

Ran off road - right, left, or straight	5
Driving too fast for conditions	5
Crossed centerline, traveling wrong way/ wrong side of road	4
Followed too close	4
All other causes or cause unknown	11

Of the 47 animal caused crashes, 46 were PDO and 1 was minor injury. The animal crashes are concentrated in 2 locations: near 260<sup>th</sup> Street & 265<sup>th</sup> Street and near 290<sup>th</sup> Street & Sanford Avenue. Some clearing and grubbing (within the right of way only) will be performed in these areas, which may help increase visibility of deer and reduce deer crashes in these areas. Placing deer fence near 290<sup>th</sup> Street was evaluated by the district, but is not feasible.

There have been 2 recent cross centerline fatal crashes on IA 14 that were not included in the crash data above. The crashes occurred on August 31, 2012 and on September 24, 2012.

This project route was listed in the “2010 5 Percent Most Severe Safety Needs Report” under 2 categories: Highest Multiple Vehicle Cross Centerline (MVCC) Crash Density Corridors for Rural Primary Two-lane (IA 14 from MP 91.9 to MP 97.3) and Highest Fatal & Major Injury Alcohol & Drug-related Crash Density Corridors on Rural State Highways (IA 14 in Marshall County).

Centerline rumble strips will be utilized on this project since the route is on the “MVCC Crash Density Corridors for Rural Primary Two-lane” list and most of this route has an AADT of over 3,000 vehicles per day. The centerline rumble strips will be added from 0.3 mile north of 315<sup>th</sup> Street to the beginning of the 4 lane section in Marshalltown (MP 91.9 to 98.57).

The intersection crash rates were evaluated for the five-year period from January 1, 2007 through December 31, 2011. The statewide average crash rates for these intersections (rural primary intersections with secondary road) are between 0.8 and 1.2 crashes per million entering vehicles (MEV). All of the intersections were evaluated (the intersections not listed had no crashes during the five-year period). These intersection crash rates were well below the statewide crash rates.