



U.S. Department of Transportation  
Federal Highway Administration



**Safe Roads for a Safer Future**

*Investment in roadway safety saves lives*

# Safety at Unsignalized Intersections



Unsignalized Intersections



U.S. Department of Transportation  
Federal Highway Administration

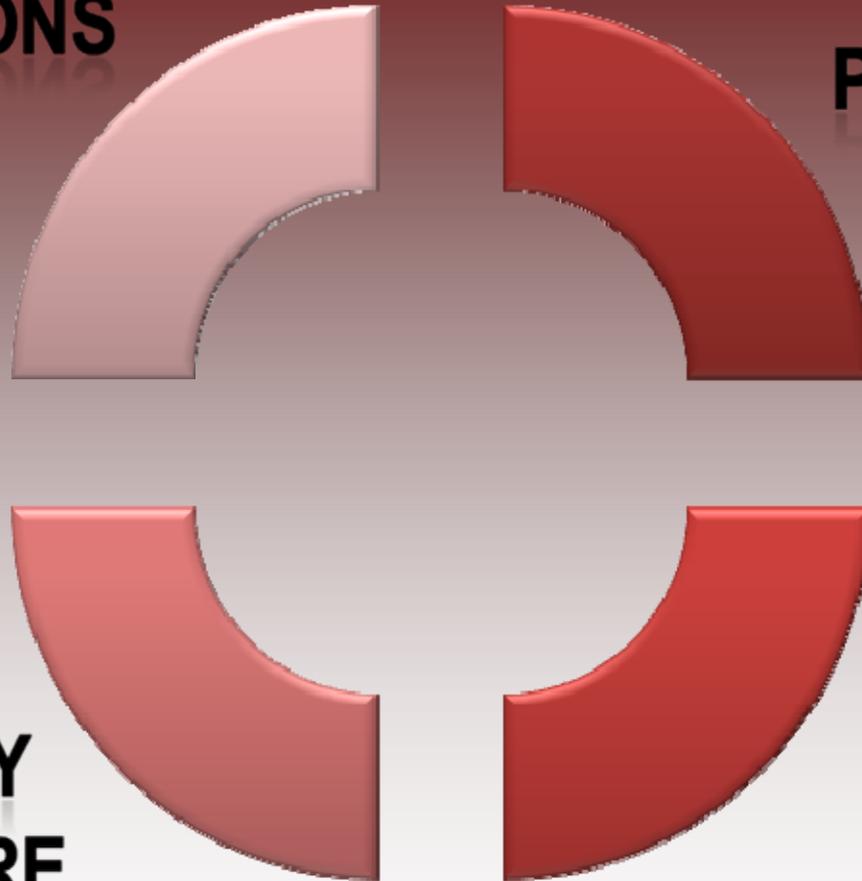


**Safe Roads for a Safer Future**  
*Investment in roadway safety saves lives*

# FHWA Safety Focus Areas

**INTERSECTIONS**

**PEDESTRIANS**

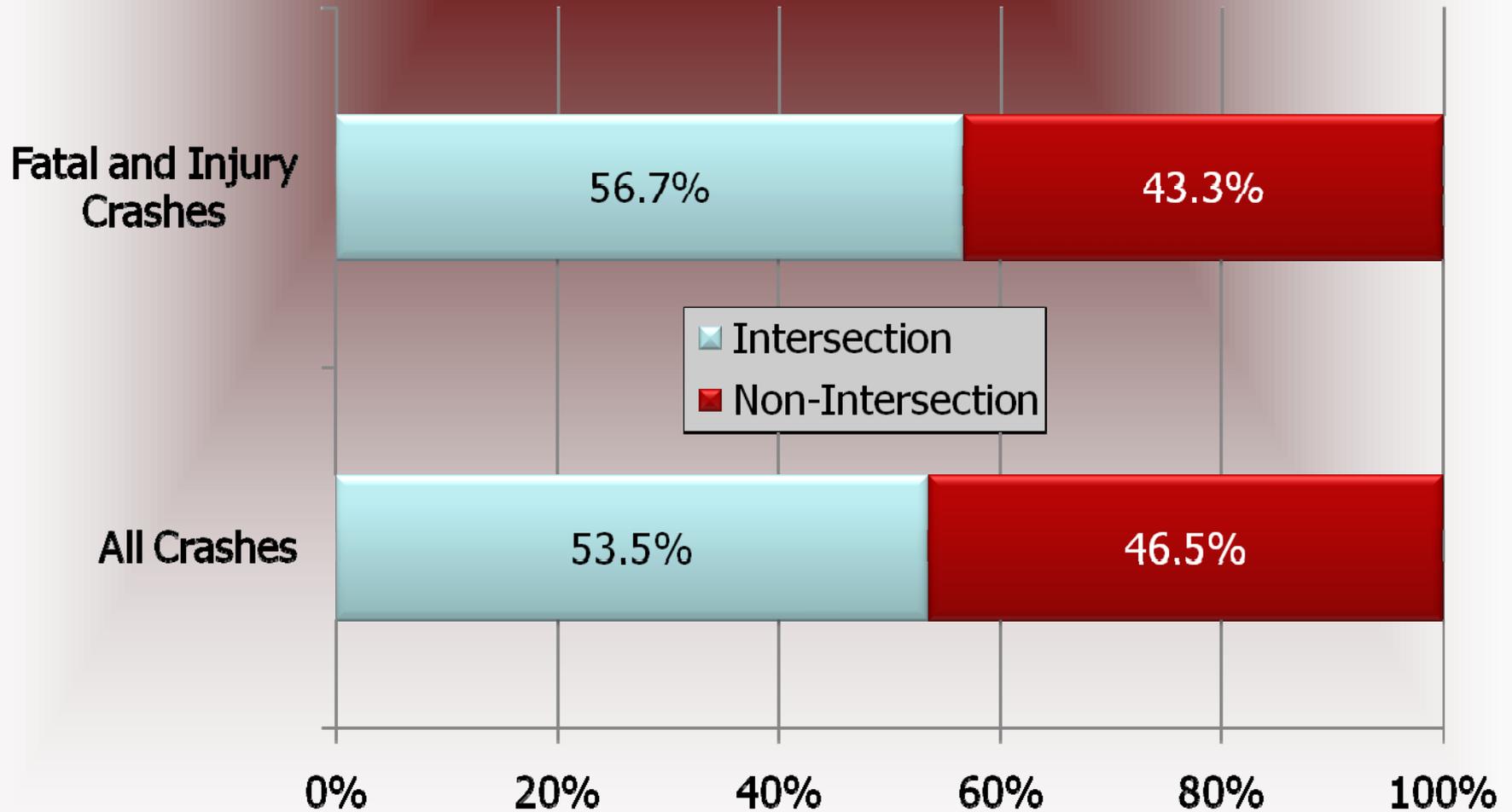


**ROADWAY  
DEPARTURE**

**SPEEDING**

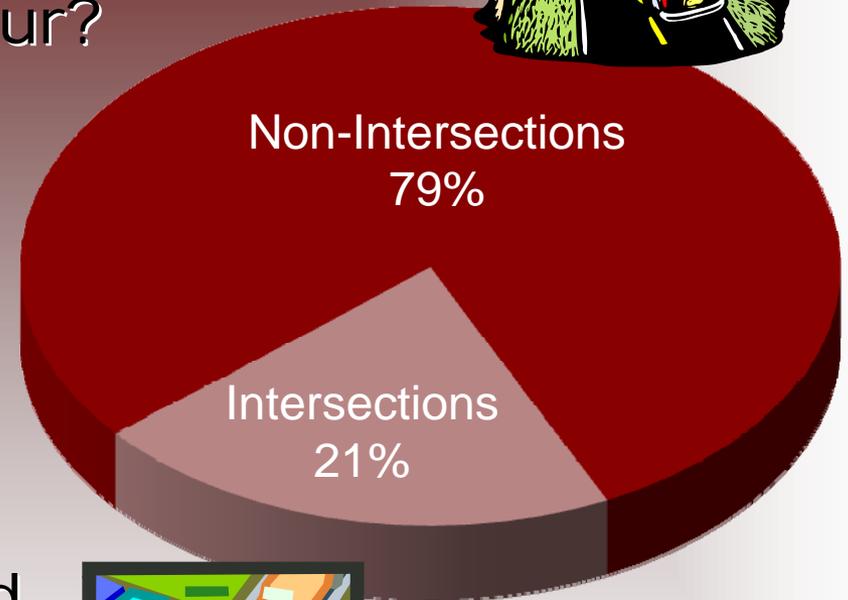
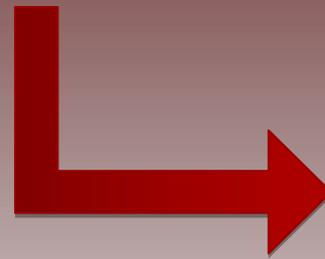


# National Statistics



# National Statistics

There were 41,059 highway fatalities in 2007. Where did they occur?



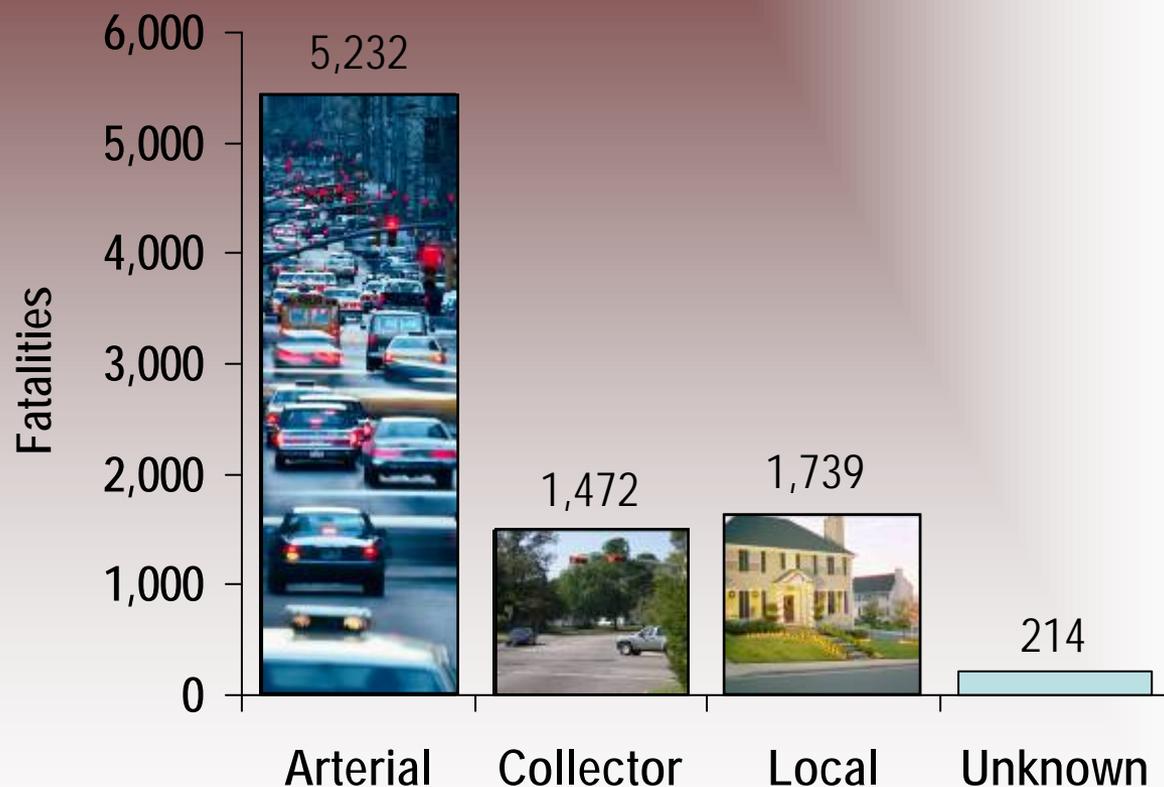
About half of all crashes and half of all injury crashes occur at intersections.



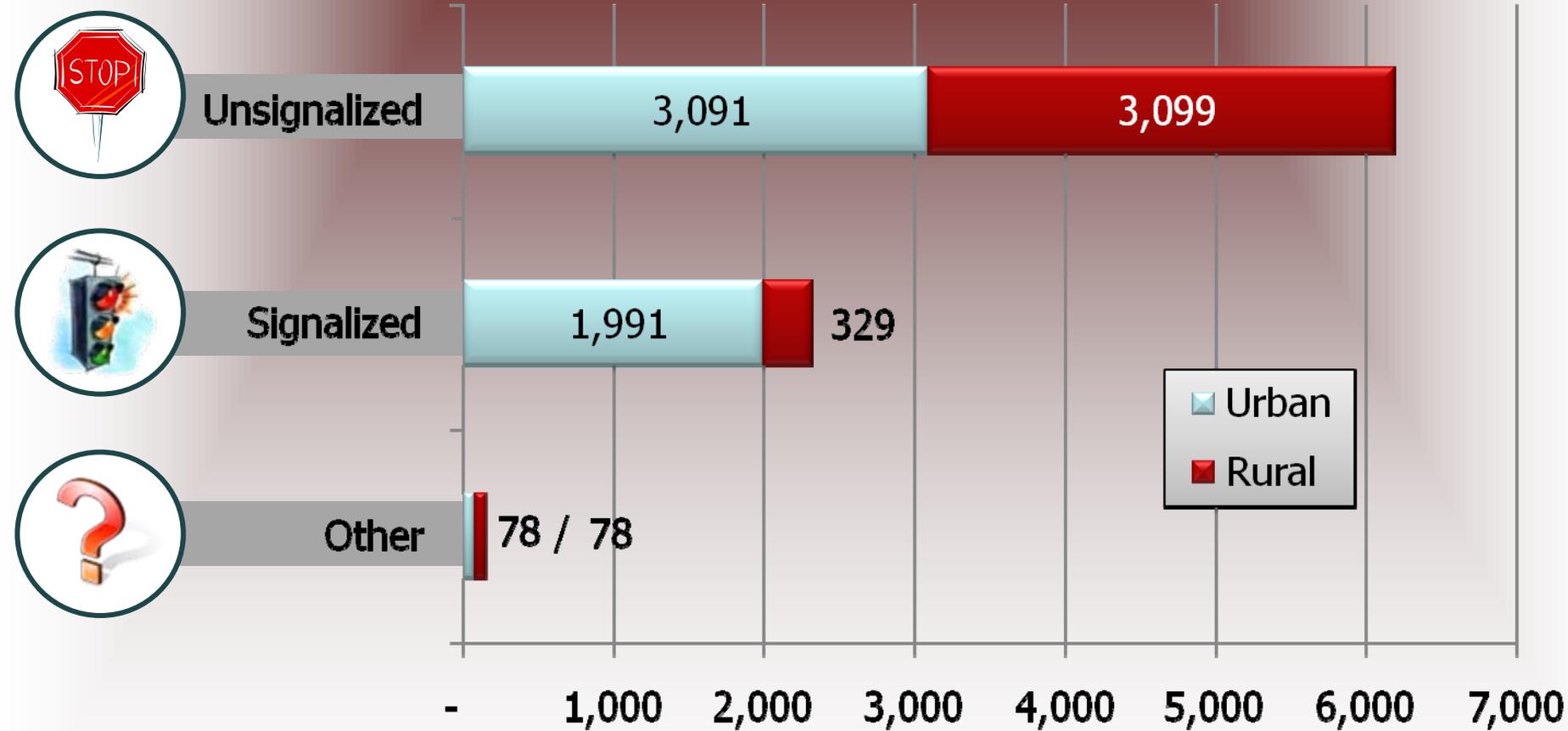
# Intersection Fatalities

There were 8,657 intersection fatalities in 2007.

Where did they occur?

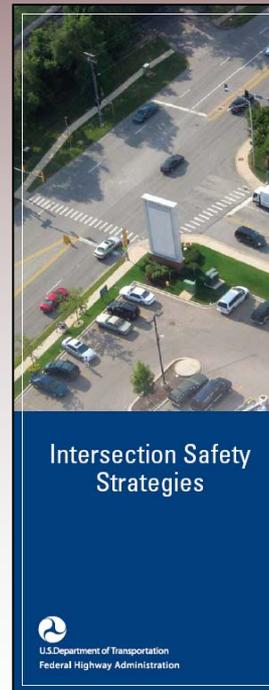
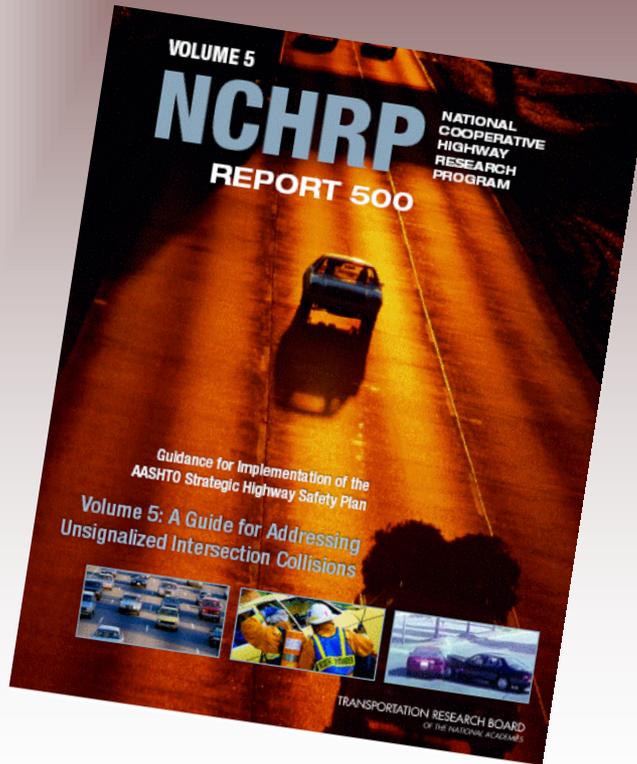


# Intersection Fatalities



# Intersection Safety Guidance

- NCHRP Report 500 Volume 5
- Guide sheets
- Safety Strategies brochure



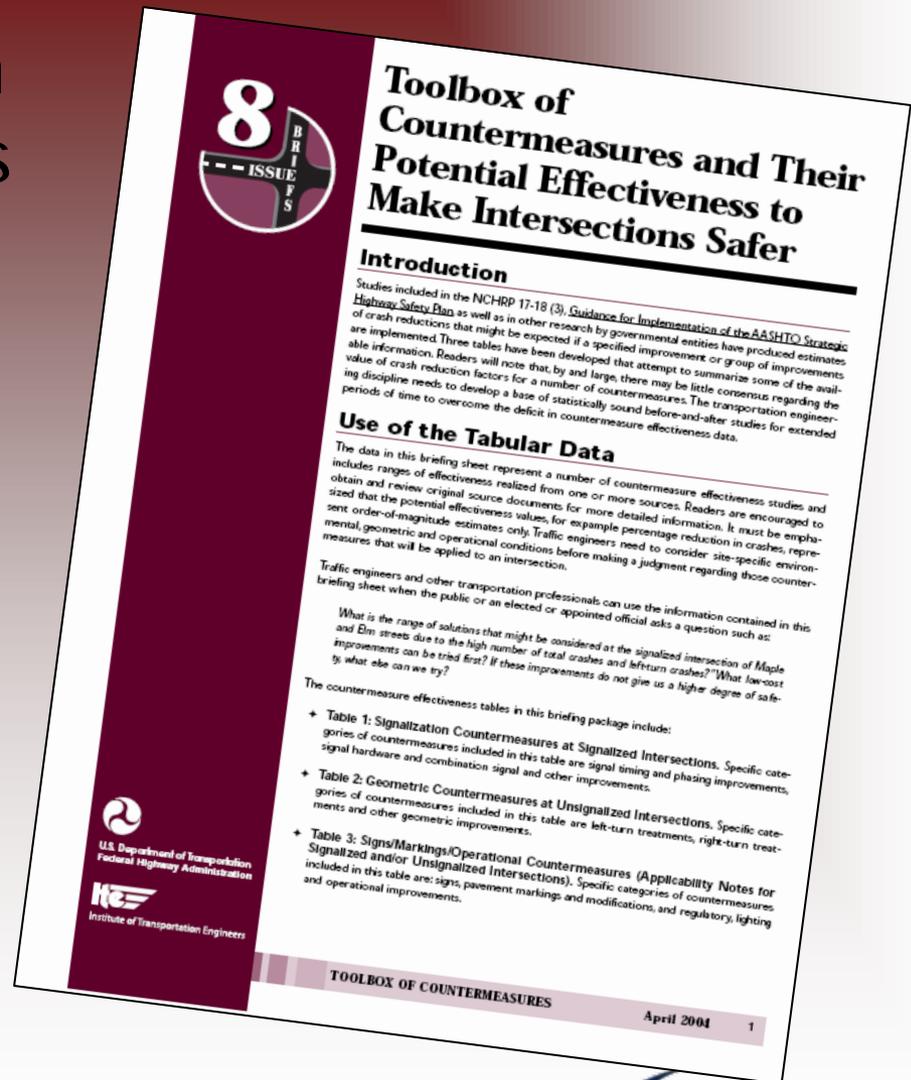
# Typical Intersection Crash Types

- Right angle
- Rear end
- Left turn
- Sideswipe
- Pedestrian/bicycle



# Crash Reduction Factors

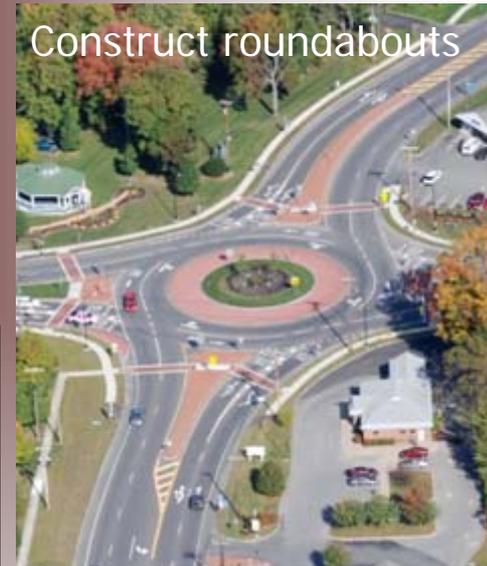
- Quantitative results from research or other studies
- Expected reduction in crashes from implementation of a specific countermeasure



# Angle Crashes

Account for 53% of fatal crashes at unsignalized intersections

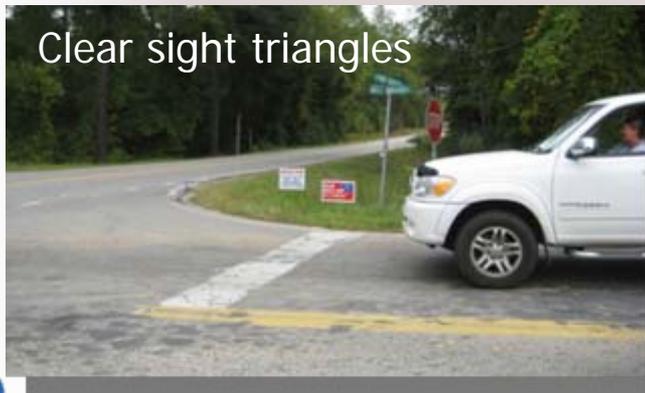
Construct roundabouts



Improve turn lane design



Apply access management

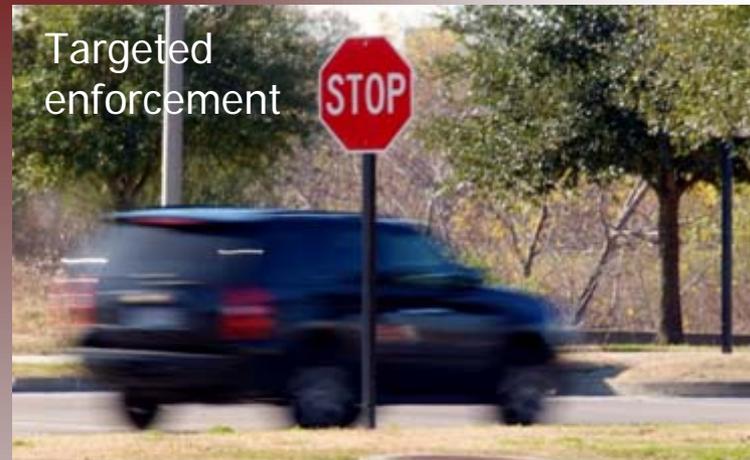
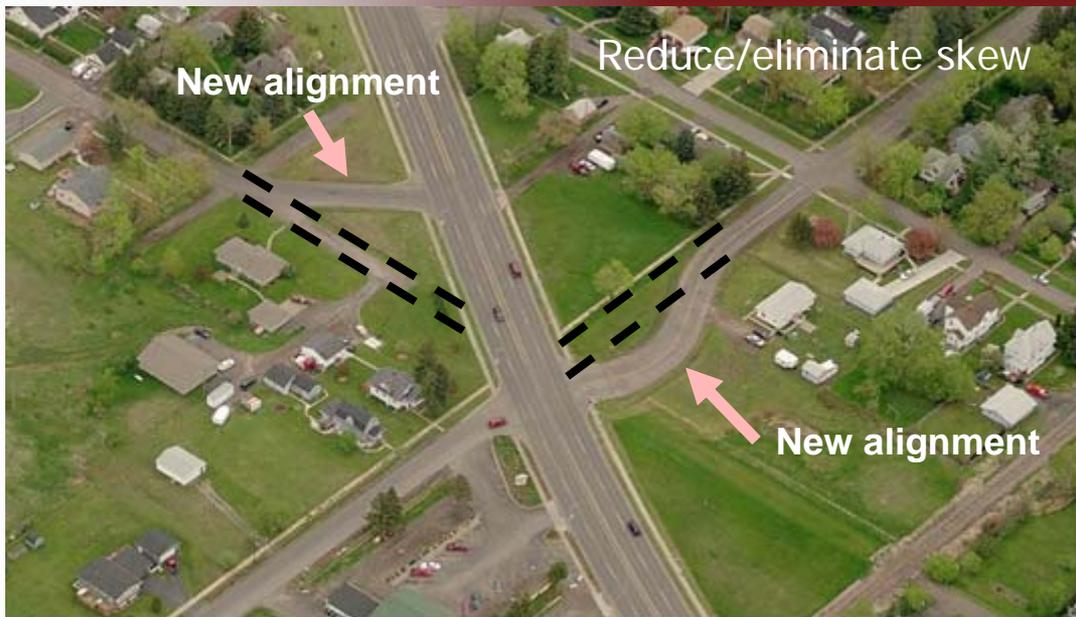


Clear sight triangles



Improve awareness of intersection

# Angle Crashes



Also:

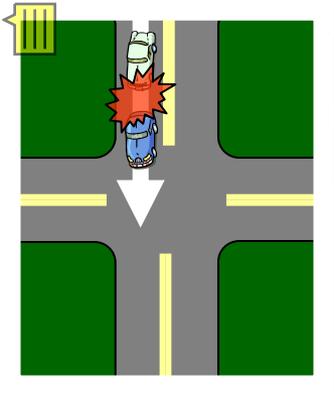
- Close/relocate intersections
- Post appropriate speed limits

Construct acceleration lanes



• Safer Future  
by safety saves lives

# Rear End Crashes



Account for 6% of fatal crashes at unsignalized intersections



Provide shoulder bypass lanes



Install turn lanes



Supplemental overhead signing

For a Safer Future  
roadway safety saves lives

# Rear End Crashes

Provide right-turn acceleration lanes



Also:

- Construct roundabouts
- Provide left-turn acceleration lanes
- Provide lighting
- Post appropriate speed limits
- Improve intersection awareness

Provide pavement markings



er Future  
y saves lives



# Left Turn Crashes

Account for 8% of fatal crashes at unsignalized intersections



Use indirect left turn treatments



Improve turn lane design

Also:

- Provide lighting
- Clear sight triangles
- Provide left turn acceleration lanes
- Construct roundabouts
- Close/relocate high-risk intersections

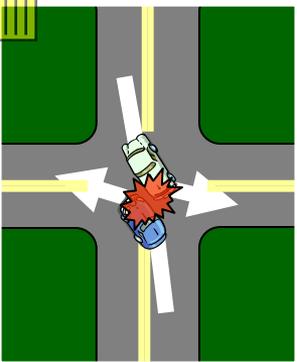


Implement turn restrictions

U.S. Department of Transportation  
Federal Highway Administration

Unsignalized Intersections

# Sideswipe Crashes



Account for 2% of fatal crashes at unsignalized intersections



Install pavement markings

Provide lane assignment signing or marking



Also:

- Provide right-turn acceleration lanes



# Pedestrian/Bicycle Crashes

Account for 14% of fatal crashes at unsignalized intersections

Improve facilities



Information and education

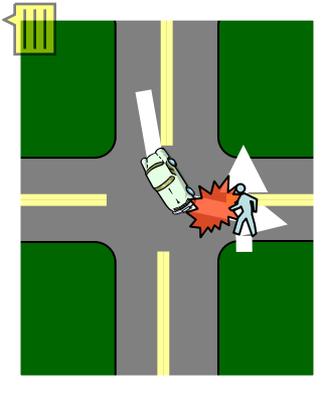


Provide traffic calming



Unsignalized Intersections

Investment in roadway safety saves lives



## For More Information

- AASHTO Report 500 Series Volume 5
  - <http://safety.transportation.org/>
- Manual on Uniform Traffic Control Devices
  - <http://mutcd.fhwa.dot.gov/>
- Toolbox on Intersection Safety and Design
  - <http://www.ite.org/>
- FHWA Office of Safety
  - <http://safety.fhwa.dot.gov/>