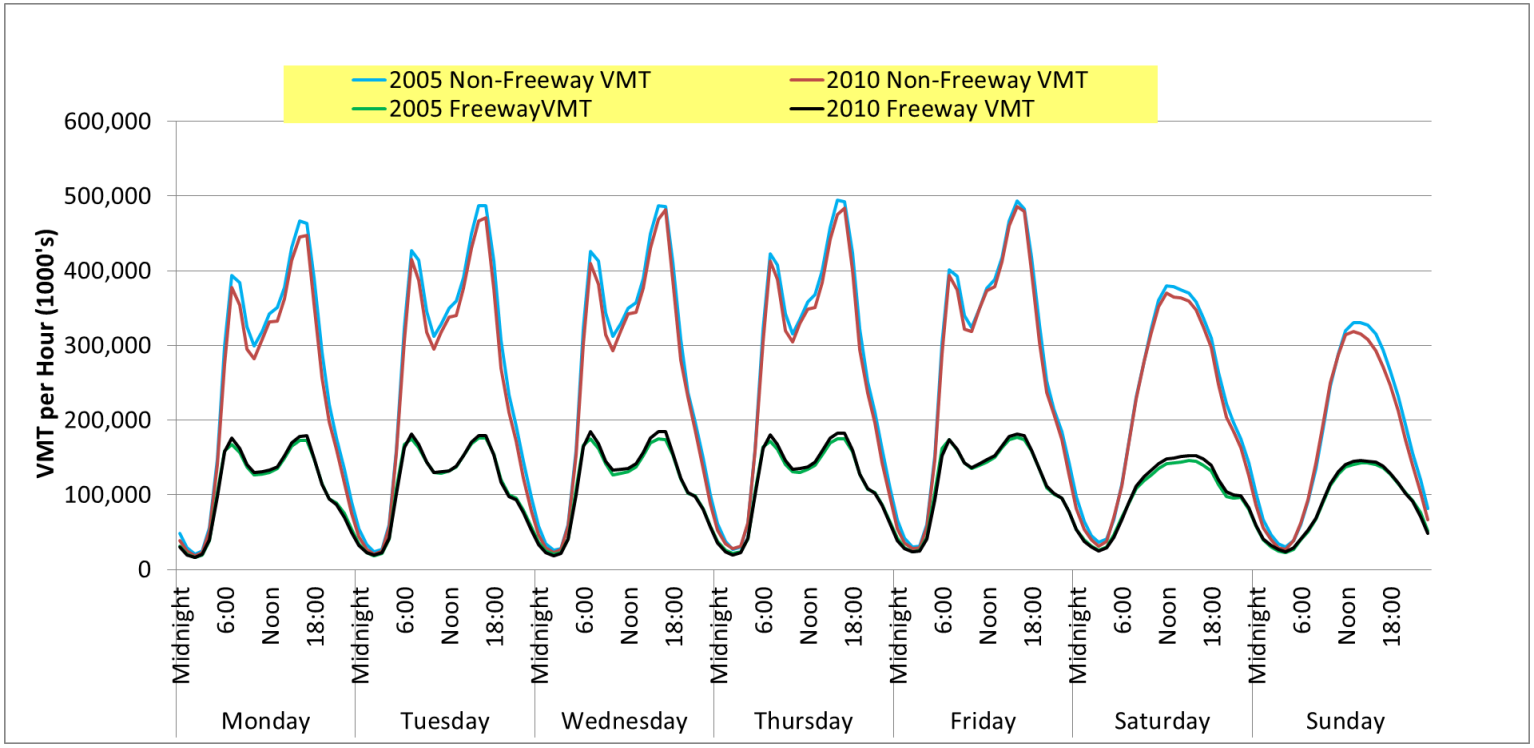
CMAP

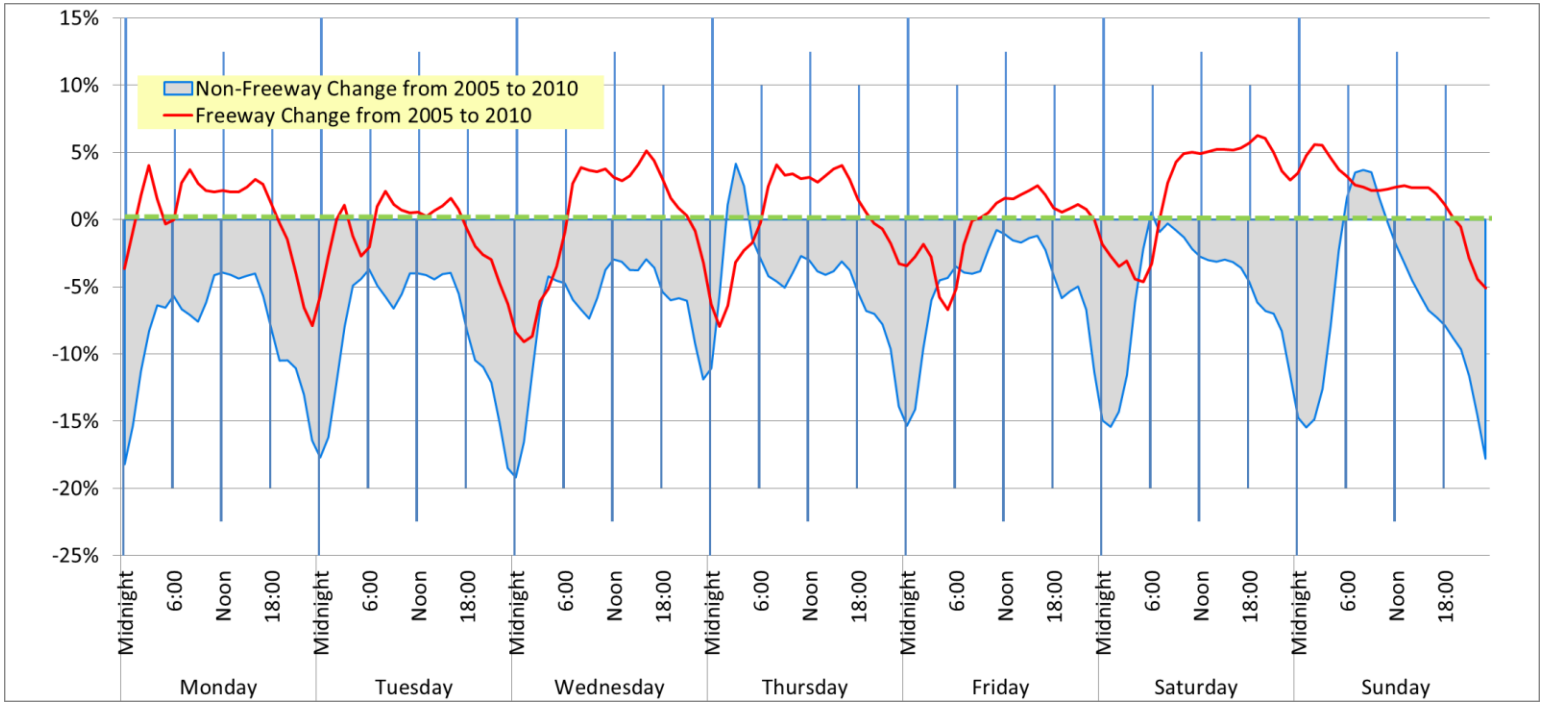
Serious and fatal crashes have decreased much more than the total vehicle miles of travel.



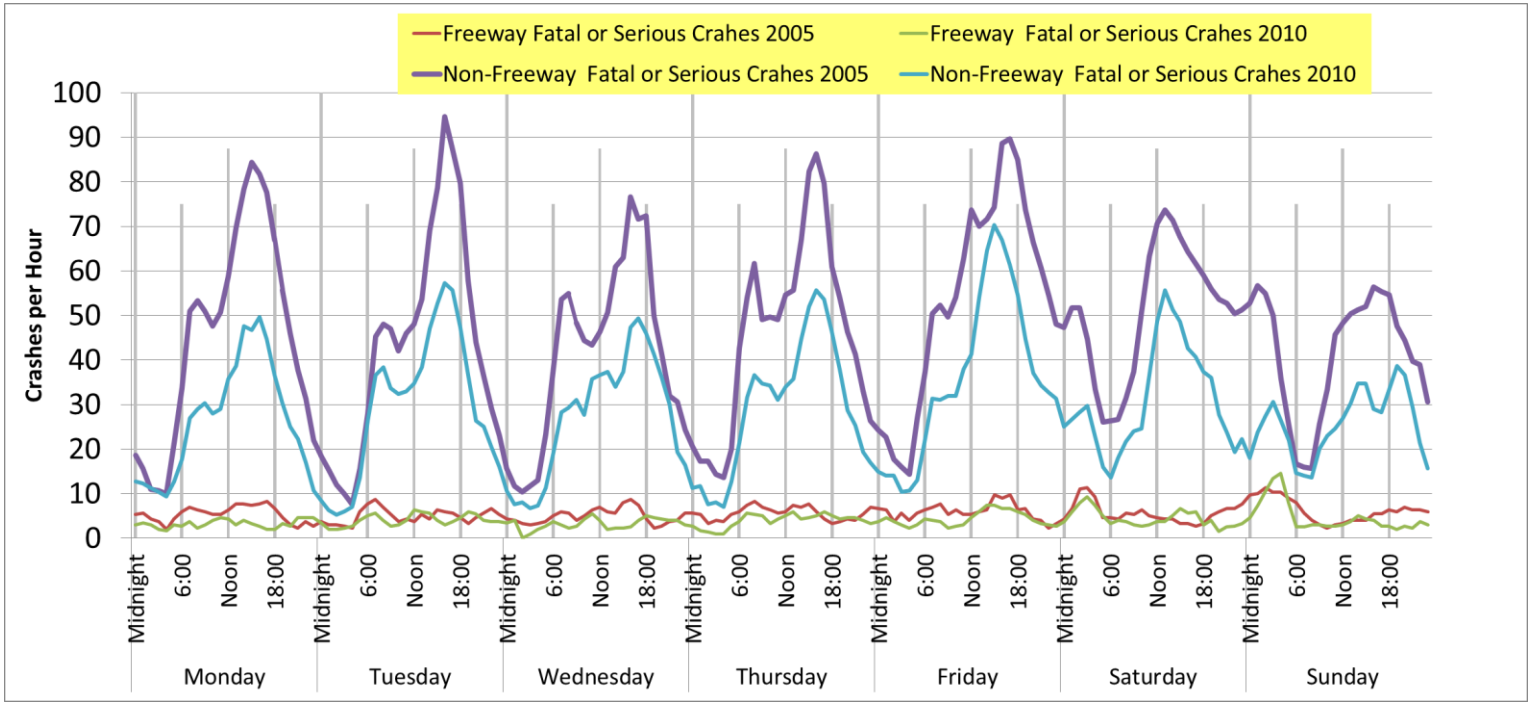
Hourly distribution of vehicle miles of travel throughout the week for 2005 and 2010 on the freeways and non-freeways in the Chicago region.



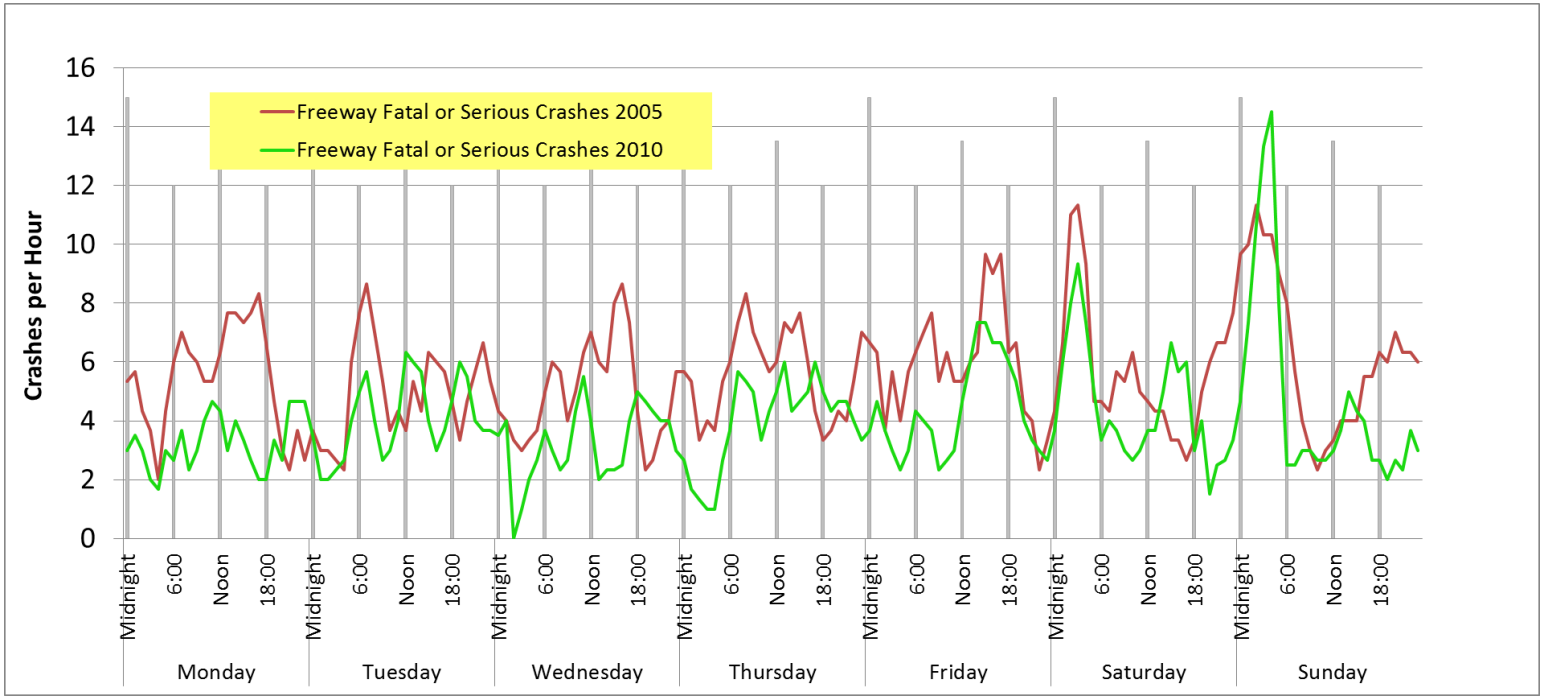
Relative changes in VMT by hour of the week between 2005 and 2010 for the freeways and non-freeways in the Chicago region.



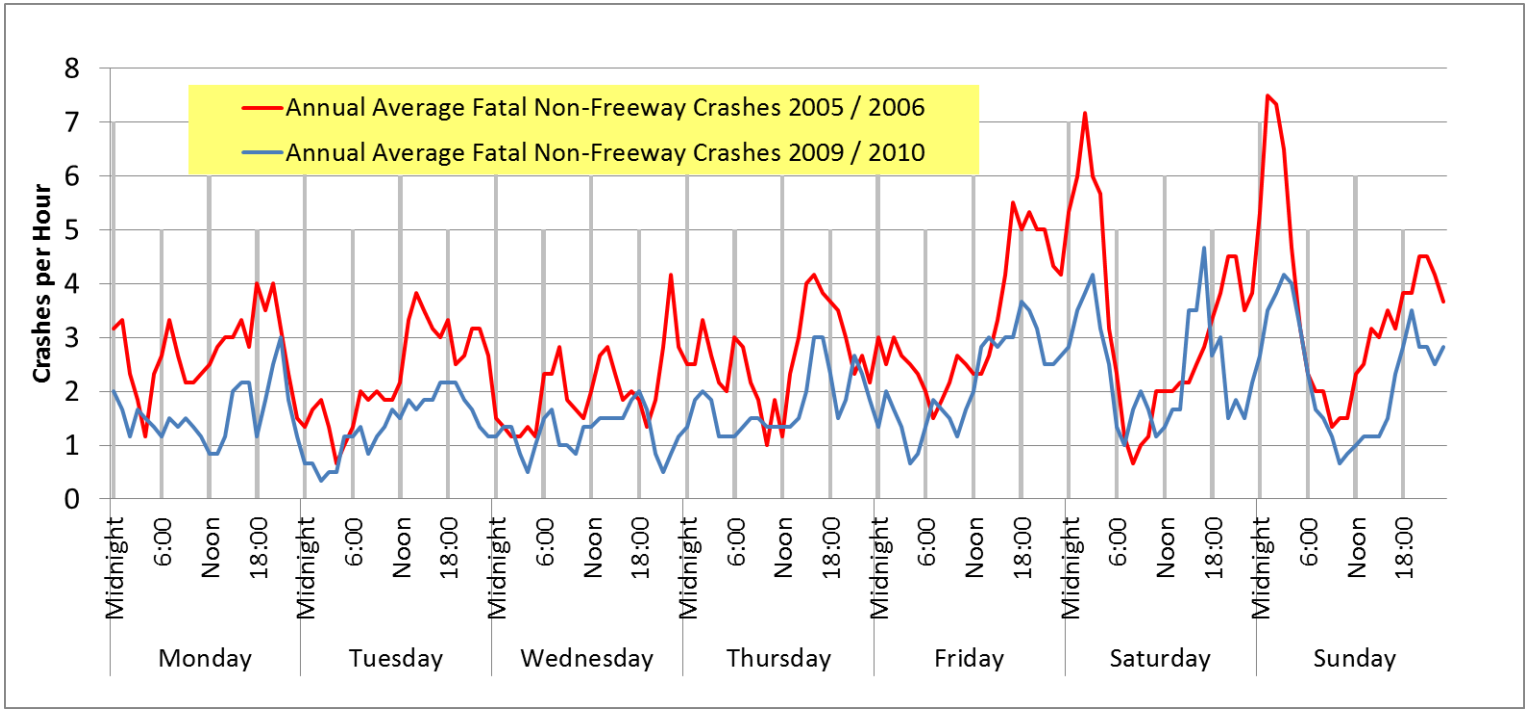
Serious or fatal crashes on the freeways and non-freeway roads in the Chicago region for 2005 and 2010.



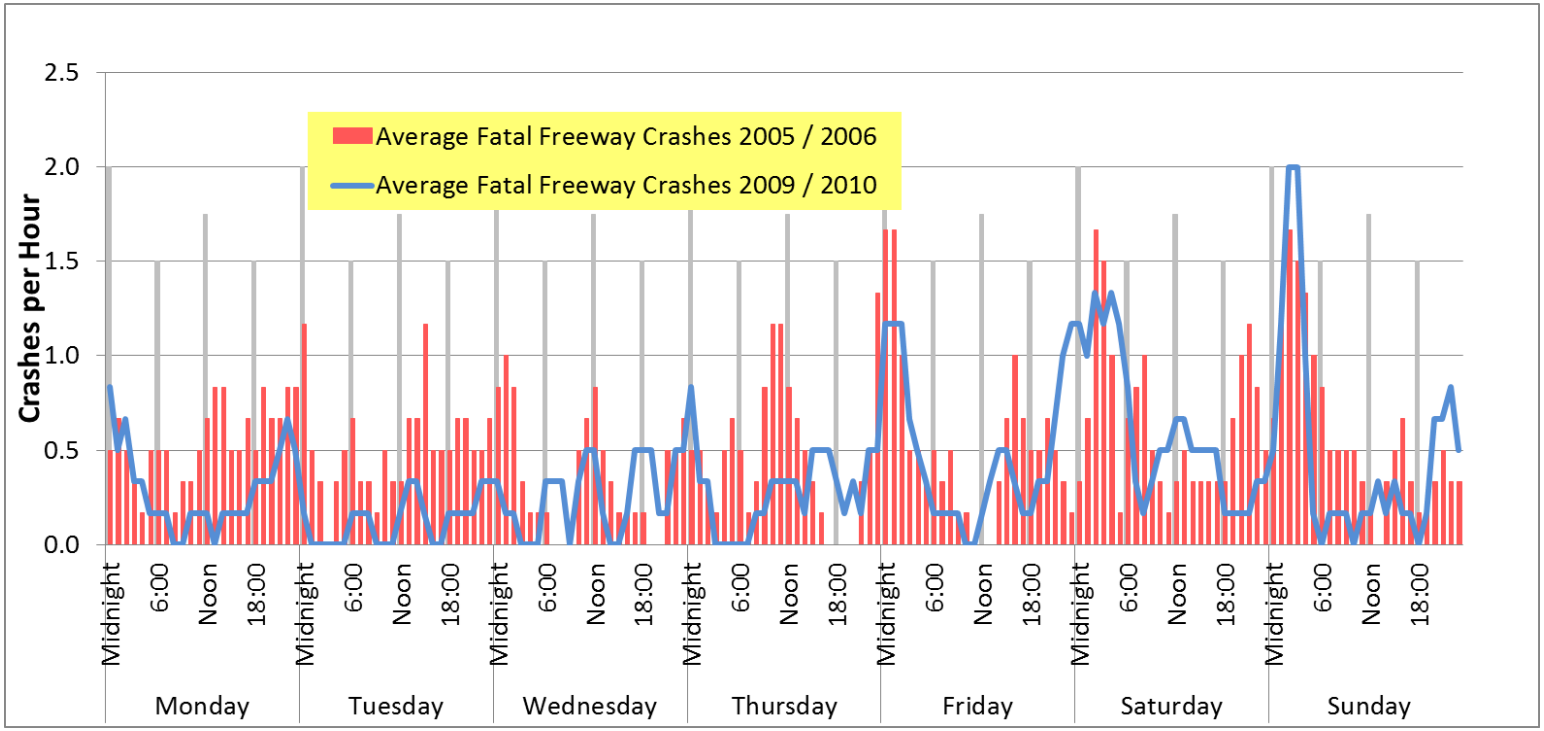
Hourly distribution of serious or fatal crashes throughout the week for 2005 and 2010 on the freeways in the Chicago region.



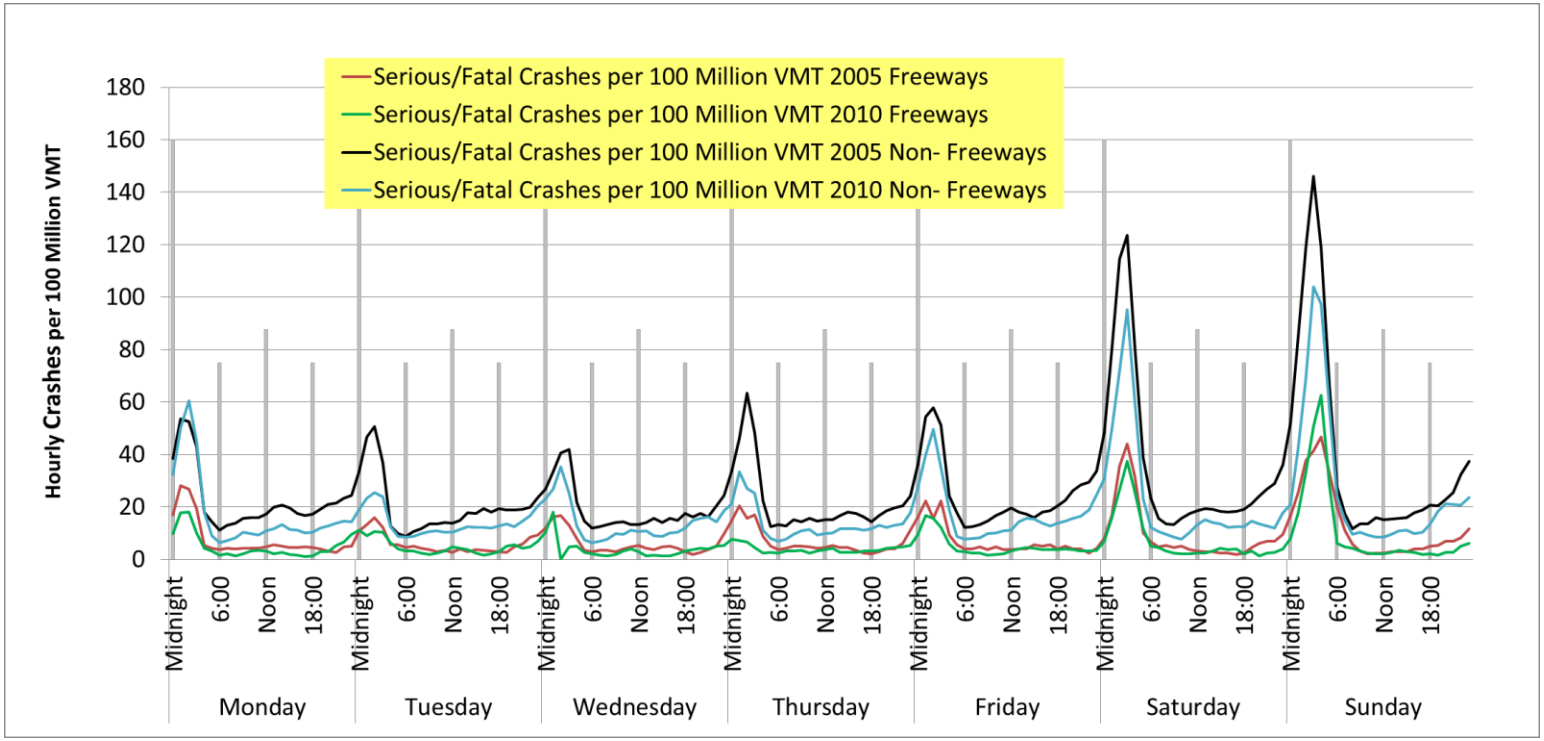
Fatal crashes on the non-freeway roads by hour of the week in the Chicago region (average of 2005 and 2006 compared to the average of 2009 and 2010).



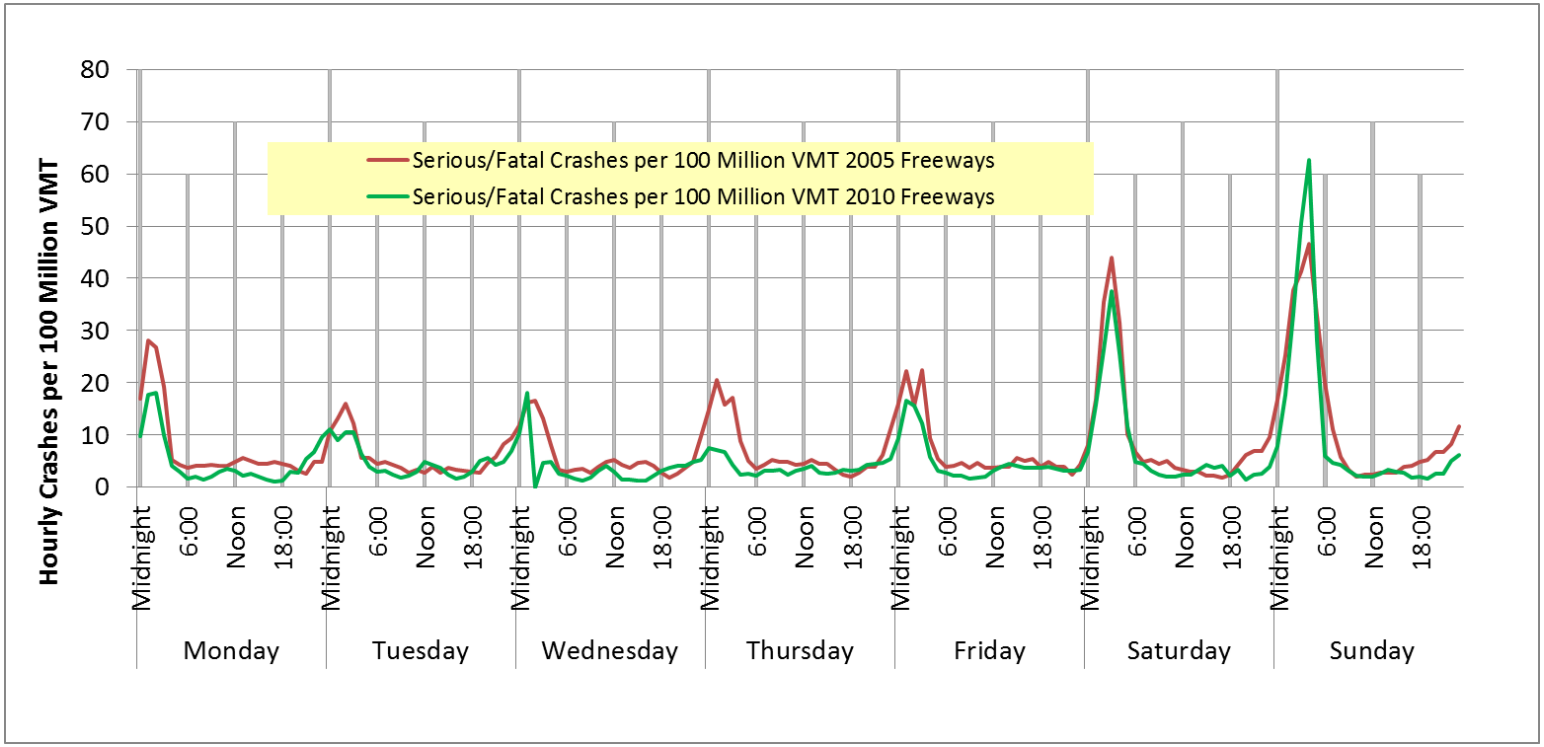
Fatal crashes on the freeways by hour of the week in the Chicago region (average of 2005 and 2006 compared to the average of 2009 and 2010).



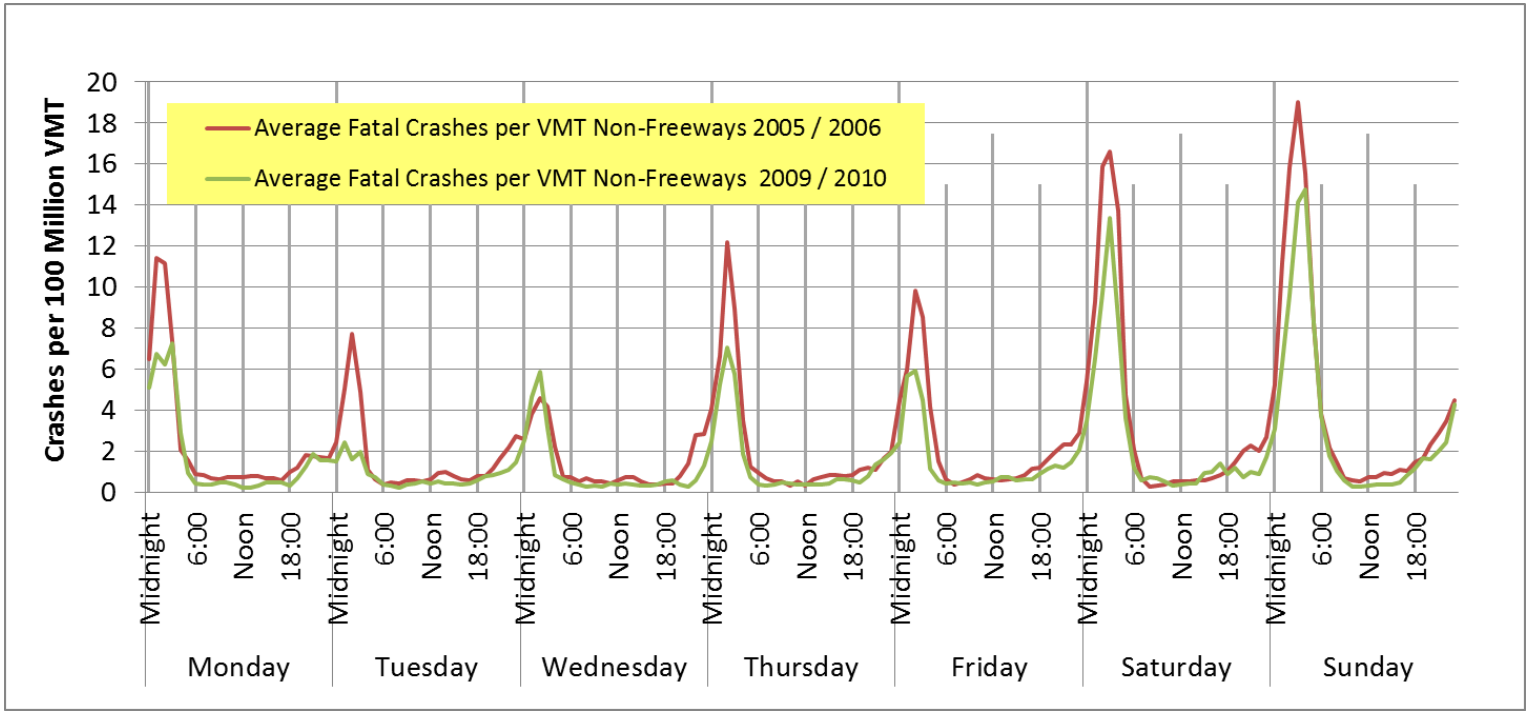
Hourly distribution of serious or fatal crashes per 100,000,000 VMT throughout the week for 2005 and 2010 on the freeways and non-freeways in the Chicago region.



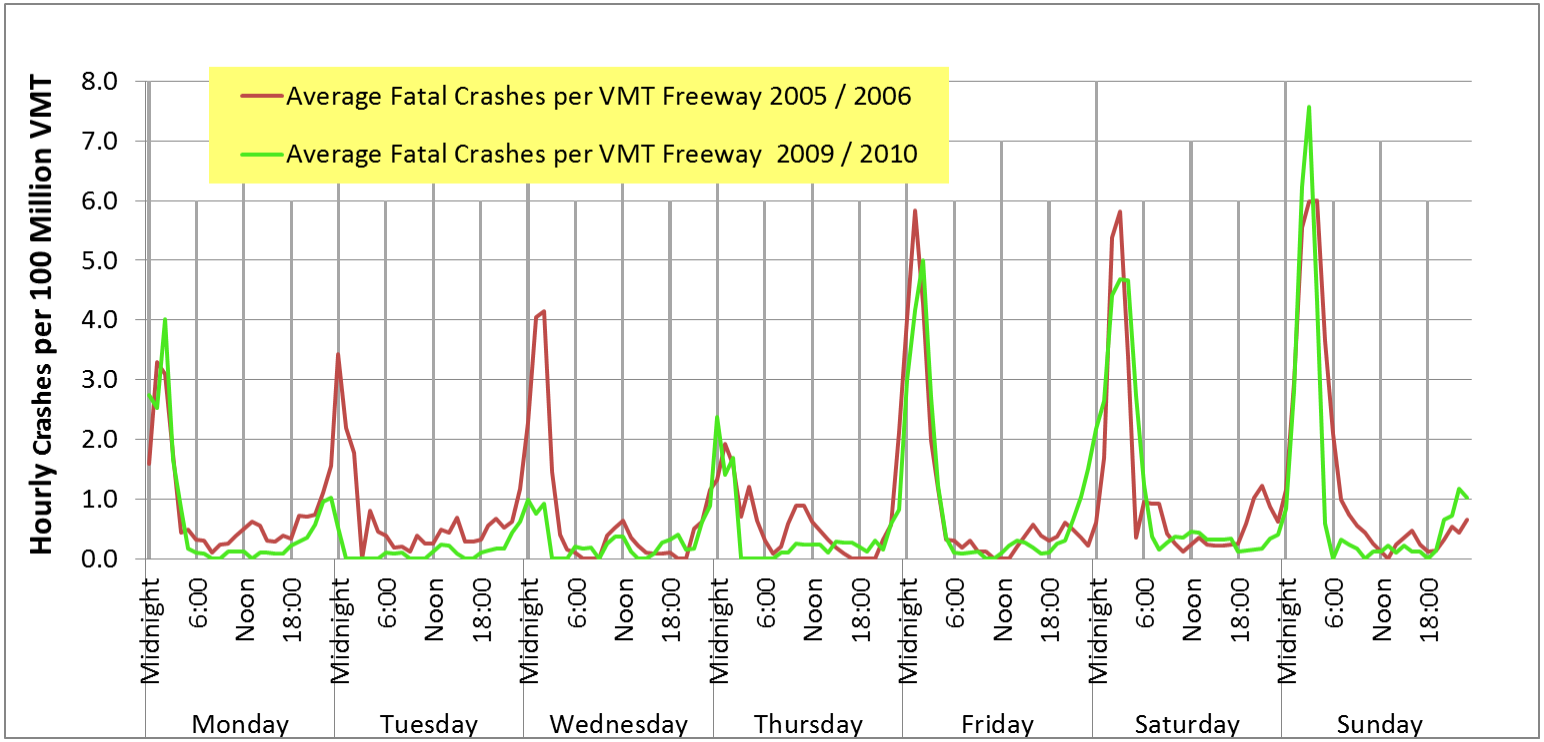
Hourly distribution of serious or fatal crashes per 100,000,000 VMT throughout the week for 2005 and 2010 on the freeways in the Chicago region.



Annual hourly fatal crashes per 100 million VMT on the non-freeways in the Chicago region for 2005/2006 and 2009/2010.



Fatal crashes per 100 million VMT on the freeways in the Chicago region for 2005/2006 and 2009/2010.

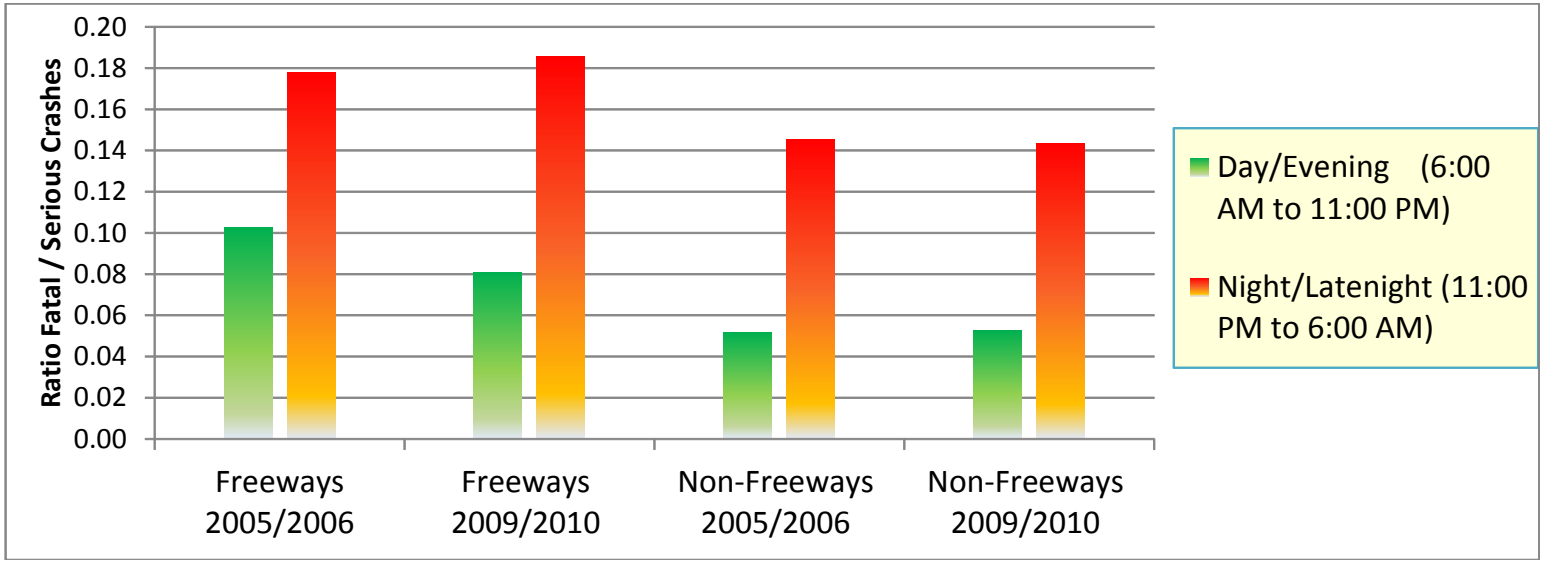


Severity of Late-Night Crashes:

Based on crash rates per VMT, serious crashes are much more likely to occur late at night.

Additionally, each serious crash is much more likely to result in a fatality during the post-midnight hours.

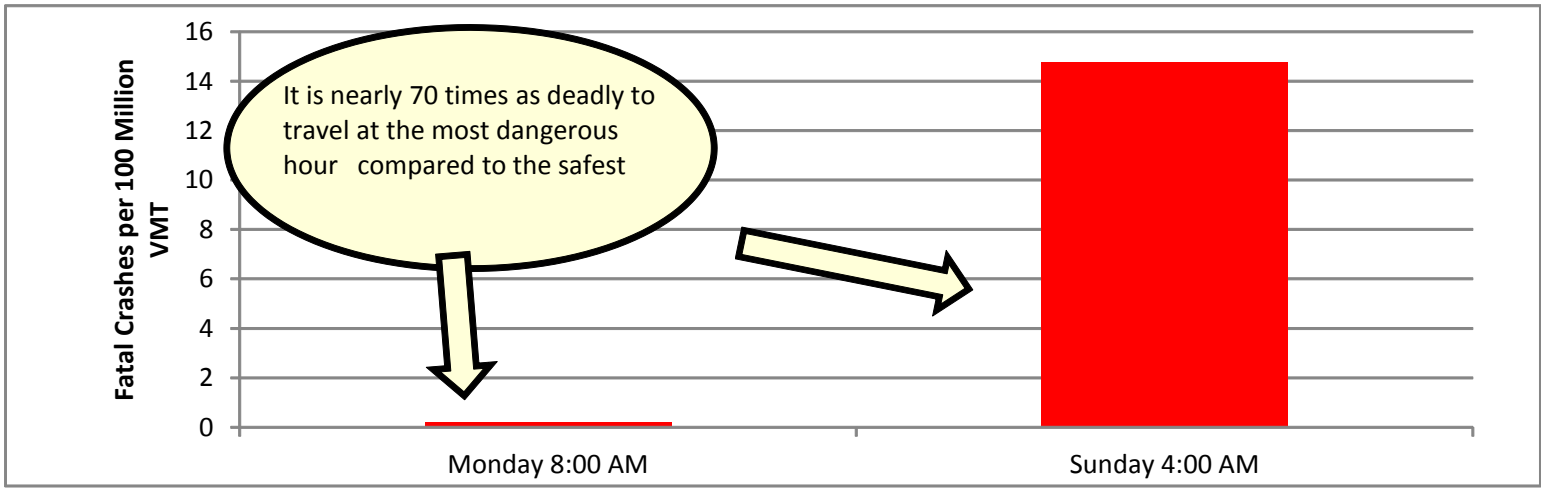
The types of serious crashes that take place late at night are generally more than twice as likely to result in a fatality compared to crashes that occur in the daytime or early evening.



Most travel takes place during the daytime, but the actual number of fatal crashes is the highest in the post midnight periods on the weekends.

The fatal crash rates per VMT are extremely high in the post-midnight hours, especially on the weekends for both the freeways and non-freeways.

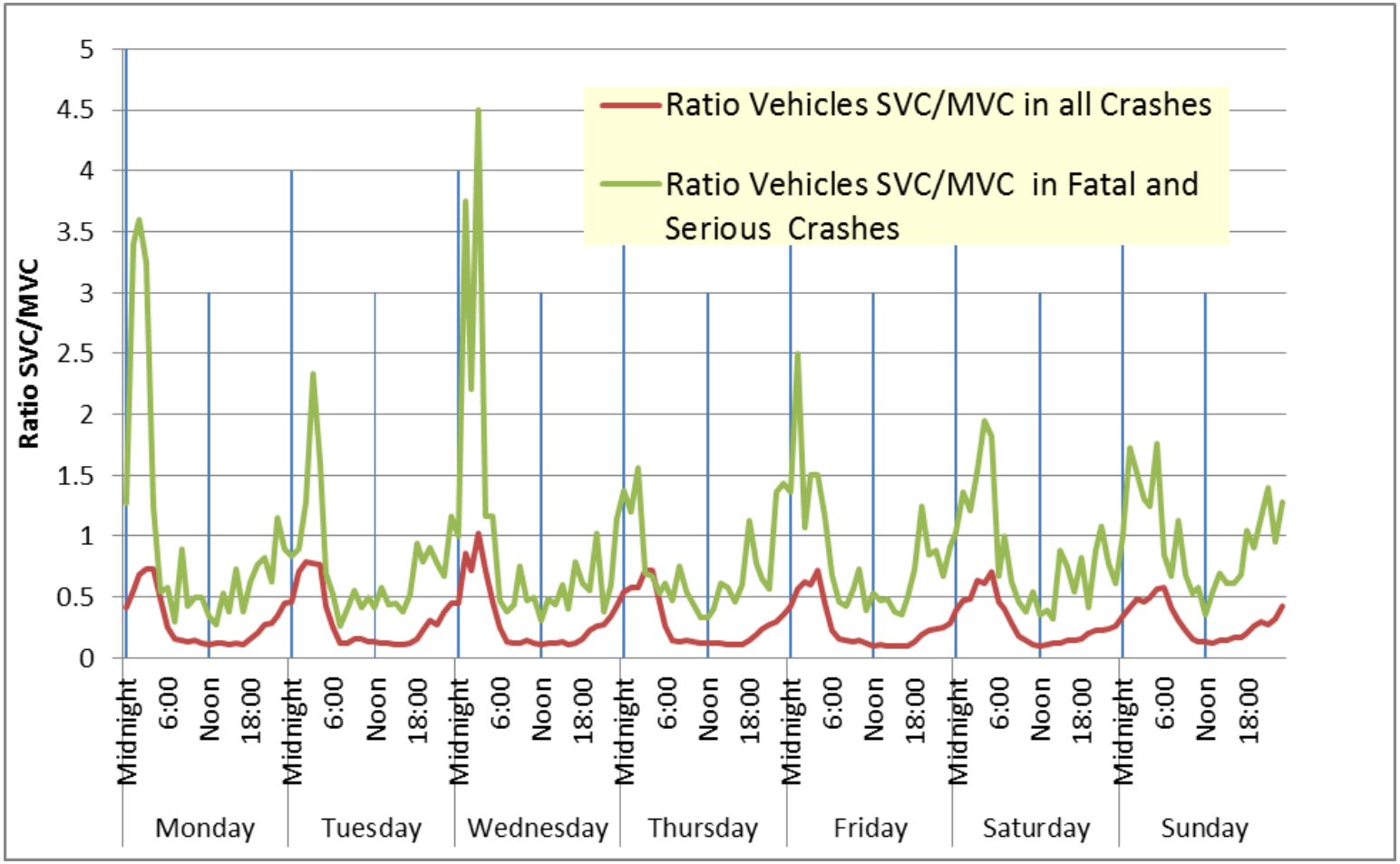
The most dangerous hour on the non-freeways*, based on fatalities per 100 million VMT, was nearly 70 times as dangerous as the safest hour in the week.



*3-point moving average used on the non-freeways. The freeways had too few fatalities for a meaningful comparison.

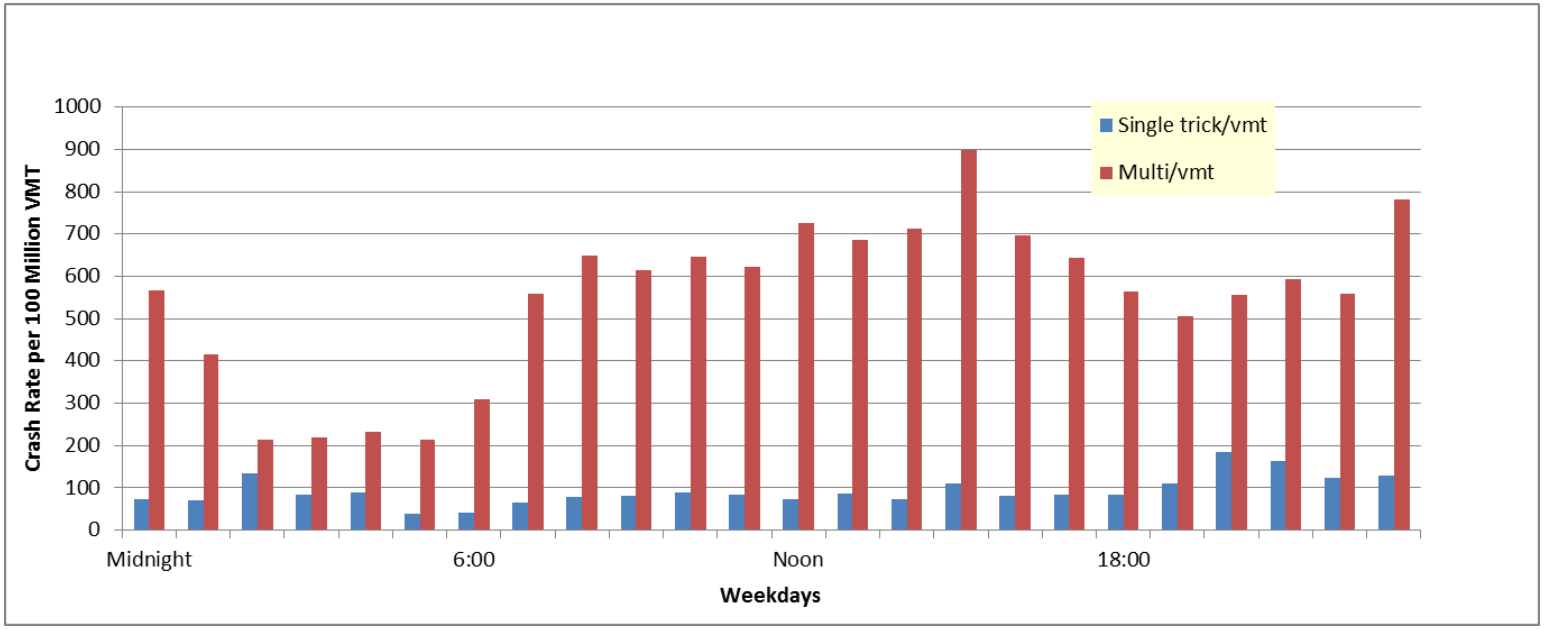
Since the serious crash rate is so much higher in the late-night hours, is it really more dangerous to drive late at night?

The ratio of vehicles in single-vehicle crashes to the number of vehicles in multi-vehicle crashes. For serious crashes, in daytime/high volume periods the are twice as many vehicles in multi vehicles crashes . In the late-night periods there are between1 1/2 to 2 times as many vehicles in single vehicle serious crashes as multi vehicle crashes.

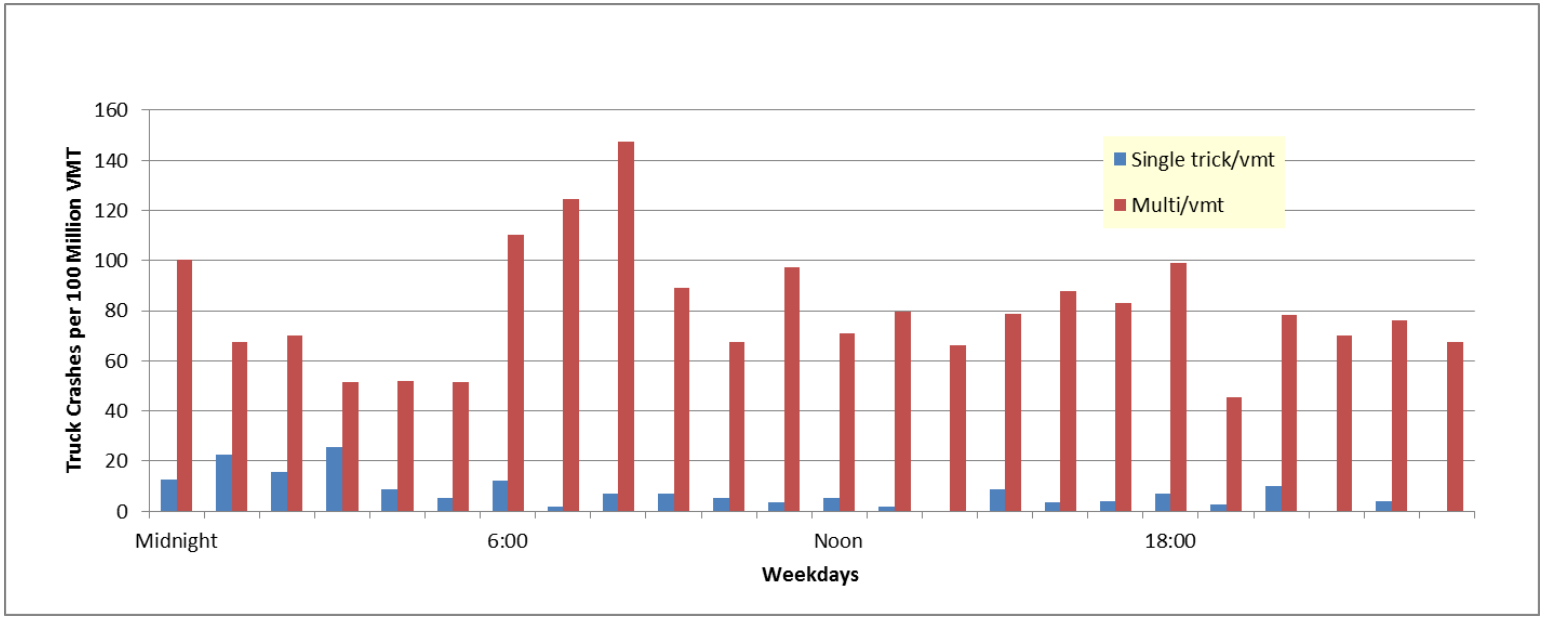


It might ease congestion if truck traffic is diverted to off-peak hours but will this increase the number of crashes that involve trucks?

Non-Freeway Roads: Crash rate per 100 million VMT for trucks in single-vehicle and multi-vehicle crashes. Crashes by hour of the day, weekdays only, 2010 data.



Tollway Roads: Crash rate per 100 million VMT for trucks in single-vehicle and multi-vehicle crashes. Crashes by hour of the day, weekdays only, 2010 data.



Thank You

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