

# Effect of road segment characteristics on the incidence of farm vehicle-related crashes

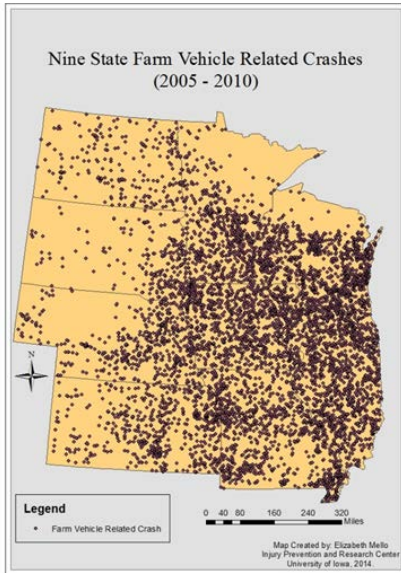


Figure 1. Geospatial representation of FVCs in nine states from 2005-2010 (n=6848)

## The Problem

- Most occupational injuries in agriculture are attributed to motor vehicle crashes
- Large slow-moving farm vehicles on high speed roads could be hazardous
- We aimed to assess if the sinuosity of road segments (straight or not) and gradient (leveled or not) have any association with farm-vehicle related crashes (FVC)
- Farm vehicle-related crashes (FVC) from nine Midwestern States, 2005-2010 – 6848 crashes with x and y coordinates, and road segment data was collected from Environmental Systems Research Institute

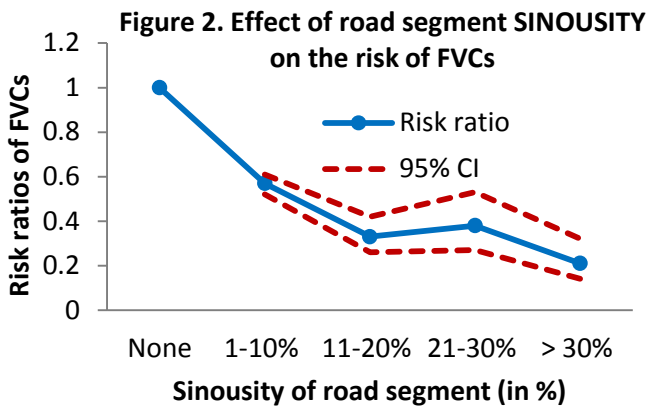
## The Findings

- **The risk of FVCs decreased with increased road segment curviness (figure 2).**

As compared to a straight road segment, the risk of FVC on a road segment with 30% or more curviness was reduced by a fifth

- **The risk of FVCs decreased with increased road segments gradient**

**(figure 3).** As compared to a flat road segment, the risk of FVC on a road segment with more than 10% gradient is 40% less



- Contrary to general assumptions curvy roads and roads with rolling terrain seem to be associated with fewer FVCs. This may be because of the warning signs and careful driver behavior

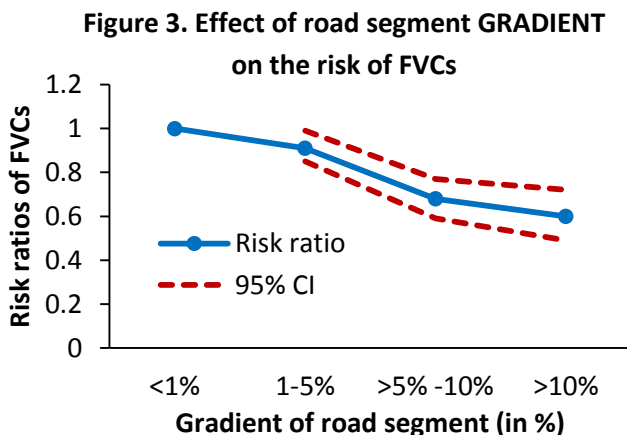
### Safety tips

#### For drivers

Be careful of slow moving farm vehicles on all types of roads. If you can see a farm vehicle on a straight road slow down even if it appears far off because you will approach them very quickly

#### For farm-vehicle operators

Use proper lighting and marking procedures to make other drivers aware that you are operating a slow-moving vehicle.



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