

Cultivating Caution

Sharing the Road



Objectives

- Describe farm vehicle crash data for Illinois
- Present real-life case studies of crashes involving farm vehicles on roadways
- Crash prevention and safety tips for farm vehicle and motor vehicle drivers



Introduction

Agriculture-related roadway incidents are a problem

- 1/3 of occupational injuries to agricultural workers in US during 2022
- High fatality rates
 - Five times greater than non-agriculture crashes
 - Injuries tend to be more severe



Introduction

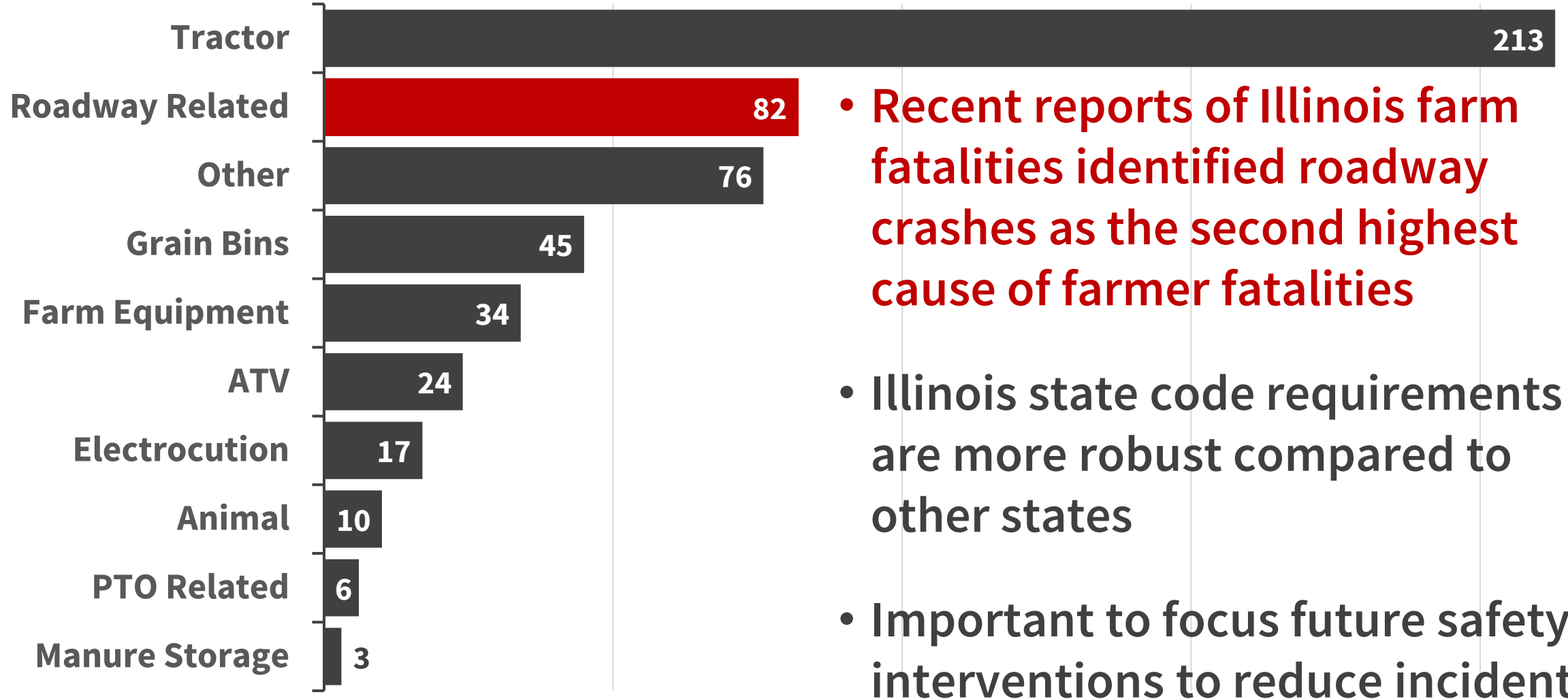
Why are farm vehicle crashes occurring?

- Vehicle Miles Travelled (VMT)
- Increasing size
- Speed differentials
- Increasing Urban Sprawl



Roadway Incidents in Illinois

Overall farm fatalities by incident type in Illinois from 1999 to 2019. Li et al, 2022



IDOT Data

Illinois Department of Transportation (IDOT) crash dataset

- Crash data gathered through police reports
- Wide range of data collected
 - Vehicles involved
 - Causes and severity of the crashes
 - Environmental conditions
 - Location of crashes
 - Contributing driver actions
 - And more



Illinois Department
of Transportation

IDOT Data

- Farm vehicles

- A vehicle that was designed and adapted exclusively for agricultural, horticultural or livestock raising operations.

- Farm Crashes

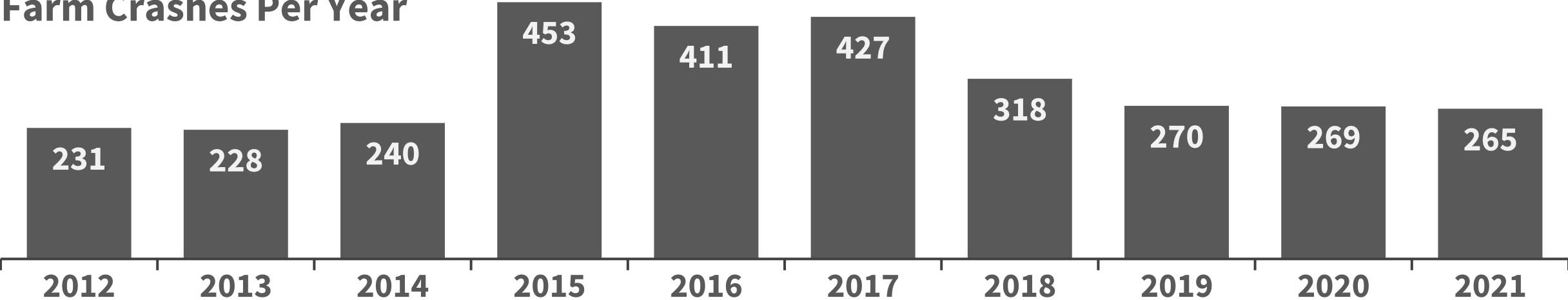
- Incidents that included at least one farm vehicle
- May include non-farm vehicles
- Farm vehicles excluded pick-up trucks, trailers and ATV/UTVs

- Included crashes from 2012-2021

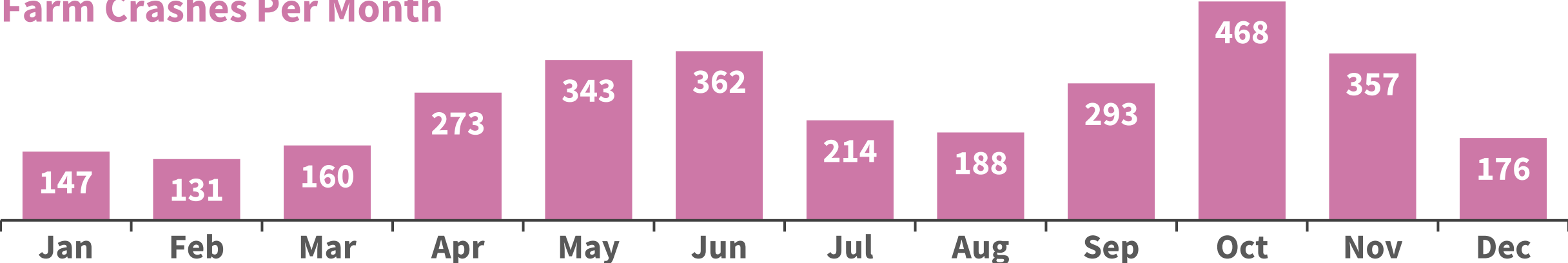
Crash Results

Occurring most frequently during the work week, the 3,112 crashes involved a total of 6,414 vehicles, consisting of 3,275 farm vehicles and 3,139 non-farm vehicles.

Farm Crashes Per Year

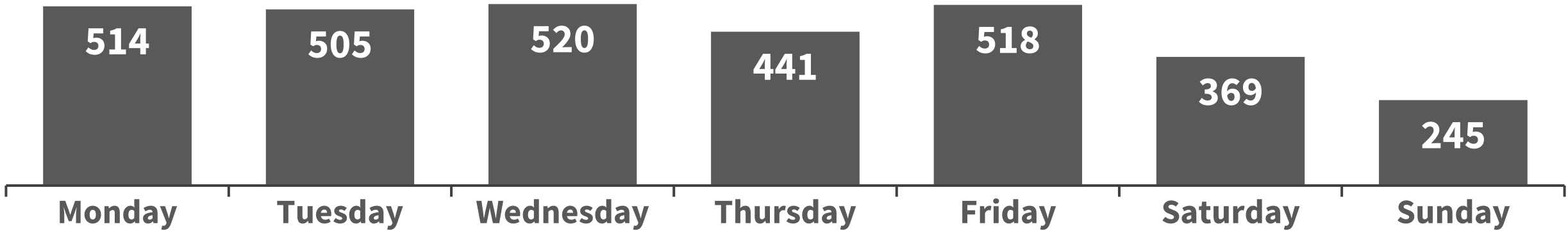


Farm Crashes Per Month

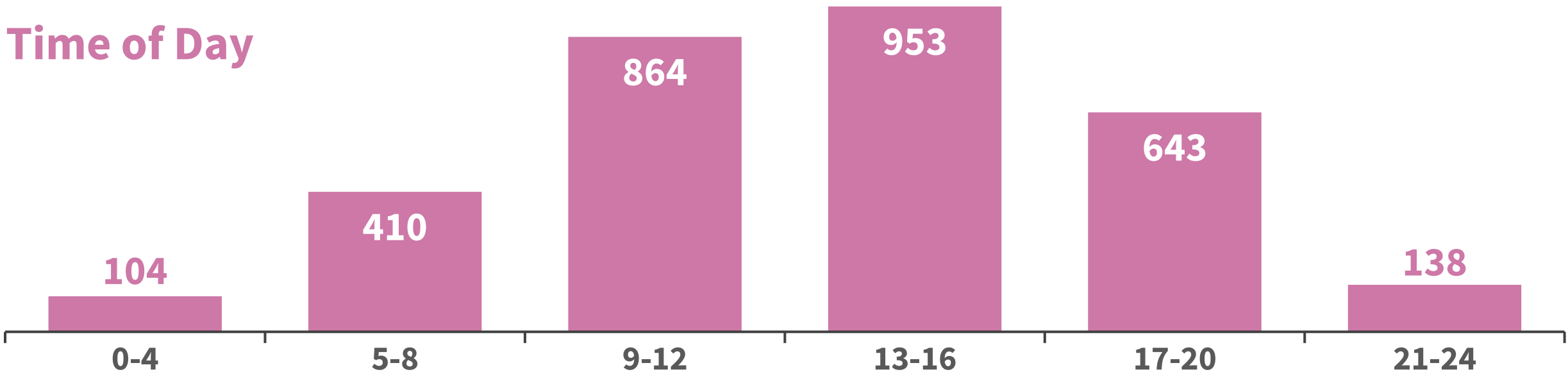


Day of Week and Time of Day Results

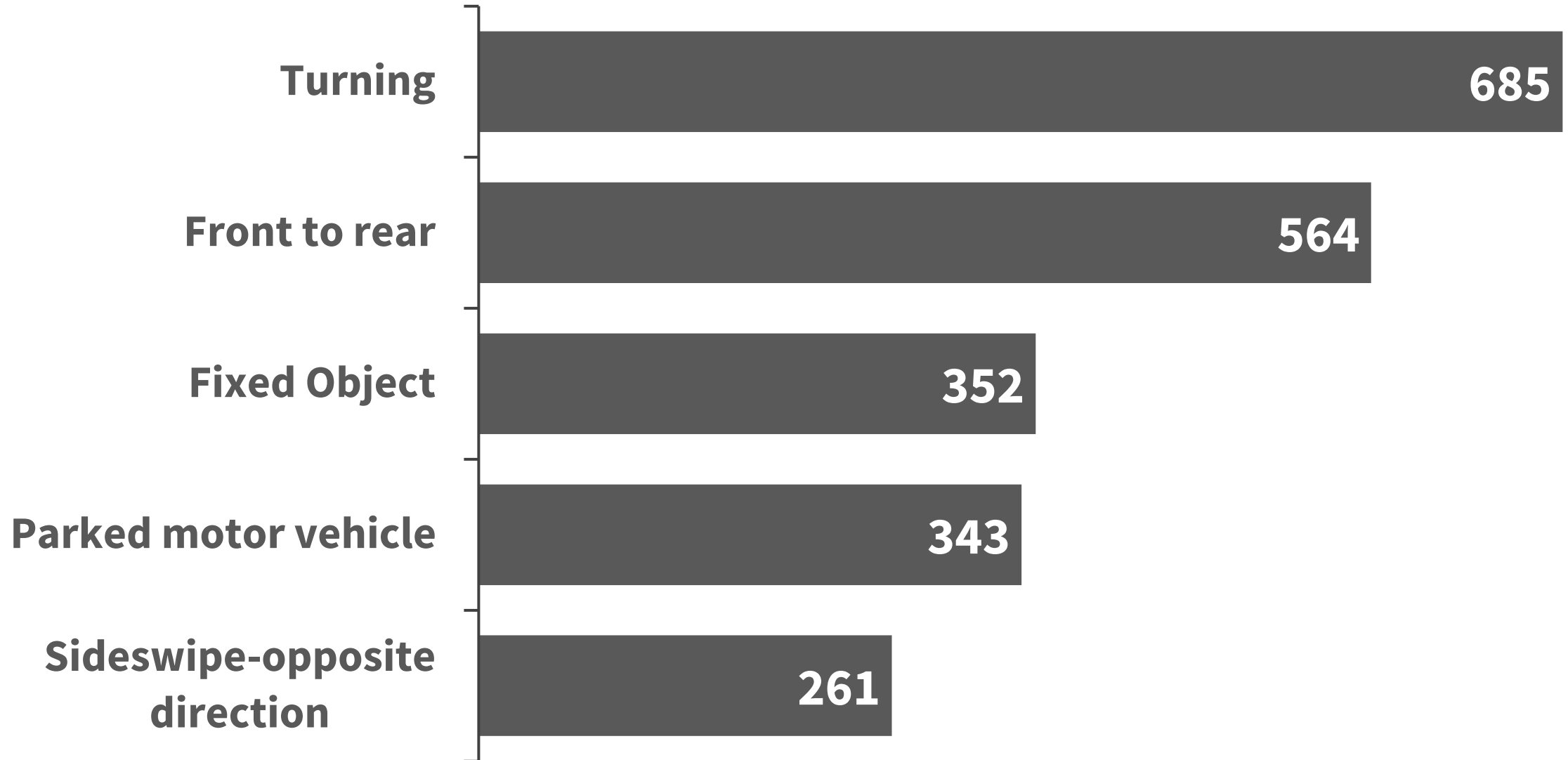
Day of Week



Time of Day



Most Prevalent Collision Type Results



Most Significant Causes of Turning Collisions

Improper overtaking/passing

270 39%

**Failing to yield
to right-of-way**

117 17%

**Failing to
reduce speed
to avoid crash**

72 11%

Case studies – Illinois Clipping

An older male was operating a tractor on a state highway in the late afternoon. The male was attempting to turn off the roadway while there was a line of motor vehicles behind him.

While the tractor was turning, a motor vehicle behind attempted to pass around a car and the tractor.

The passing vehicle struck the tractor, resulting in life-threatening injuries for the tractor operator. July 2021

Slow Moving Vehicle (SMV)



They are going Slow, so I can pass them!

Bill's personal experience with Left Turns



Recommendation for left turns

Well in advance of making a turn, check traffic both on coming and behind you. Make sure the other drivers understand what is going to happen.

If a long line of traffic develops behind you, pick a **safe location** with plenty of room to legally pass and pull over and let them by.

Most Significant Causes of 564 Rear-end Collisions

Failing to reduce speed to avoid crash

253
45%

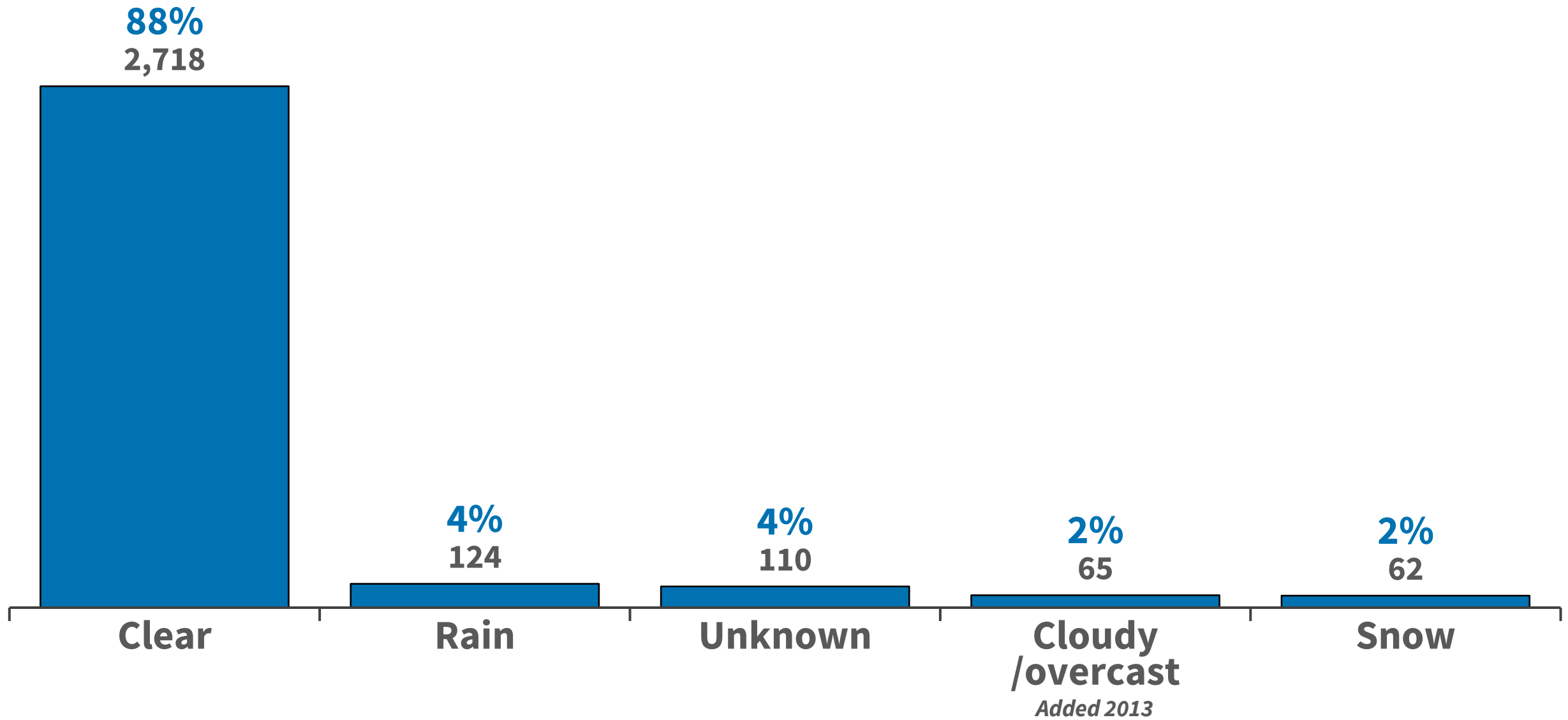
Following
too closely

49
9%

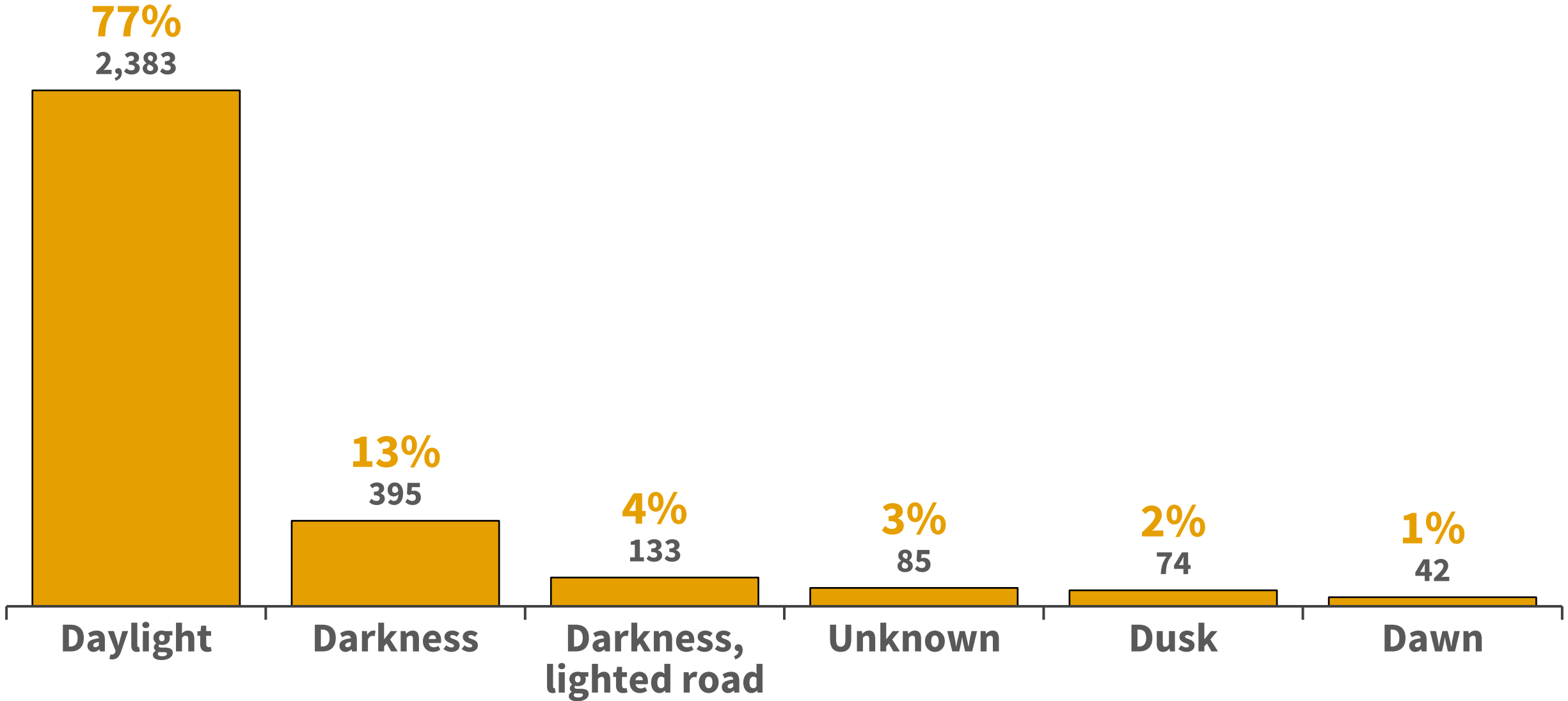
Not
applicable

33
6%

Weather Condition Results



Light Condition Results



Case studies – Illinois Clipping

Around 6pm, a semi was travelling on a state road in a rural area. The semi failed to slow down and rearended a farm tractor as it was moving a hay bale.

The tractor was launched off the road, causing it to overturn in the process. Both drivers were taken to a local hospital for undisclosed injuries. Sept 2021

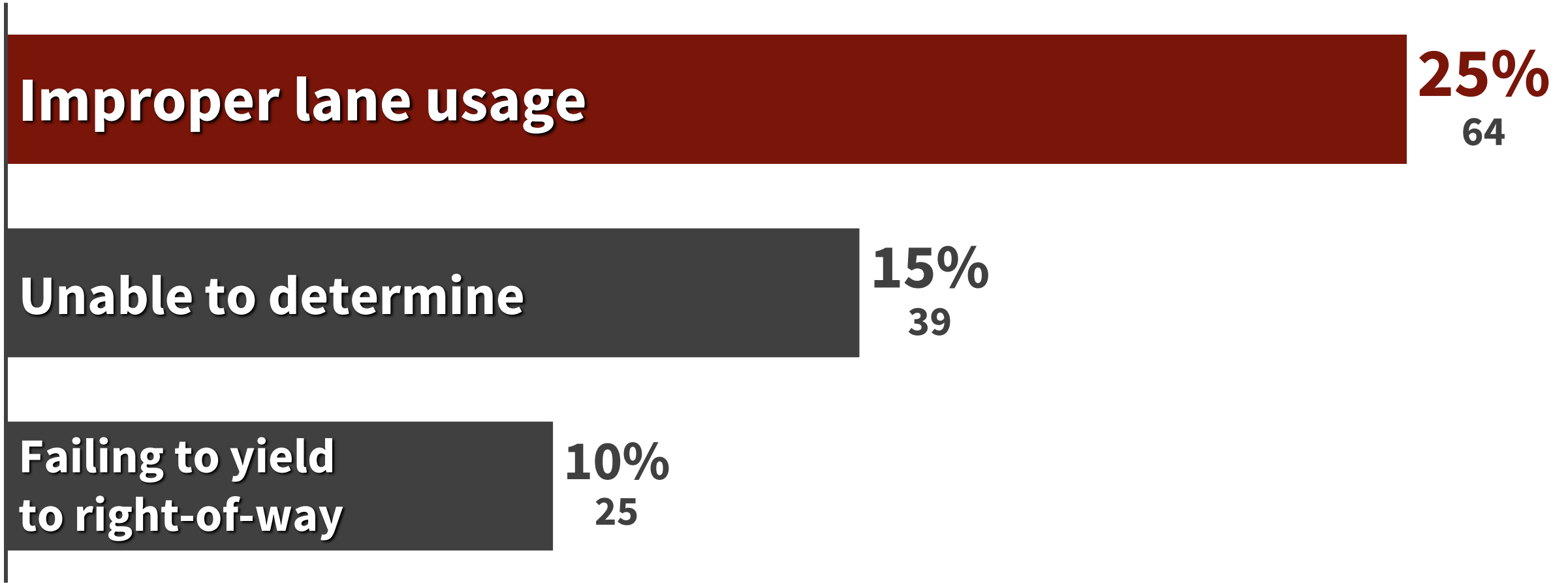
Causes

- Usually occur during Dusk / Dawn, harder to see
- Distracted Driving
- Dimmed lights (covered by dust)

Recommendations

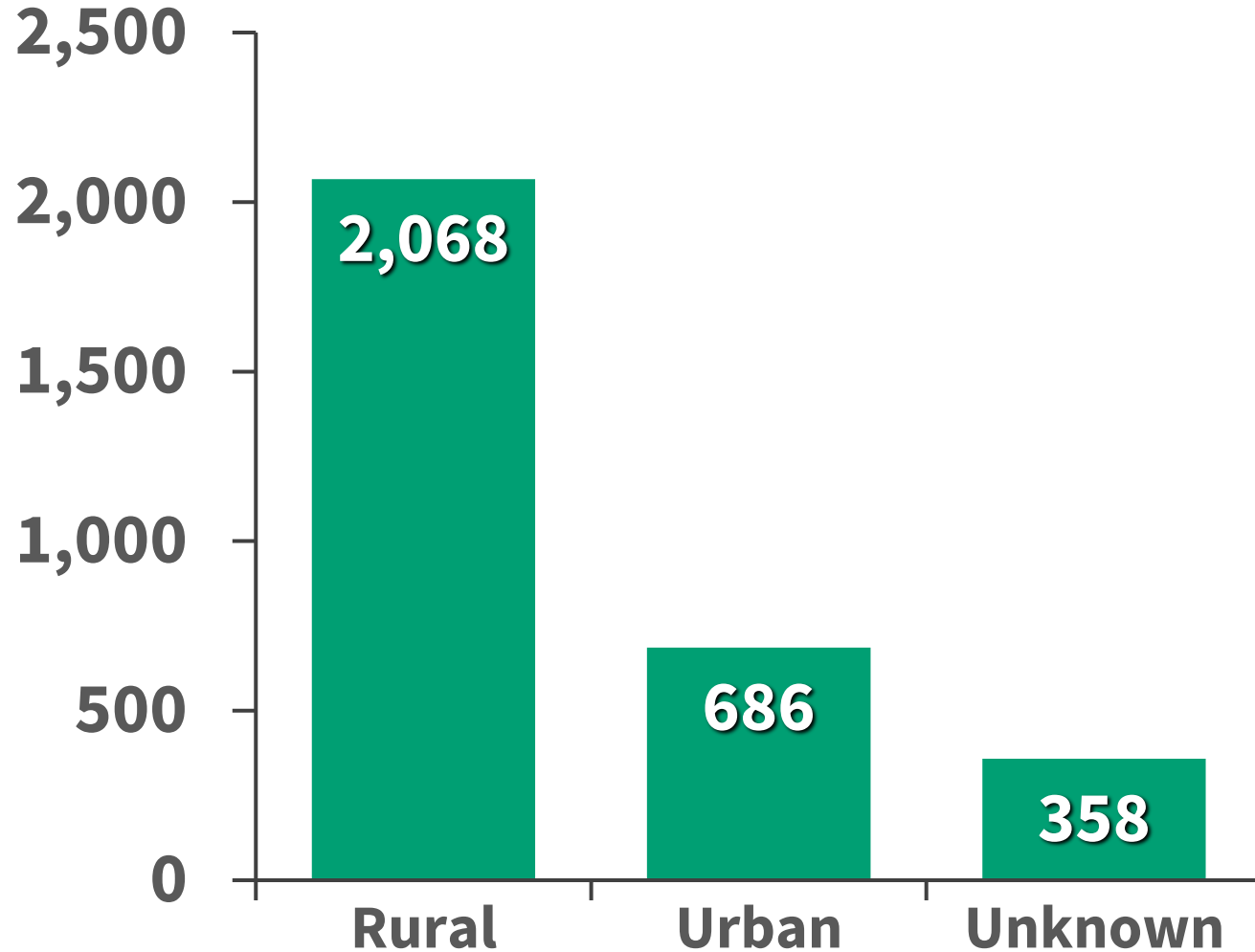
- Make sure all equipment have a visible SMV sign
- Make sure all your lighting, both road lighting and warning lights are working and visible
- All lights are clean and not covered with dust

Most Significant Causes of 261 Side swipe Collisions

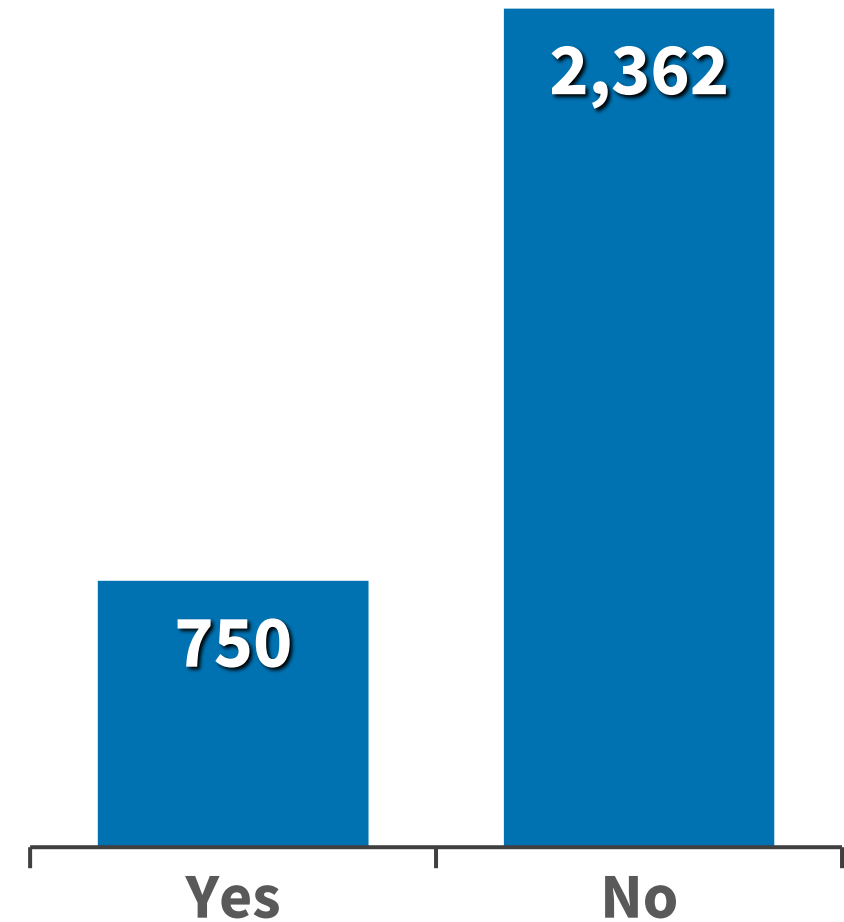


Results

Location of Crash



Intersection Related



Case studies – Illinois Clipping

A SUV was travelling west on a roadway as it was approaching a farm tractor towing a farm implement. The SUV missed the farm tractor but ended up striking the farm implement.

The driver, an older male, had to be extricated by local fire departments and was taken to a local hospital. He was pronounced dead at the hospital.

May 2025

Recommendation for Side Swipes / Fixed Objects

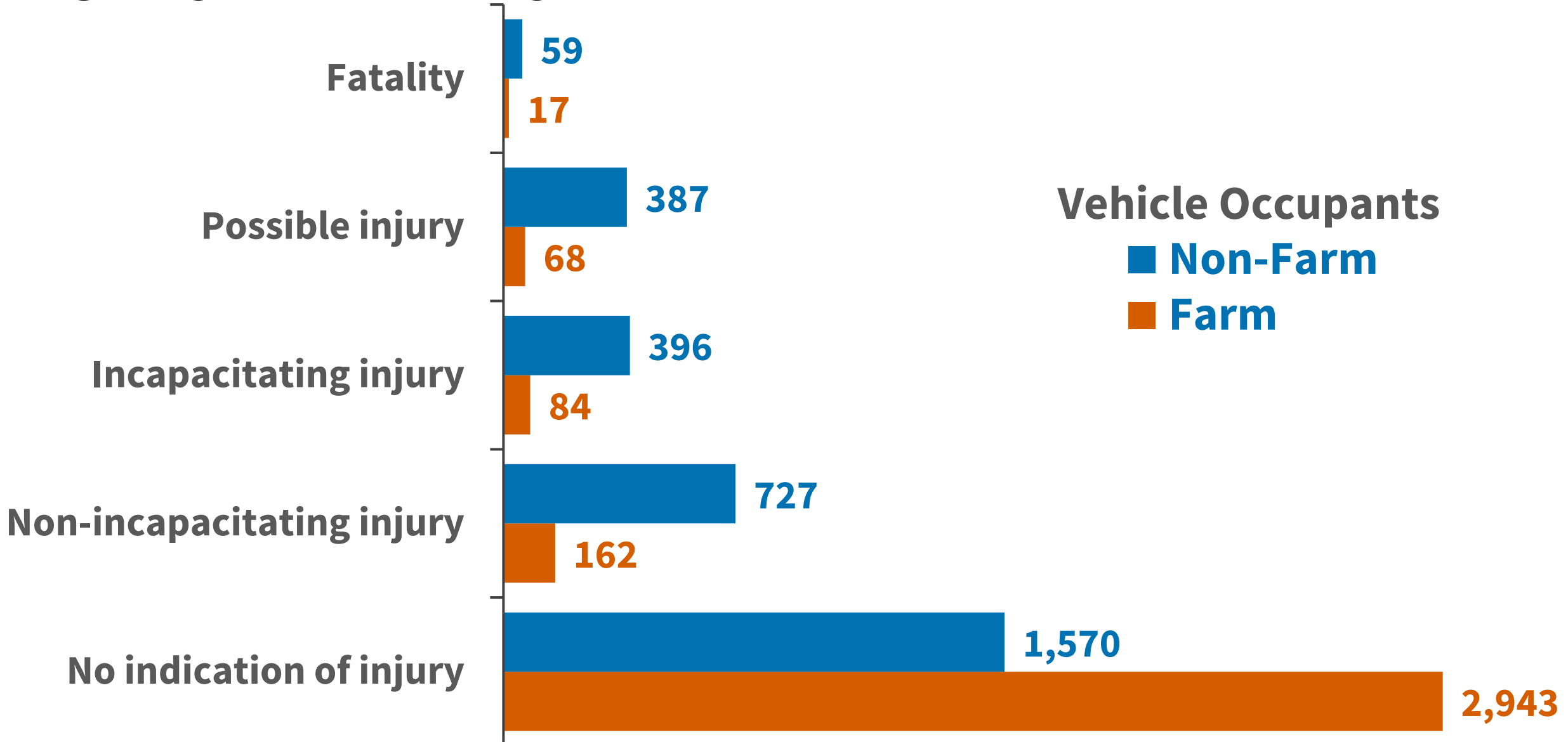


With extremely large and wide equipment, on narrow roads, have a spotter run ahead in a vehicle equipped with warning lights to alert oncoming traffic.

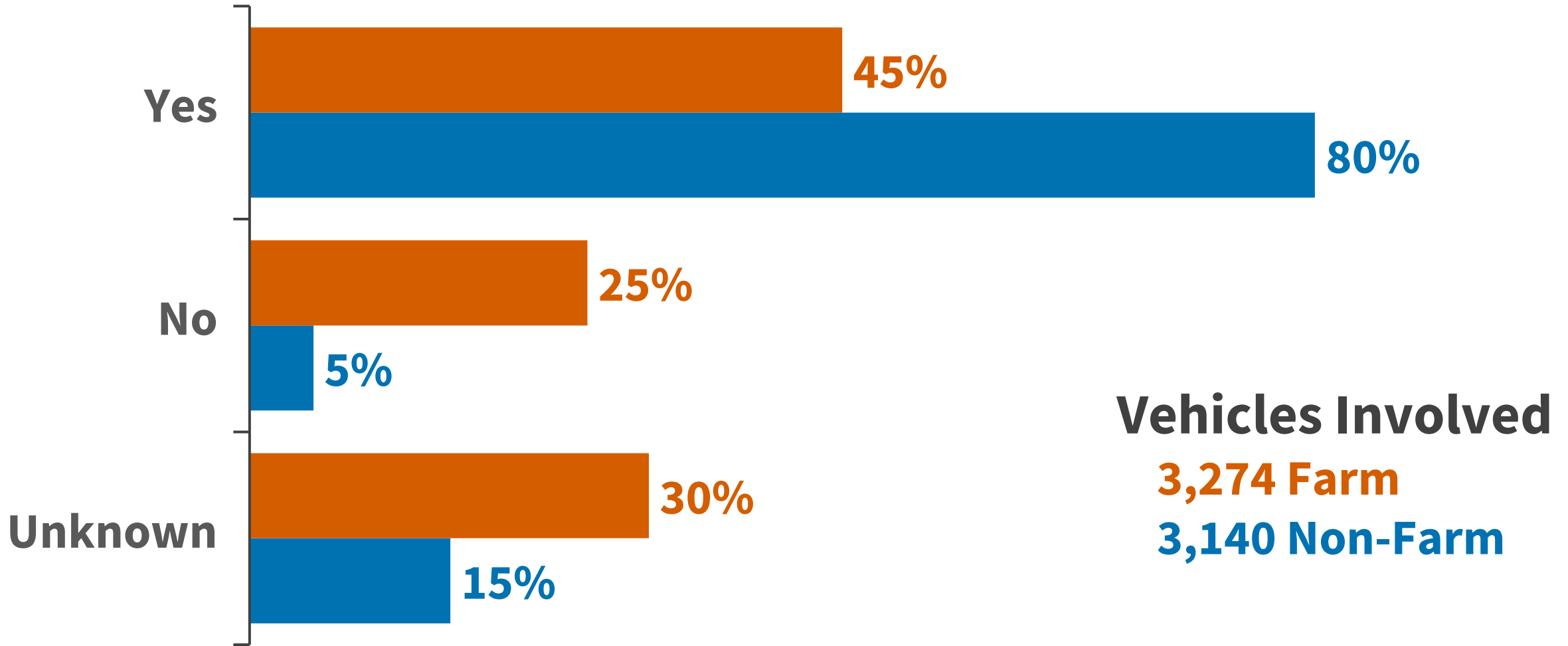


Lastly, pick a route that avoids high traffic or congested roadways. This even to the point of fewer left-hand turns, if possible.

Injury Severity Results



Seatbelt Use Results for **Farm** and **Non-Farm** Vehicles



If an accident occurs

Call 911

**Every County in
Illinois now has it.**



Be prepared to answer a number of questions

- Location

Be as specific as possible

- Number and extent of injuries
- Is there entrapment
- Is there road blockage

Make sure to inform the Dispatcher if any of the following are involved

- Fertilizers especially Anhydrous Ammonia
- Pesticides
- Fuels
- Livestock



When First Responders arrive make sure they are aware of any of the issues we just mentioned



If pesticides, fuels, liquid fertilizers or anhydrous ammonia are involved, **make sure the Main Valves are closed.**

This will minimize any contamination issues and increase safety for all.

If livestock is involved

If this is a local incident, see if your Large Animal Veterinarian can respond.

Secondly, who can respond with portable corrals and trailers to safely move the livestock from the scene.



If Pesticides are involved

Can you supply labels for what is involved so
First Responders have a better idea with what
they are dealing?

Last thing to note

Hitting power poles

(three down with power lines on farm equipment)

- Due to GPS guided equipment

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Agricultural Safety & Health Research Lab

We are dedicated to reducing risks and improving safety in farming through research, innovation, and education.



<https://go.illinois.edu/ISSA-lab>

Grain entrapment is a frequently fatal agricultural hazard that occurs when workers enter silos to clear blockages, a problem that has recently seen a disproportionately high number of cases in Illinois. To combat this issue, the program is researching high-pressure air extraction methods, developing machine learning models to predict entrapments, and offering specialized safety training.