

Highway Safety Strategy Development

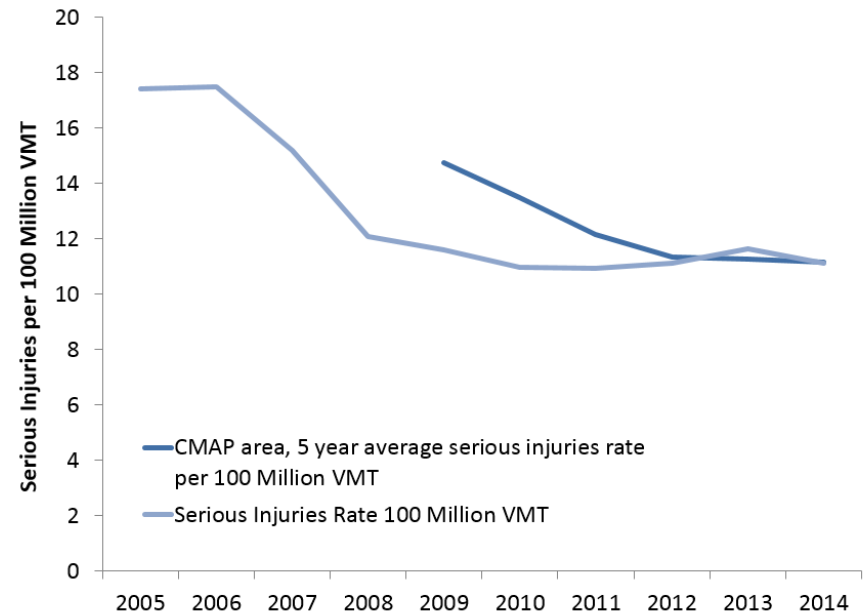
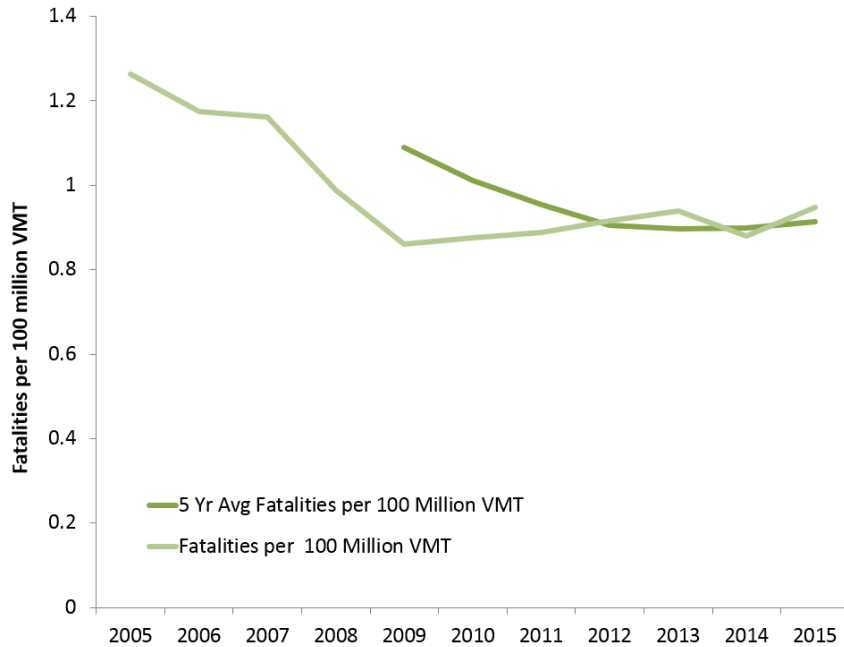
June 22, 2017

Agenda

- Safety Background
- New safety rule making
- Regional crash trend analysis and draft recommendations
- Potential MPO role in regional safety planning
- Sections in development

- Background
 - Guide how to address safety in ON TO 2050
 - Recent uptick in serious and fatal crashes
 - New safety performance measures
 - Transportation system reliability

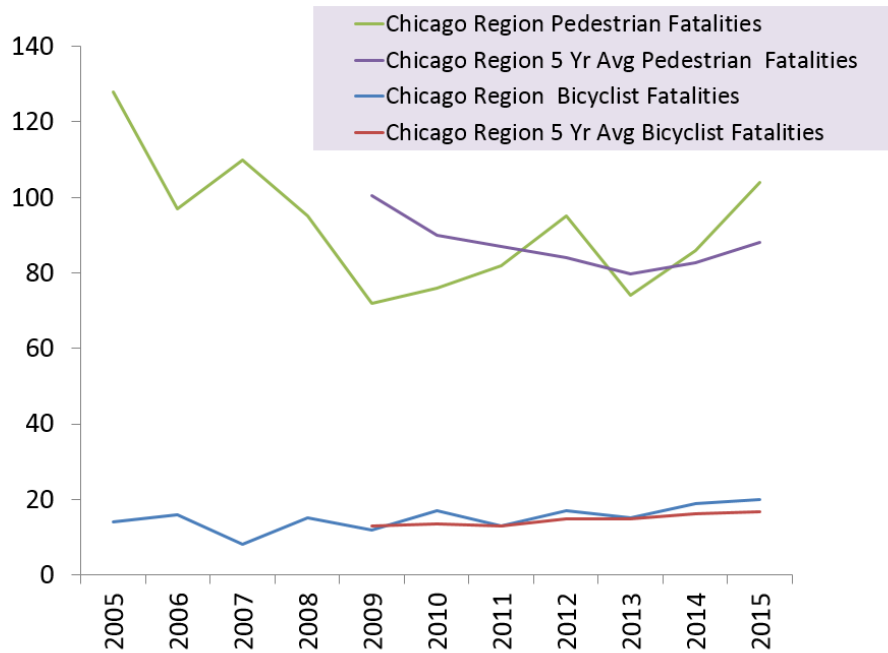
Safety PM



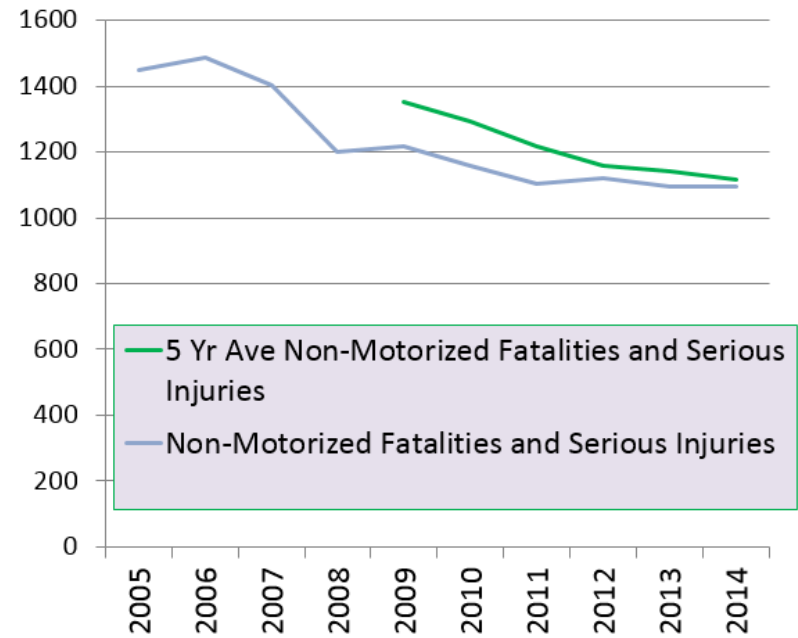
Fast Act

- Number of fatalities;
- Number of serious injuries;
- Fatality rate per hundred million vehicle miles traveled (HMVMT);
- Serious injury rate per HMVMT; and
- Number of non-motorized fatalities and non-motorized serious injuries.

Vulnerable Users: Pedestrians and Bicyclists



Annual Non-Motorized Traffic Fatalities in the Chicago Region



Annual Non-Motorized Traffic Fatalities and Serious Injuries in the Chicago Region

Pedestrian and bicyclist safety are new performance measures for safety.

Crash trends and recommendations: Pedestrian & Bicyclists



Pedestrian and Bicyclist are the most vulnerable users of the transportation system. Making the system safe for them involves the greatest shift in our attitude about speed and safety. Vehicle speeds need to be safe when pedestrians are present.

Recommendations

- Traffic calming
- Enforcement
- Pedestrian islands
- Pedestrian scramble
- Pedestrian countdown signals
- Improved vehicle mirrors
- Improved signage and crosswalk striping
- Sidewalks
- Dedicated bike lanes
- Education



Crash trends and recommendations: DUI

- In the State **31% of traffic fatalities involve a legally intoxicated driver**. Other substance's that (DUID) impact driving skills are increasing in use
- Safe roads cannot be designed for intoxicated drivers, therefore social attitudes must change and education and enforcement increased

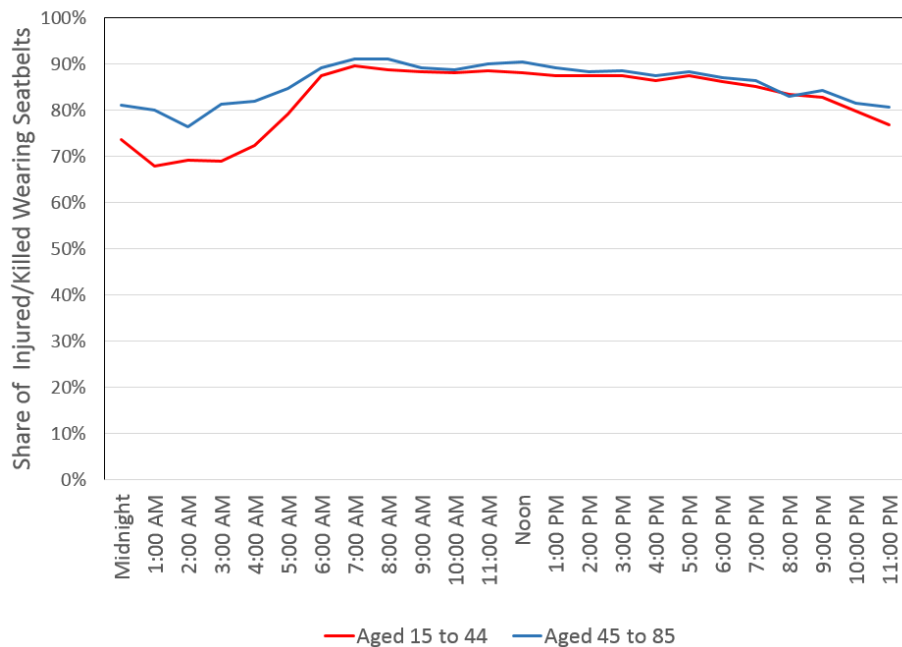
Recommendations

- Increase regional law enforcement where impaired driving is predicted
- Stricter penalties with a zero tolerance for second time DUI offenders or for speeding or aggressive driving while DUI
- Support future *Driver Alcohol Detection System for Safety for all vehicles (Large impact)*
- Support officer training to detect the presence of other drugs that affect drivers
- Consider a lower BAC limit (Smaller impact)



Crash trends and recommendations: Seatbelts

All Age Groups Guilty



Late-Night Drivers make many bad choices

All age groups use seatbelts less frequently at night. Young drivers are a larger share of late night drivers and represent many of the fatalities in that time period, but the behavior is present in all age groups.

Dead because they were Ejected:

36% of un-belted fatalities ejected from vehicle
4% of belted fatalities ejected from vehicle

- Seat belts are the most effective tool available to save lives in serious traffic crashes.
- 55% of occupants who died in Illinois were not wearing seatbelts.
- Observational data show that 95% of drivers in the region use seat belts. A small share of the occupants were not wearing seatbelts and represent the majority of the fatalities.

Recommendations

- Continue to educate and use enforcement to increase compliance.
- Support legislation that would make seat belt use mandatory for vehicles to operate

Crash trends and recommendations : Distracted Driving

Possible measure of distracted driving:

From 2012 to 2015 there has been a consistent **4% annual increase** in the number of crashes. This is 2 to 3 times the increase in VMT or employment growth.

- Distracted driving is difficult to collect information on, but new technologies are providing ways to estimate some cell phone activities.
- Use of electronic devices increases distracted driving. Studies have shown that “hands free” cell phone uses still distracts drivers.
- It is estimated that it may take up to 30 seconds after texting at a red light to fully refocus on driving.
- Using GPS can divert a driver's attention from the driving environment.

Recommendations

- Education
- Vehicle based technology restrictions on electronic devices
- Support legislation that would allow access to electronic device use

Crash trends and recommendations: Age

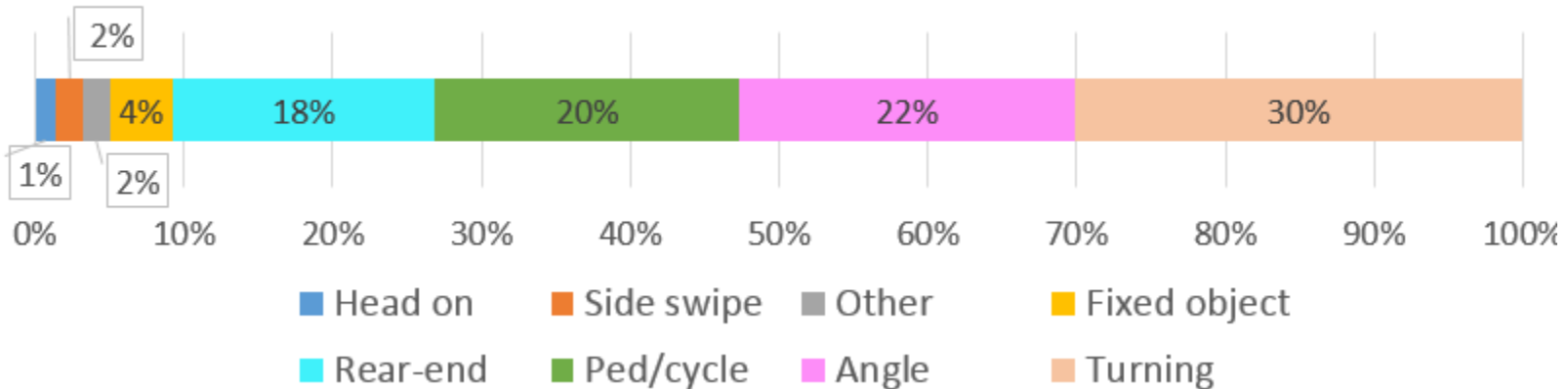
- Younger drivers experience more crashes than older drivers
- Younger drivers need more practice/driving time
- Older drivers have vision problems after dusk

Recommendations

- Enhance Graduated License Program
- Increase driver training
- Increase quality of training using simulation software
- Improve lighting for elderly drivers

Crash trends and recommendations: Intersections

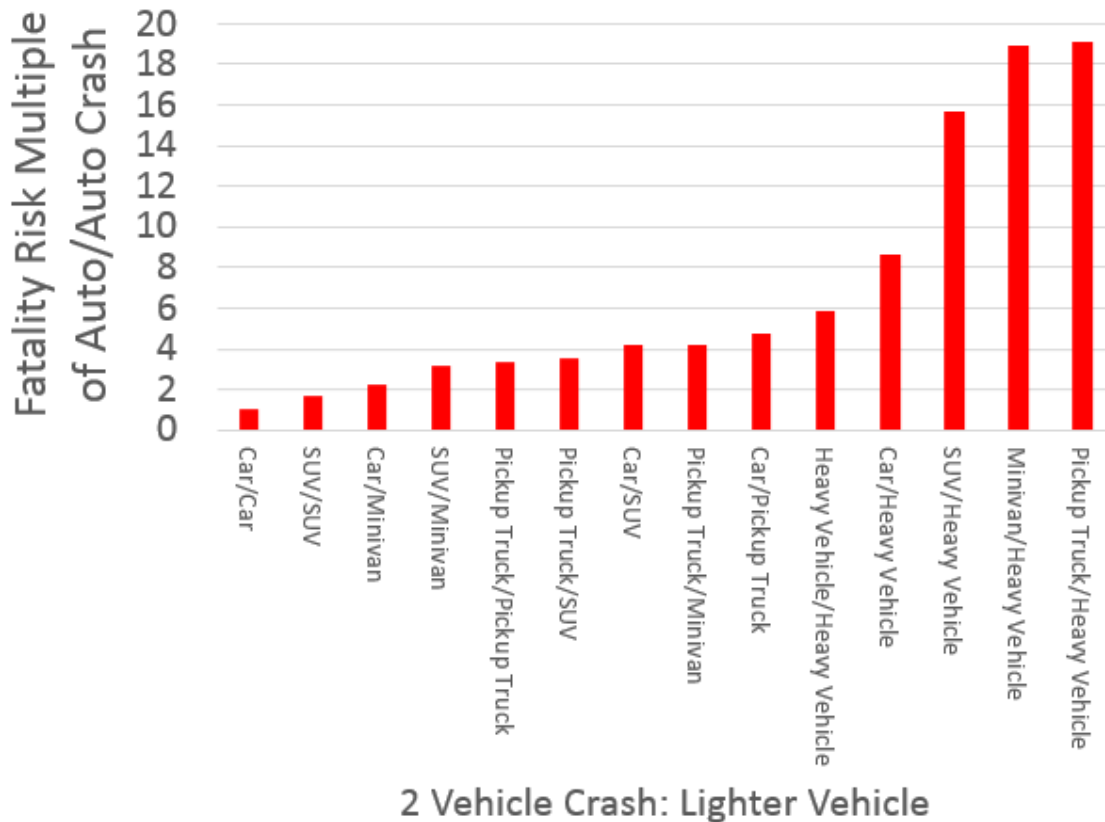
5-year average of intersection K&A crashes by collision type



Recommendations

- Modal hierarchy with pedestrian safety first
- Improve channelization
- Offset left turn lanes
- Encourage consistent uniform yellow time
- Protected phase for all left turn bays
- Adopt all-red phase
- Protected phase for all left turn bays
- Improve visibility
- Innovative intersection designs
- Surveillance
- Continue education & outreach

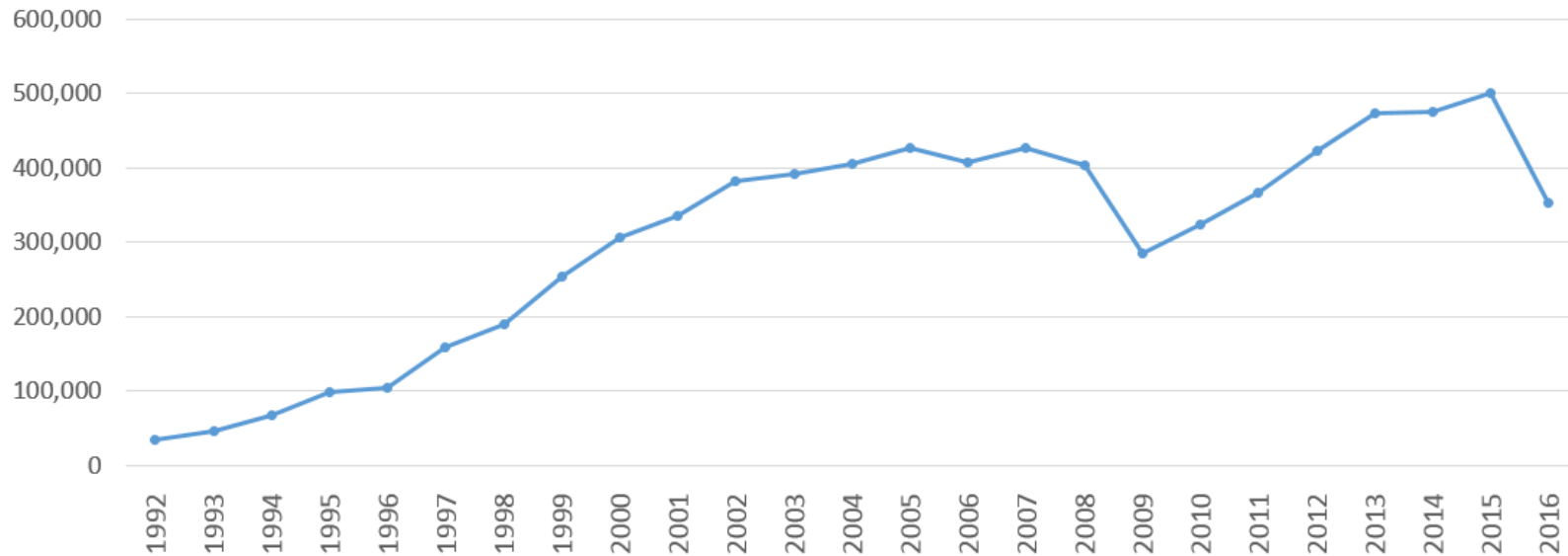
Crash trends and recommendations: Vehicle type



Recommendations

- Support initiatives to make vehicles more crash resistant.
- Explore separate roadways for heavier vehicles.
- Apply lane restrictions
- Apply time of day restrictions where appropriate
- Support initiatives for side guards and improved rear guards on trucks

Crash trends and recommendations: Safety Technology



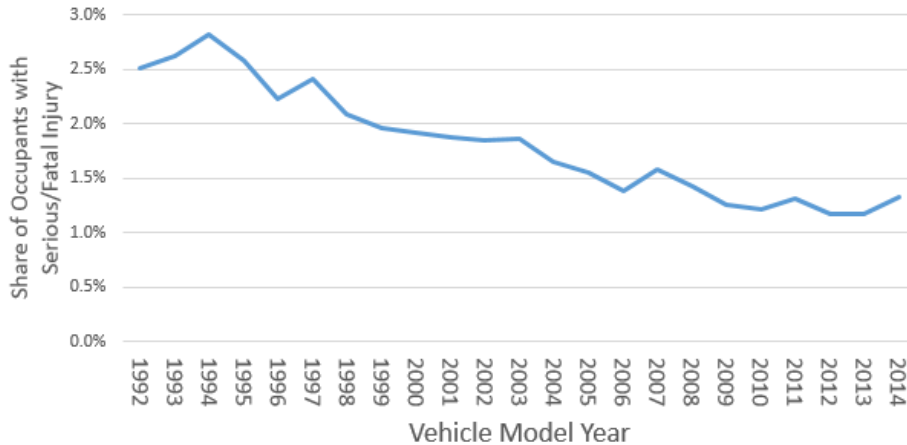
Model year of vehicles in Illinois. The 2015 vehicles represent 6.6% of the older vehicles. Innovation will take time

Safety Innovations Coming Soon

- Automatic Emergency Braking Systems
- Pedestrian Automatic Emergency Braking
- Backup Cameras
- *Lane Departure Warning System*
- Blind Spot Detection
- Call 911
- Forward Collision

Safety Technology: How Long Does it Take?

Older, Less Safe Vehicles remain on the Roads for Decades

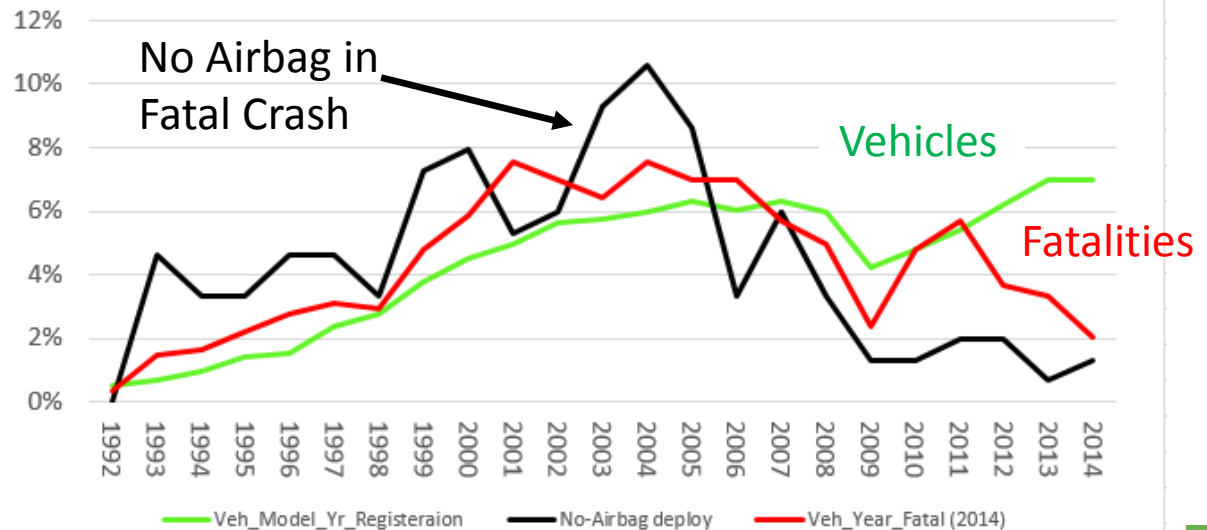


The share of occupants that sustained a serious injury or fatality by model year (2014 data).

Trend: New Vehicles Every 10 years is associated with about a 50% reduction in serious injuries.

- The majority of fatal crashes where the air bags did not deploy are older vehicles which may not have airbags, or have obsolete technology

Relative Share of Vehicles, Fatalities and No Air-Bag



Areas for RTOC guidance

Equity issues

- Many Economically Disconnected Areas have higher than average traffic causality rates. These areas need to be made as safe as possible for vulnerable users. Traffic calming, enhanced lighting, protected signal phasing, improved pedestrian crossings, pedestrian islands, improved sidewalks.
- How should we address equity issues?

Enforcement

There has been a 21% reduction in the operations division of ISP from 2009 to 2016 and a 49% reduction speeding tickets during that time period.

Starting in 2015, statewide, police officers performance could not be based on ticket quotas or citation records. Statewide citations 2008 1,500,000; 2015 930,000.

- Enforcement should be increased through hiring additional officers if funds are available
- Officers should help educate as well and issue warnings frequently
- Automated speed and red light cameras use should increase- Will focusing on speed divert drivers attention from the road?

Potential MPO role

- Incorporate predictive safety analysis into programming
 - CMAQ
 - TAP
 - Local STP
- Develop regional version of usRAP
- Produce annual regional crash report
- Provide technical assistance for local HSIP funding
- Support training for RSAs
- Collaborate with IDOT to expedite regional crash data

Still in development

- ON TO 2050 goals/aspirational goal
 - Zero fatality goal
 - Vision zero region
 - Other
- Annual regional safety performance measures goals
 - Accept IDOT goals
 - Develop regional goals
- Appropriate method to prioritize funding to enhance safety
- Incident management: Support legislation that would allow for quicker clearing of crashes
 - Analysis
 - Recommendations
- Driving too fast for conditions and aggressive driving
 - Analysis
 - Recommendations

ON TO 2050

Thank you.

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