

Rear-end and Work Zone Crashes

Rear-end and work zone related crashes are assumed to be primarily congestion-related. Rear end crashes are also the third most common crash type in serious injury crashes and the primary crash type for work zone related crashes.

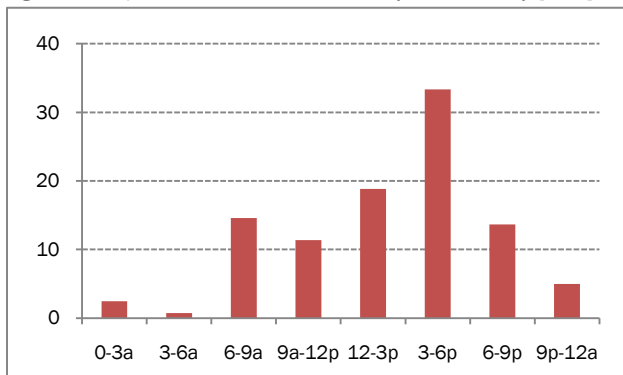
Rear-end Crashes

Over one-third of all crashes that occurred during the years 2005 to 2007 were rear-end crashes. Of these 40,144 crashes, 11 ended fatally and 11,074 in injuries.

Over the 3-year period, the number of rear-end crashes steadily increased by nearly 0.3 percent. Overall, over 70 percent of all rear-end crashes took place during the day and during dry road conditions. Only 3 percent were work zone-related, but 47 percent were intersection-related.

Figure 1 illustrates that 78 percent occurred between 6 a.m. and 6 p.m., with a 33 percent peak between 3 p.m. and 6 p.m.

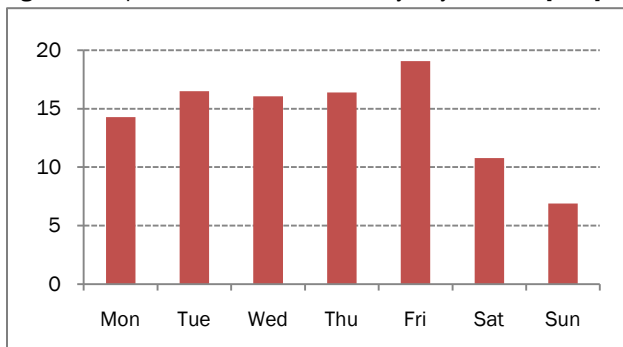
Figure 1: Reported Rear-end Crashes by Time of Day [in %]



Source: MORPC Crash Data 2005-2007; N=40,144

The majority (over 80 percent) of rear-end crashes occurred in urban areas and during the work week (see Figure 2)..

Figure 2: Reported Rear-end Crashes by Day of Week [in %]



Source: MOPRC Crash Data 2005-2007; N=40,144

As one would expect, the primary contributing factor to these crashes was “following too closely” (over 40 percent).

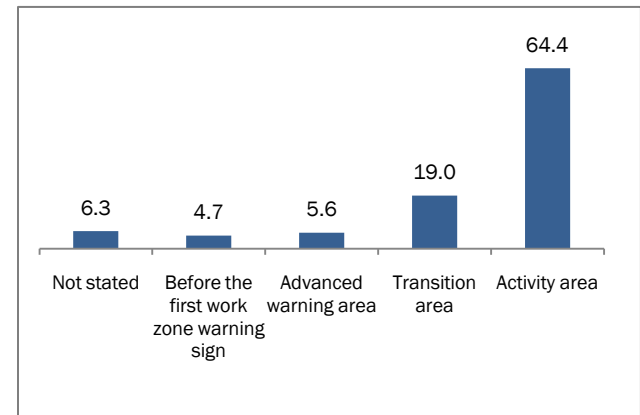
Work Zone Crashes

Within MORPC’s transportation planning area, there were 2,306 work zone related crashes during the 3-year period. One-fourth of these crashes ended in some type of injury, and 6 were fatal.

Although work zone related crashes accounted for only 1.9 percent of all crashes, they experienced a drastic decrease of more than 20 percent from 870 crashes in 2005 to 682 crashes in 2007.

Figure 3 illustrates that the majority of work zone related crashes occurred within the activity area, followed by the transition area and the advanced warning area.

Figure 3: Work Zone-related Crashes by Location [in %]



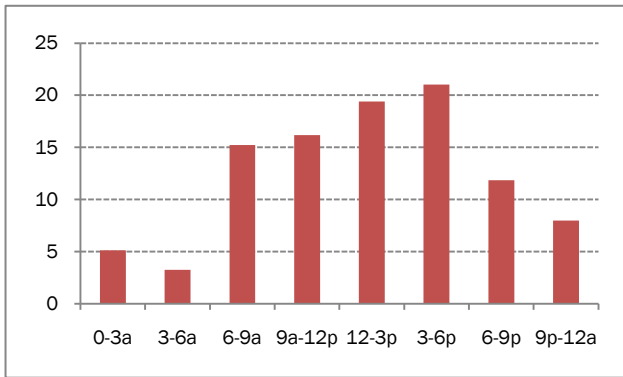
Source: MORPC Crash Data 2005-2007; N=2,304

Lane closure (32.1 percent) was the primary type of work zone where the crash occurred, followed by on shoulder or on median work (31.9 percent) and lane shift (15 percent).

In regard to time of day, the majority of work zone-related crashes occurred during the day between 6 a.m. and 6 p.m. (see Figure 4).

As stated above, most work zone-related crashes occurred during the daytime but also during dry road conditions (79 percent). Over 30 percent of the crashes were intersection-related.

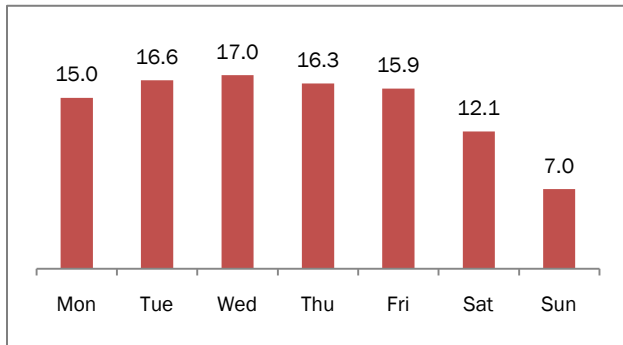
Figure 4: Reported Work Zone-Related Crashes by Time of Day [in %]



Source: MORPC Crash Data 2005-2007; N=2,306

Similar to rear-end crashes, most work zone-related crashes (81 percent) occurred during the work week (see Figure 5).

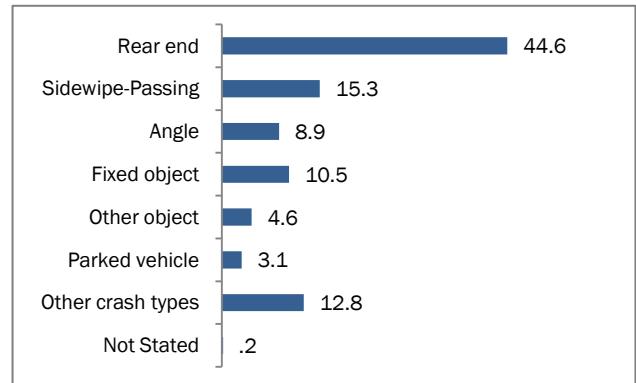
Figure 5: Reported Work Zone-related Crashes by Day of Week [in %]



Source: MORPC Crash Data 2005-2007; N=2,306

Figure 6 illustrates that rear-end crashes were the most common crash type in work zones. These statistics are followed by sideswipe passing, angle, and hitting some sort of fixed object, including a parked vehicle.

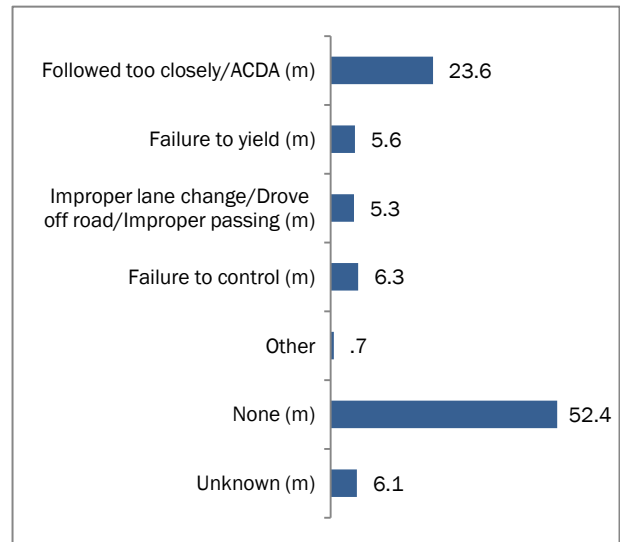
Figure 6: Reported Work Zone-related Crashes by Crash Type [in %]



Source: MORPC Crash Data 2005-2007; N=2,306

As Figure 7 illustrates, “following too closely” was by far the most common factor that contributed to the crash. Other contributing factors were related to failure to yield, driving off the road, or failure to control.

Figure 7: Reported Work Zone-related Crashes by Contributing Factors [in %]



Source: MORPC Crash Data 2005-2007; N=4,145

