



U.S. Department of Transportation  
Federal Highway Administration



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

# Safety Aspects of Roundabouts



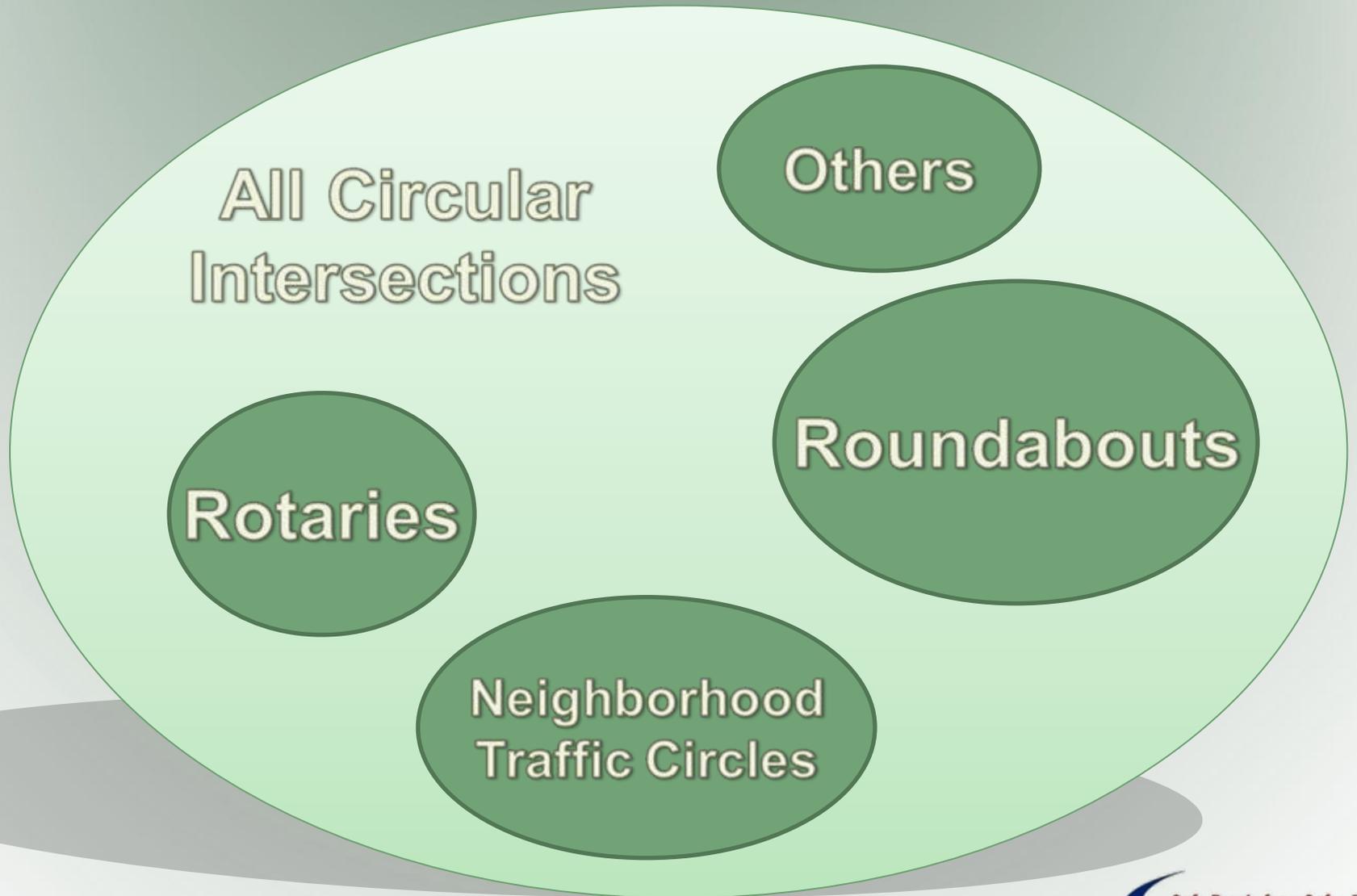
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Roundabouts



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# Terminology



# What isn't a Modern Roundabout?



**Rotary**

**Traffic Circle**



**Neighborhood Circle**



# What is a Modern Roundabout?

- A compact circular intersection in which traffic flows counter-clockwise around a center island
- Entering traffic yields
- Approaches are channelized to deflect traffic into a proper entry path
- Designed to slow the speed of vehicles



# What is a Modern Roundabout?



# Key Features



Yield control



Circulatory roadway



Central island



Splitter island



Pedestrian access



Landscaping



Truck apron



Signing and marking



# Key Features



**Vehicles yield upon entry  
in a modern roundabout.**

**No traffic control in the  
circulatory roadway.  
Movement is counter-  
clockwise.**



# Key Features



**Central island  
deflects vehicles  
from a straight-line  
path.**

**Landscaping is  
needed as a visual  
element to drivers**



# Key Features

**Splitter islands separate, deflect, and slow traffic.**

**Where trucks are common, a properly designed apron may be necessary.**



# Pedestrian Access



**Pedestrian crossings  
must conform to ADA  
standards.**

# Signing and Marking



**Proper signing and marking help drivers navigate the roundabout.**



# Why a Roundabout?

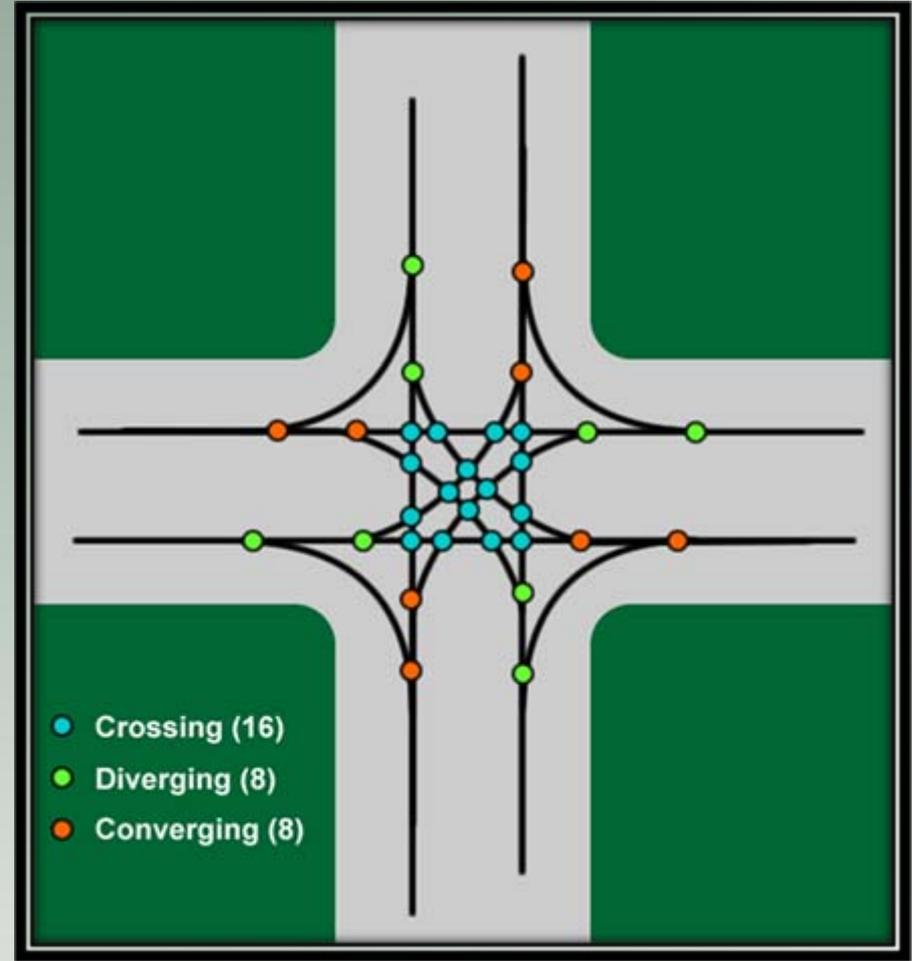
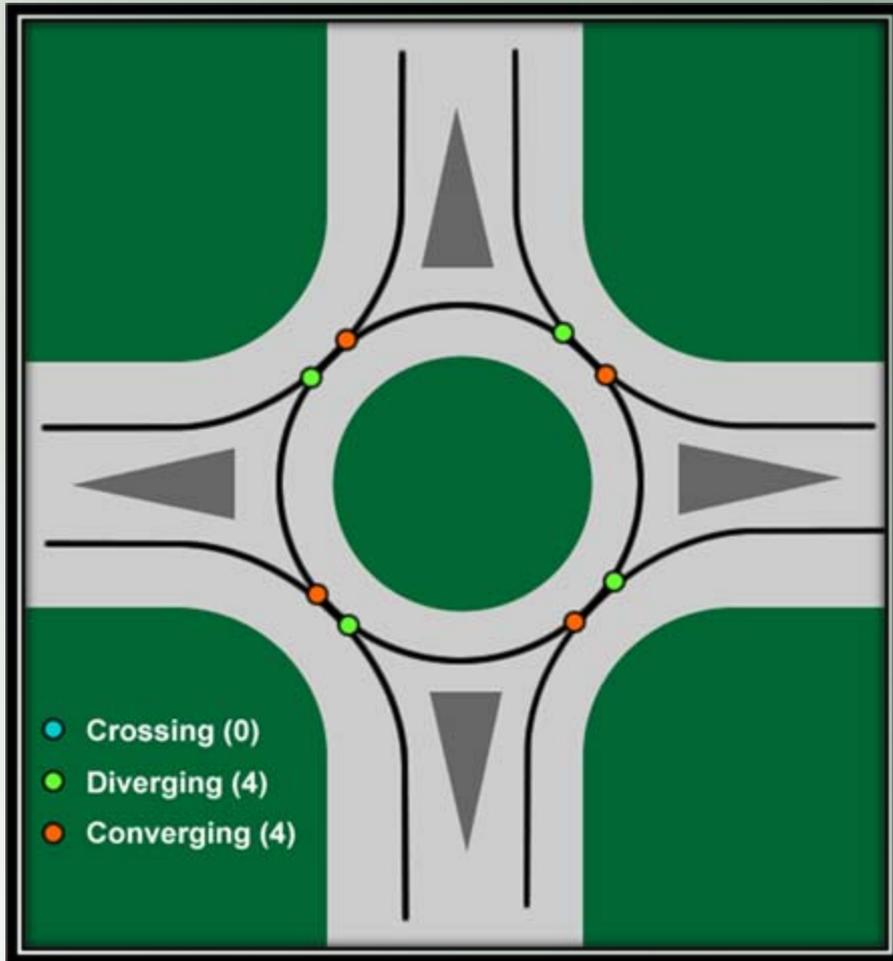
Improve safety

Reduce congestion and pollution

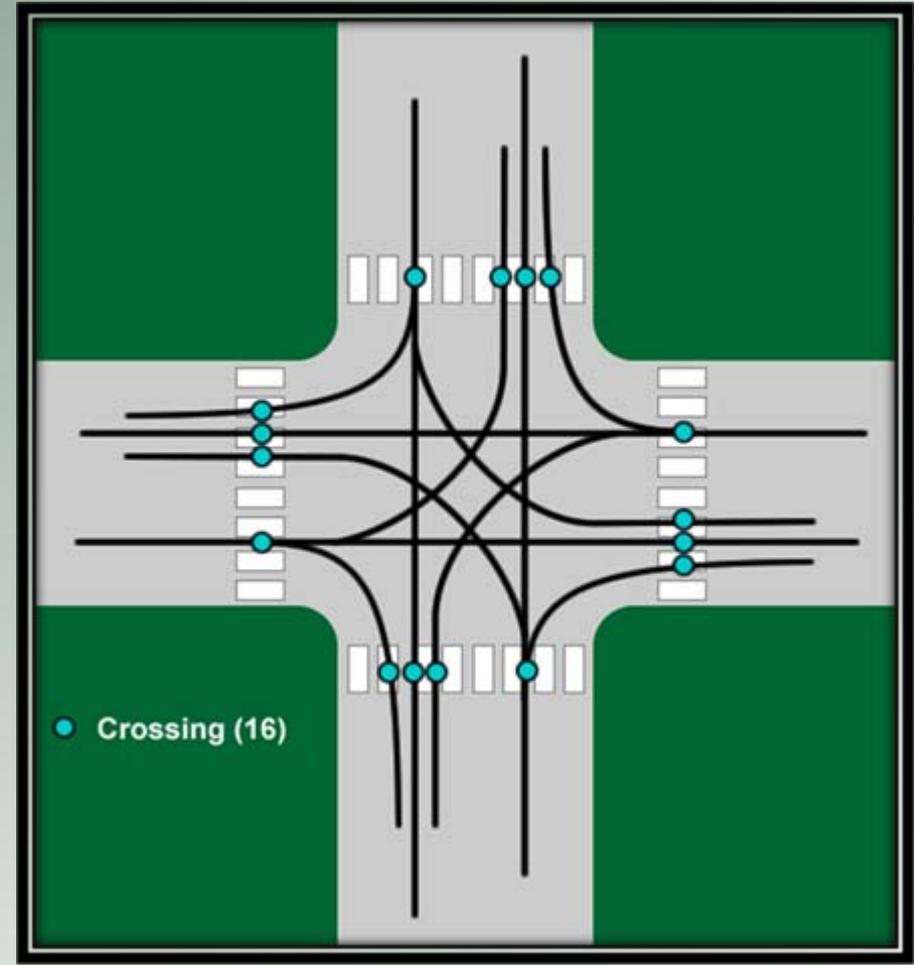
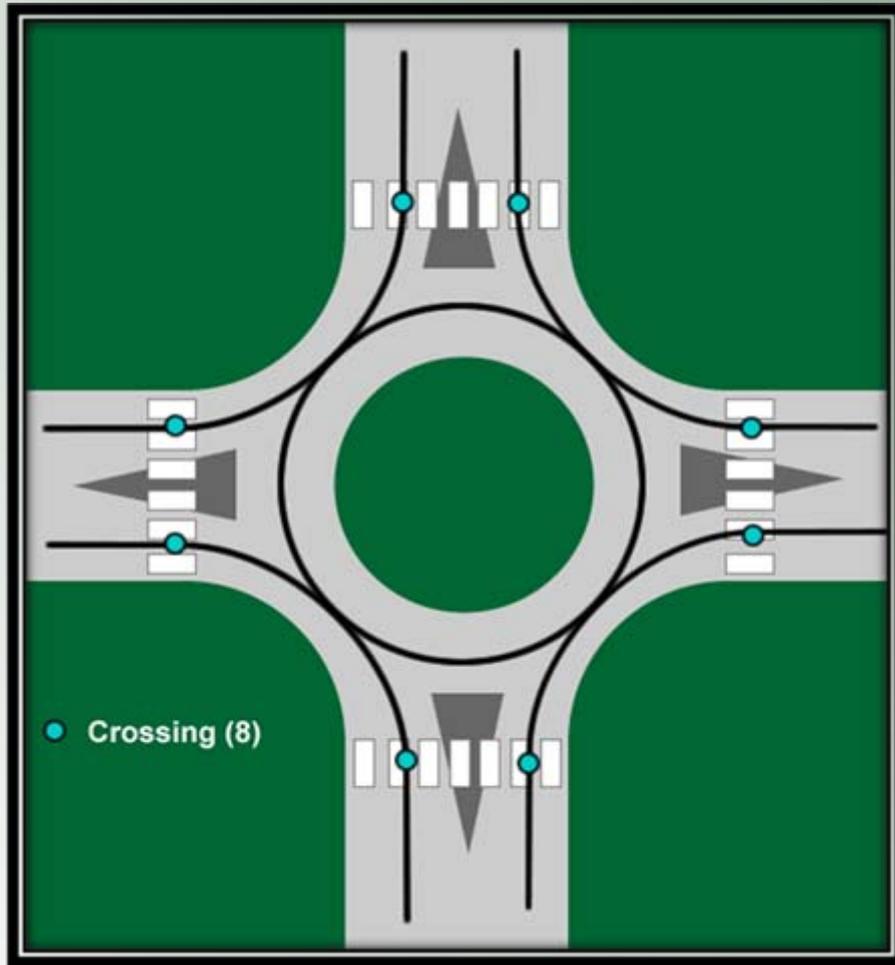
Save money

Complement other common community values

# Vehicle Conflict Points



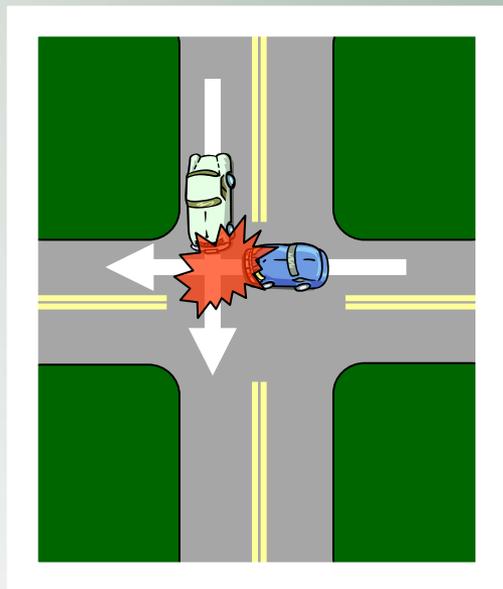
# Vehicle-Pedestrian Conflict Points



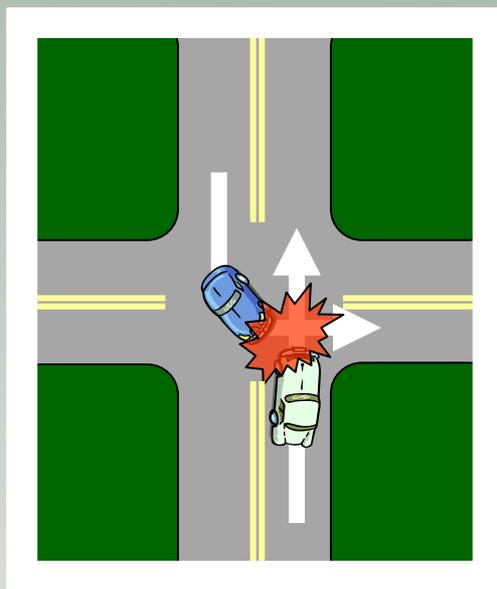
# Type of Crashes

## Typical 4-leg intersection

### Angle

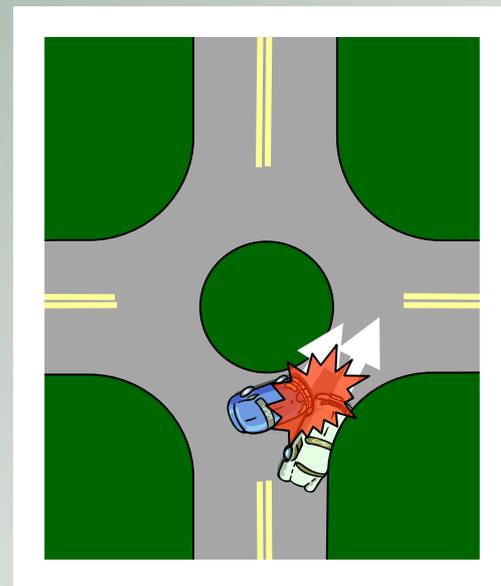


### Left turn

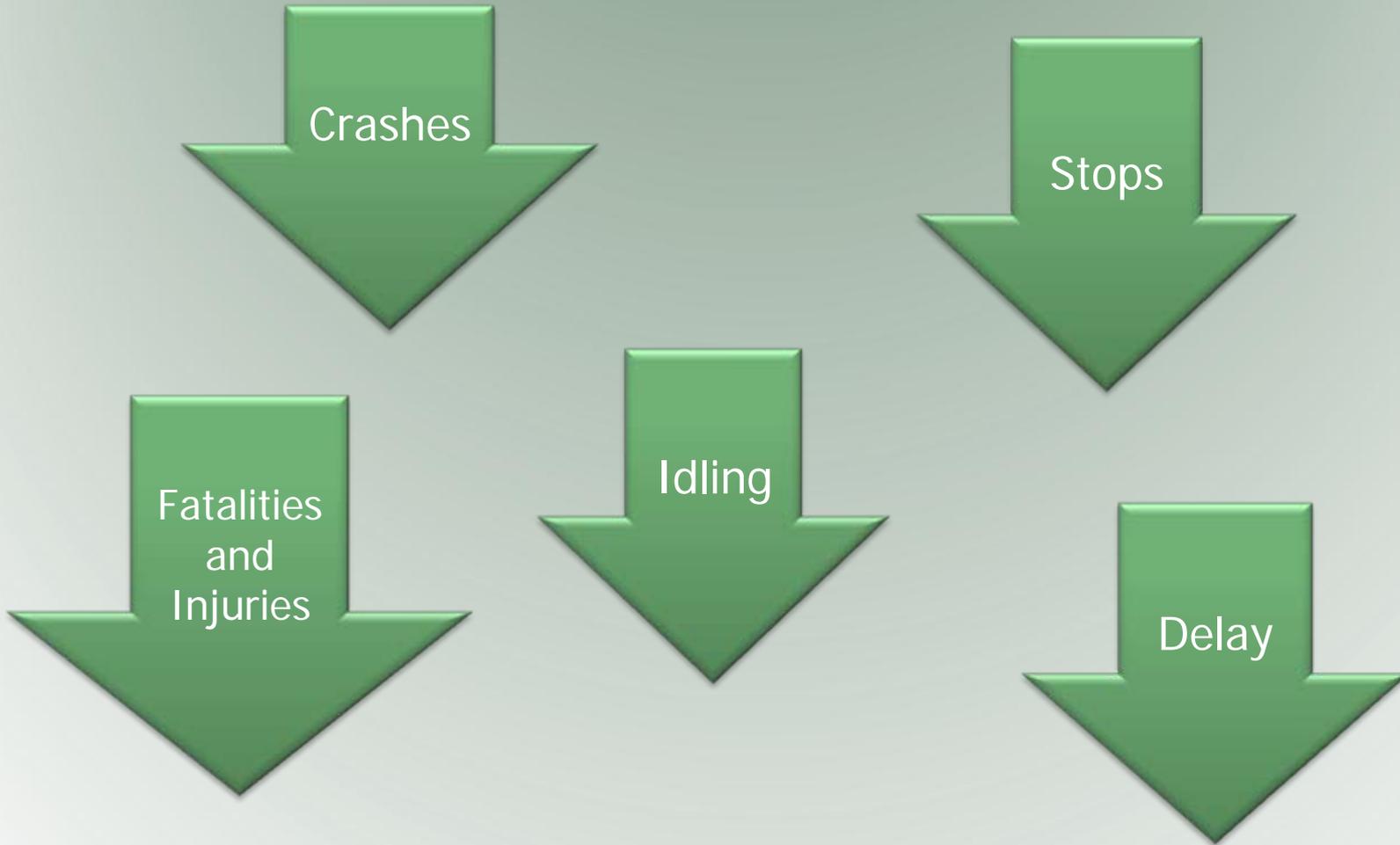


## Roundabout

### Sideswipe



# Study Results



# Save Money

- No signal equipment to install, power, and maintain
- May require less right-of-way
- Less pavement may be needed



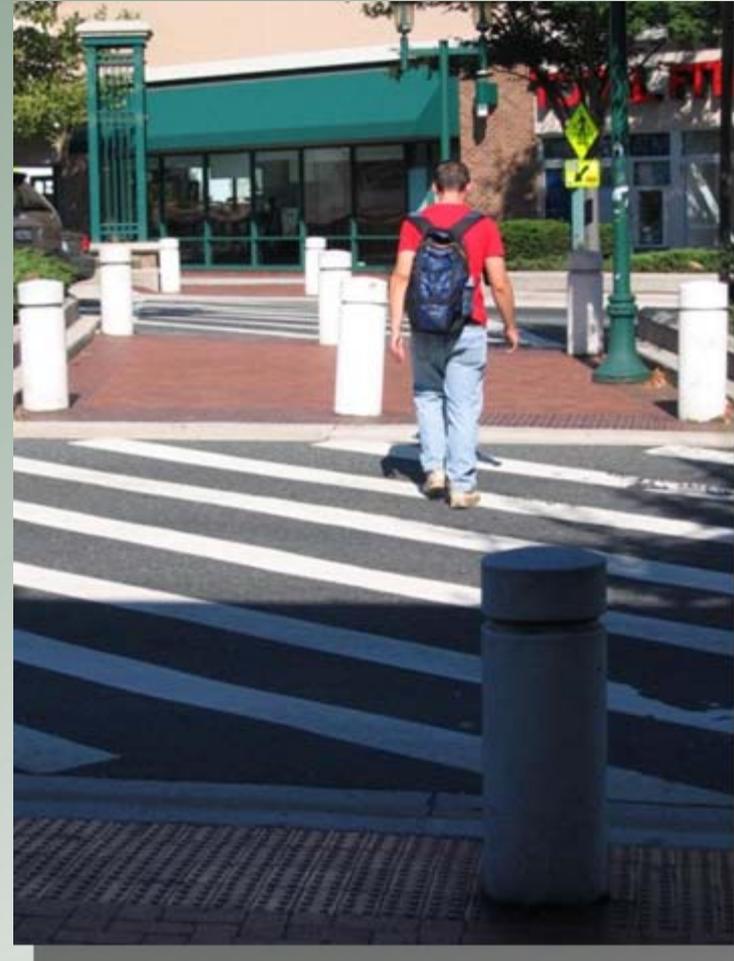
# Complement Community Values

- Quieter
- Functional
- Aesthetically pleasing



# Special Considerations

- Pedestrians
- Bicyclists
- Visually-impaired



# Multi-Lane Roundabouts



# Rural Roundabouts

- Higher approach speeds
- Properly designed splitter island is critical



# Right-of-Way Requirements

Before



After



# Where to Consider Roundabouts

	Intersections with high crash rates/high severity rates
	Intersections with complex geometry, skewed approaches, >4 approaches
	Rural intersections with high-speed approaches
	Freeway interchange ramp terminals
	Closely spaced intersections
	Replacement of all-way stops
	Replacement of signalized intersections
	At intersections with high left turn volumes
	Replacement of 2-way stops with high side-street delay
	Intersections with high U-turn movements
	Transitions from higher-speed to lower-speed areas
	Where aesthetics are important
	Where accommodating older drivers is an objective



# Roundabouts in Corridors



# Roundabouts in Interchanges

- Fewer queue backups
- Less bridge width possible

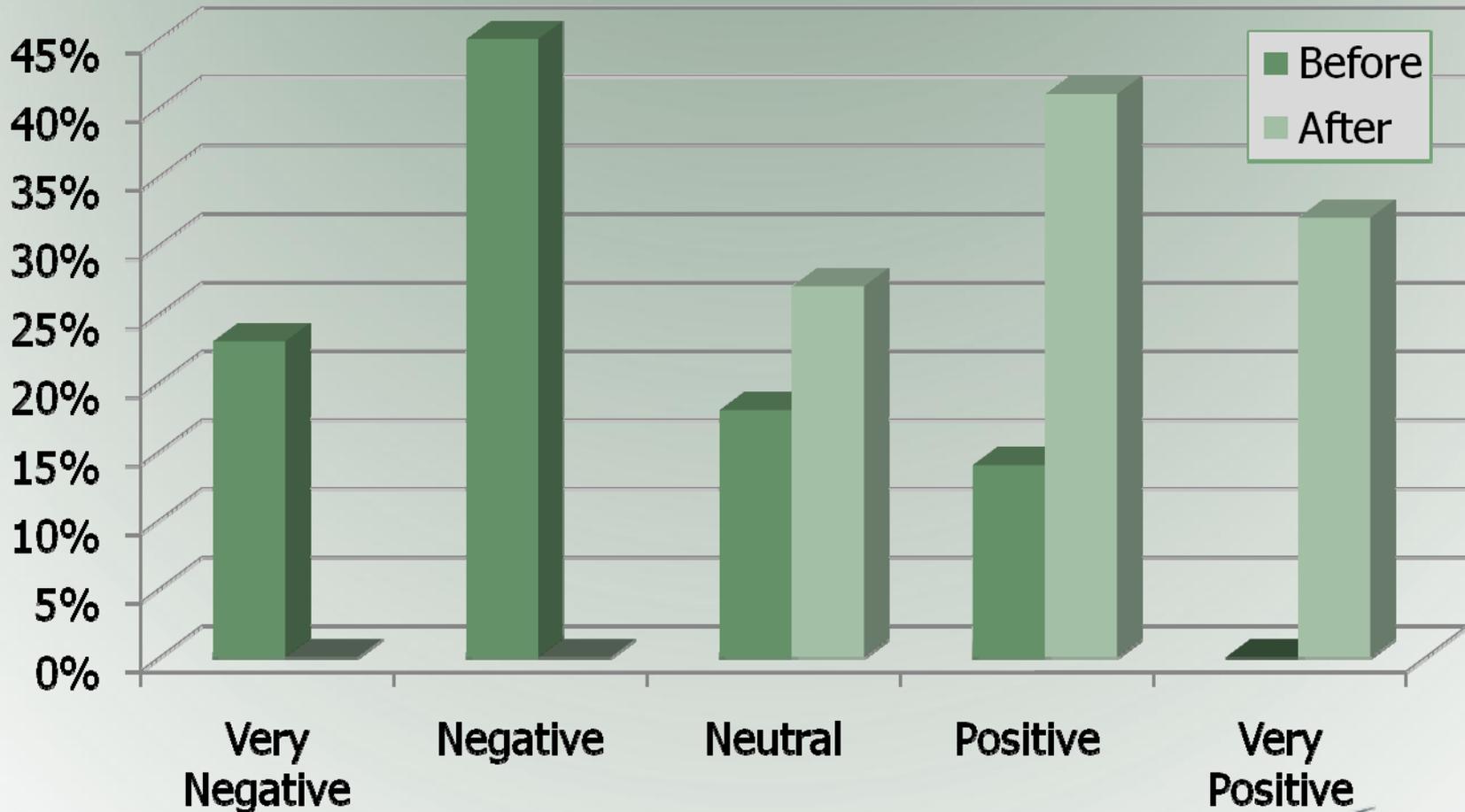


# Roundabouts and Driveways



# Roundabout Resistance

## Public Attitude Towards Roundabouts (Before and After Construction)

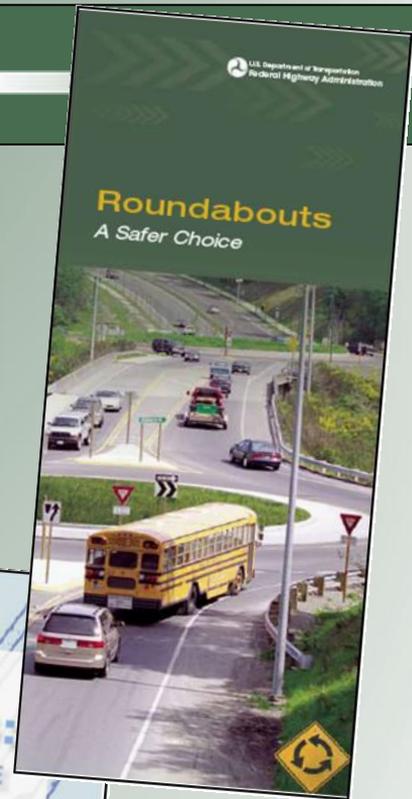
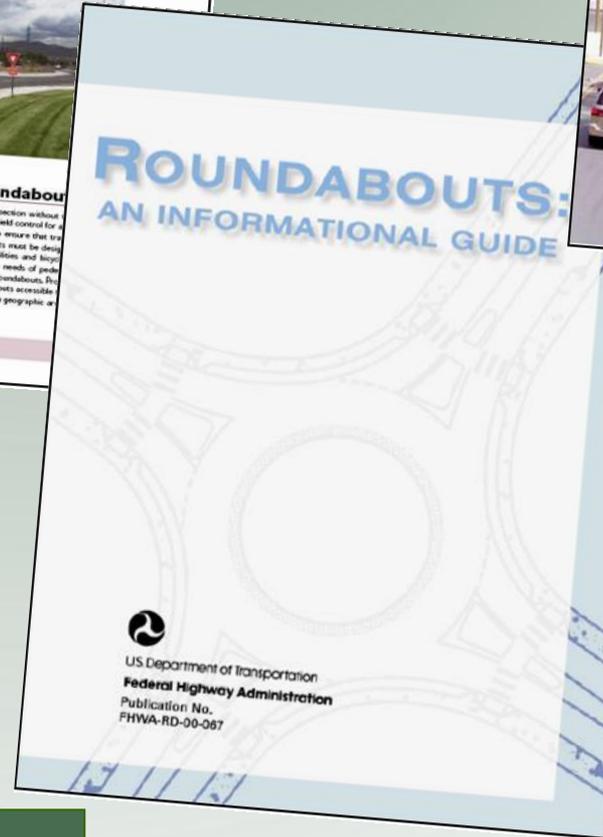


# Keys to Success

- Proper design
- Public involvement
- Stakeholder support



# Roundabout Resources



## For More Information

- FHWA Office of Safety
  - <http://safety.fhwa.dot.gov/>
- Institute of Transportation Engineers
  - <http://www.ite.org/>
- U.S. Access Board
  - <http://www.access-board.org/>
- National Cooperative Highway Research Program
  - <http://www.trb.org/>