



U.S. Department of Transportation
Federal Highway Administration



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

Safety Aspects of Roundabouts



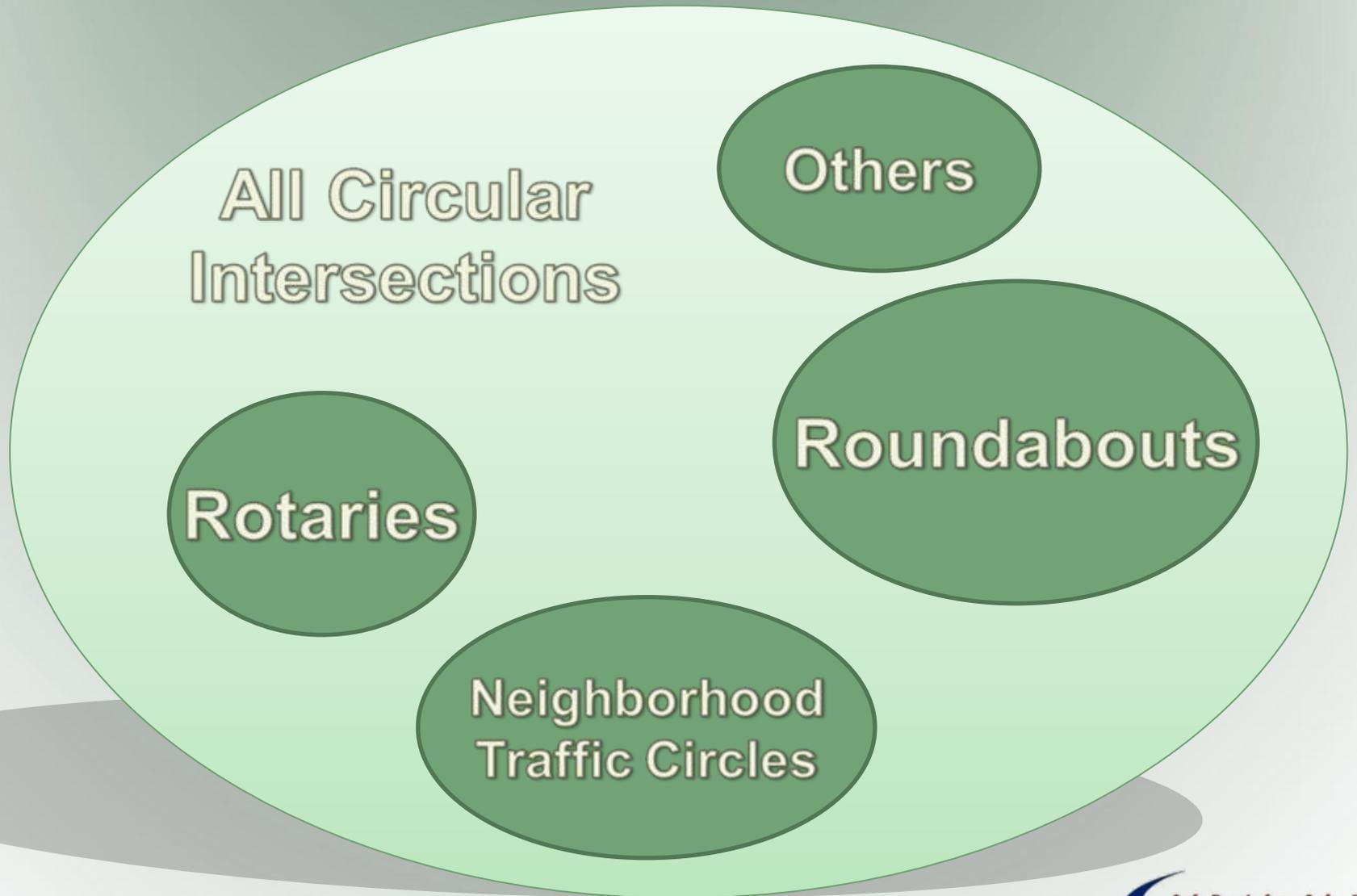
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Roundabouts



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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?

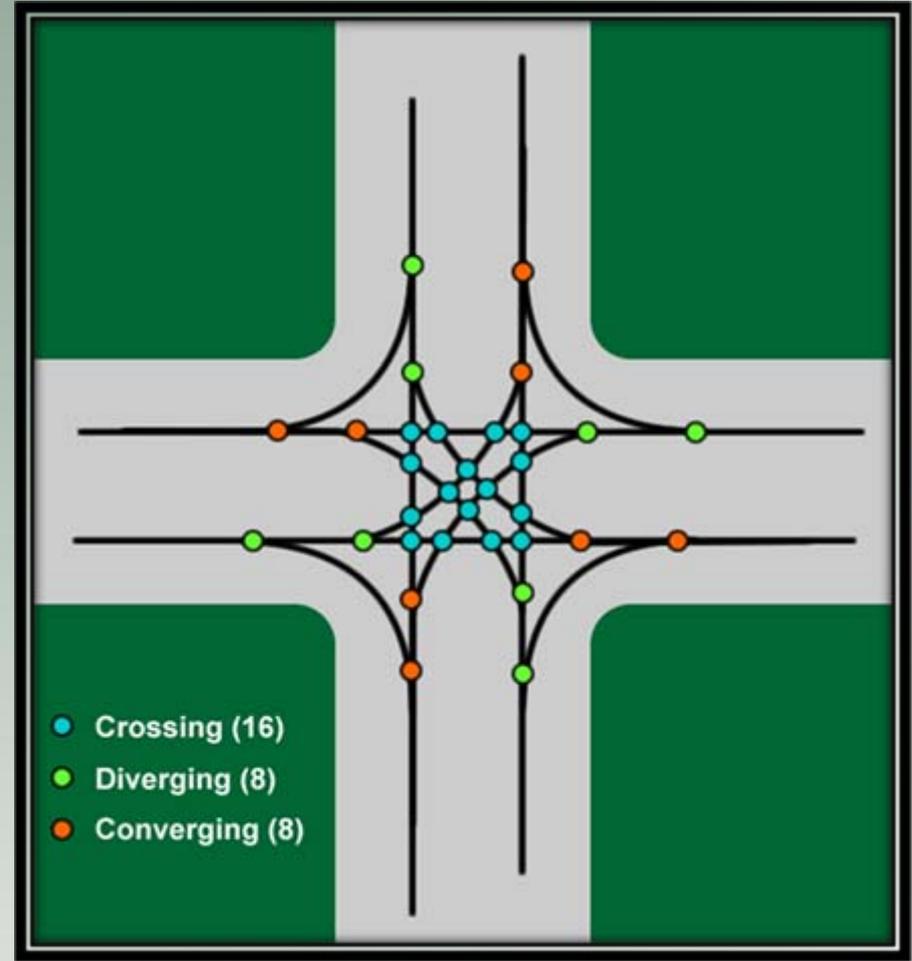
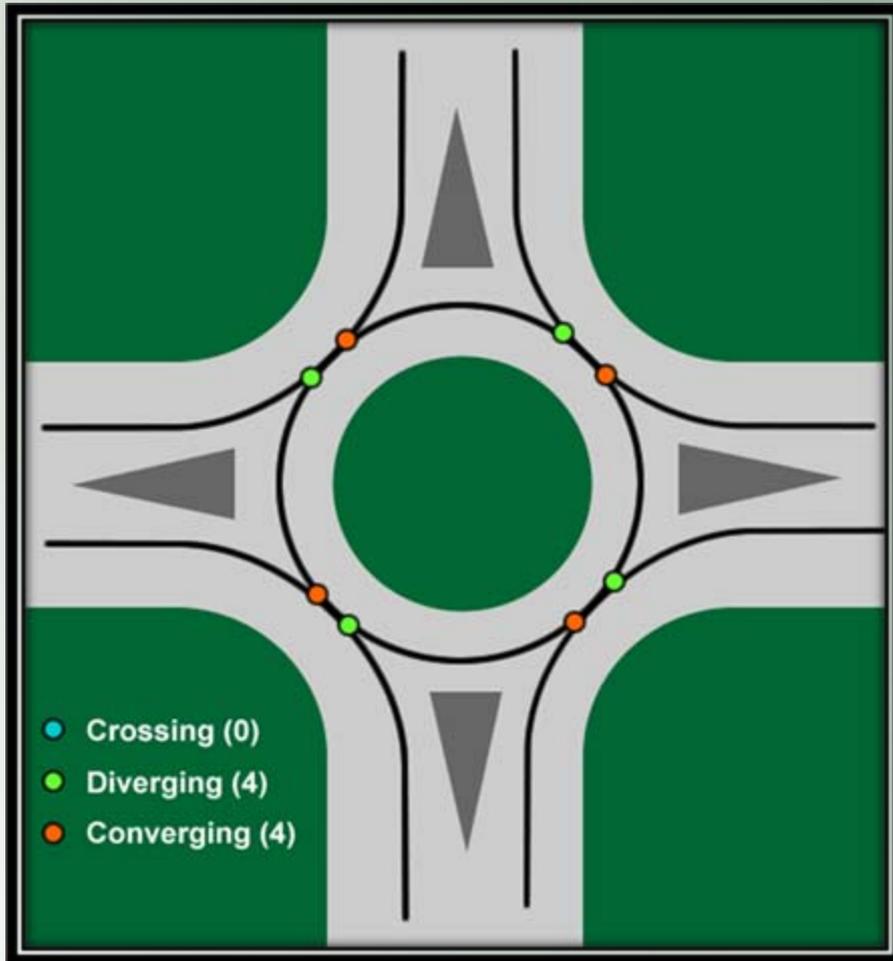
Improve safety

Reduce congestion and pollution

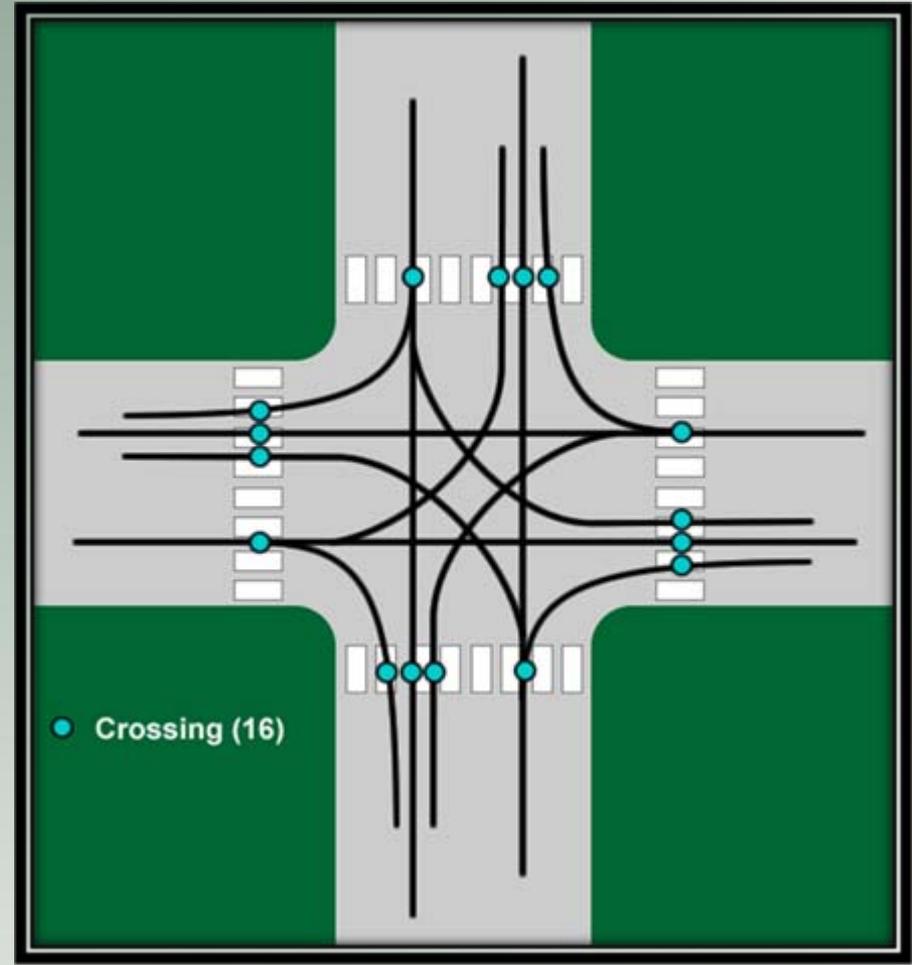
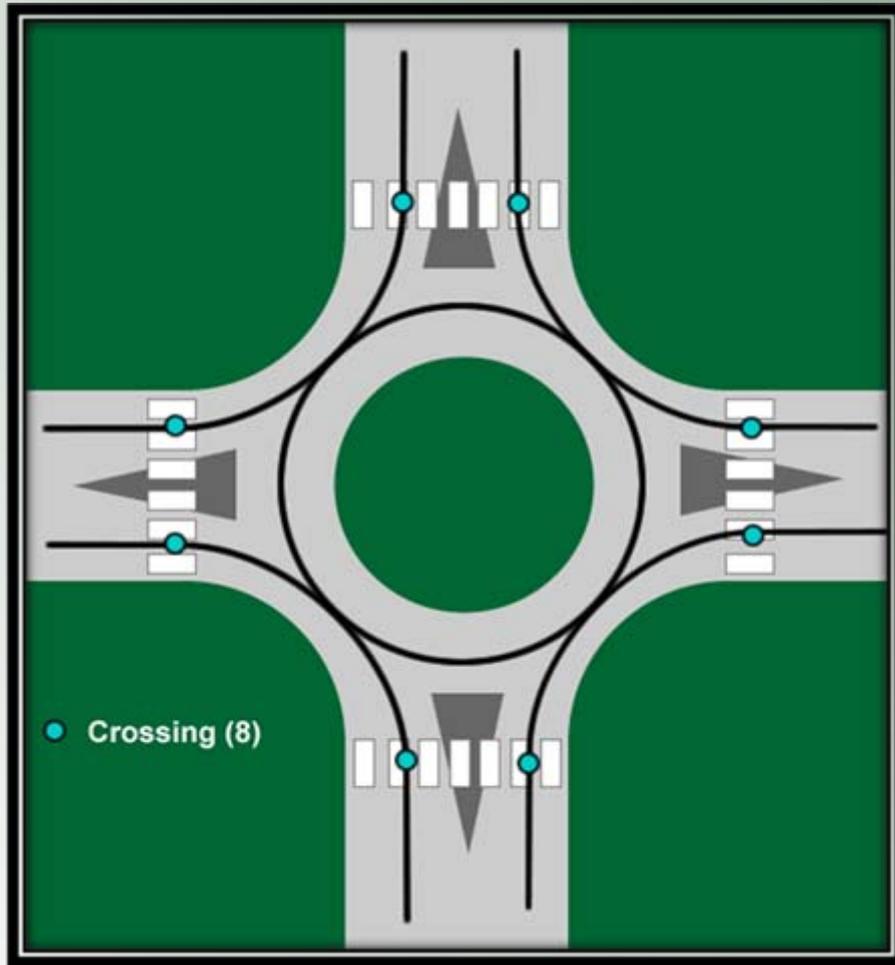
Save money

Complement other common community values

Vehicle Conflict Points



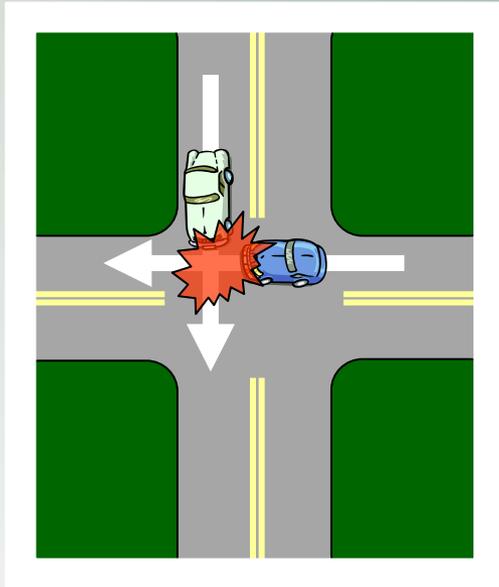
Vehicle-Pedestrian Conflict Points



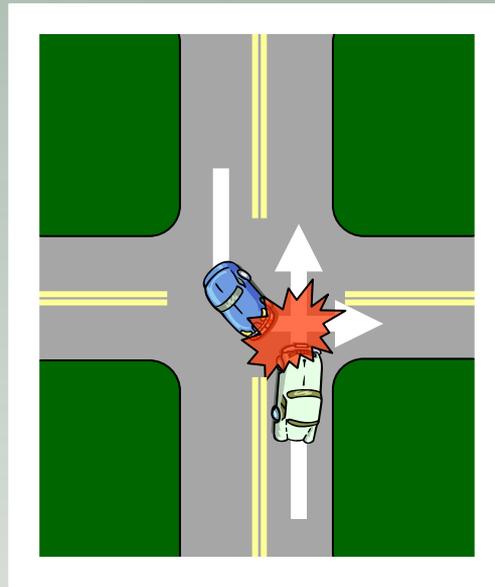
Type of Crashes

Typical 4-leg intersection

Angle

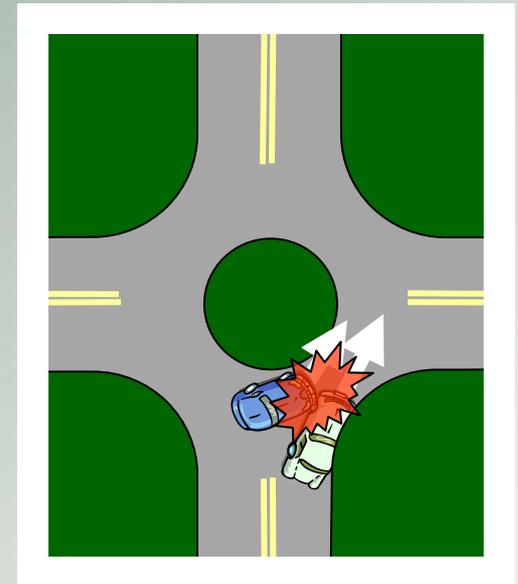


Left turn

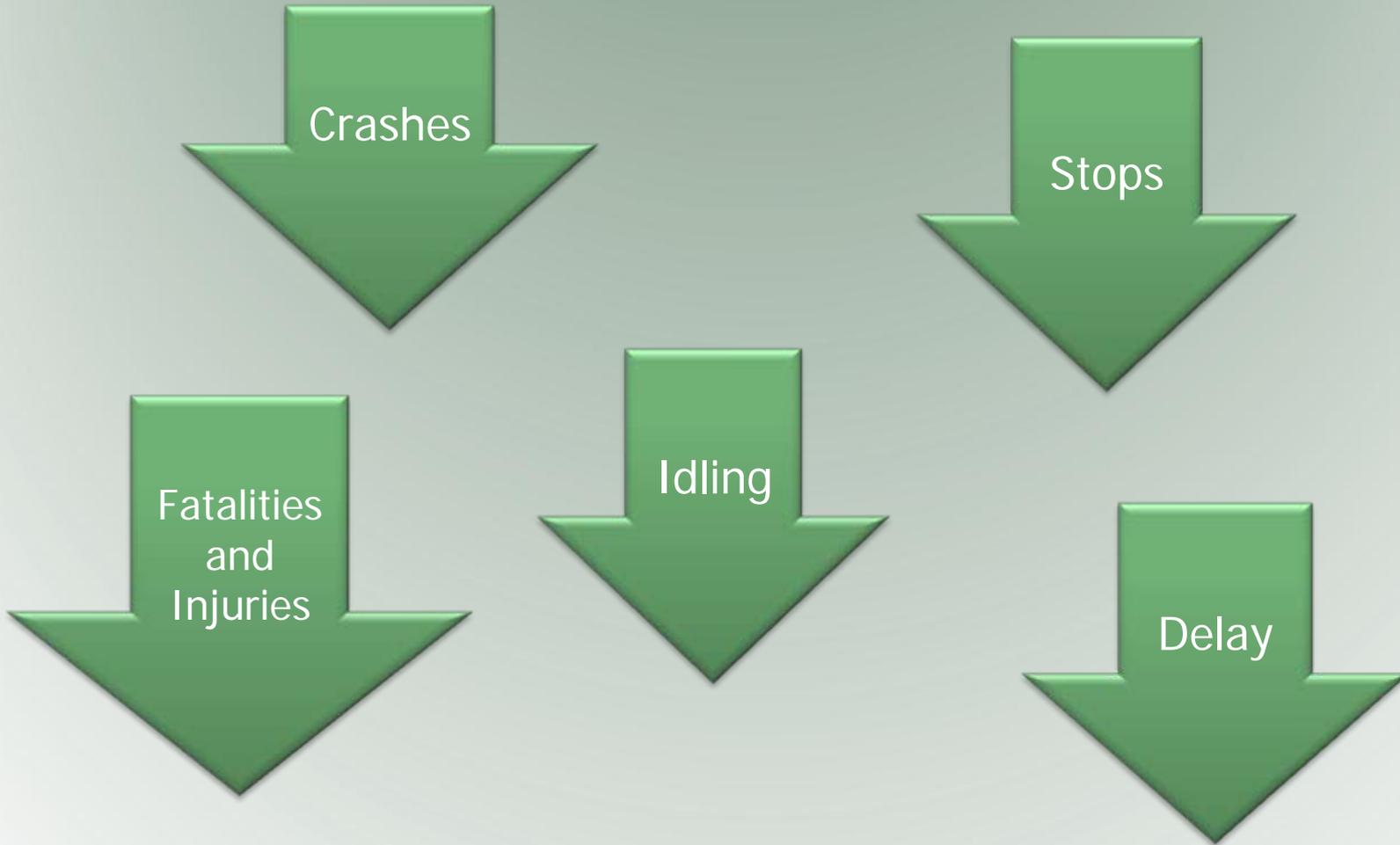


Roundabout

Sideswipe



Study Results



Save Money

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



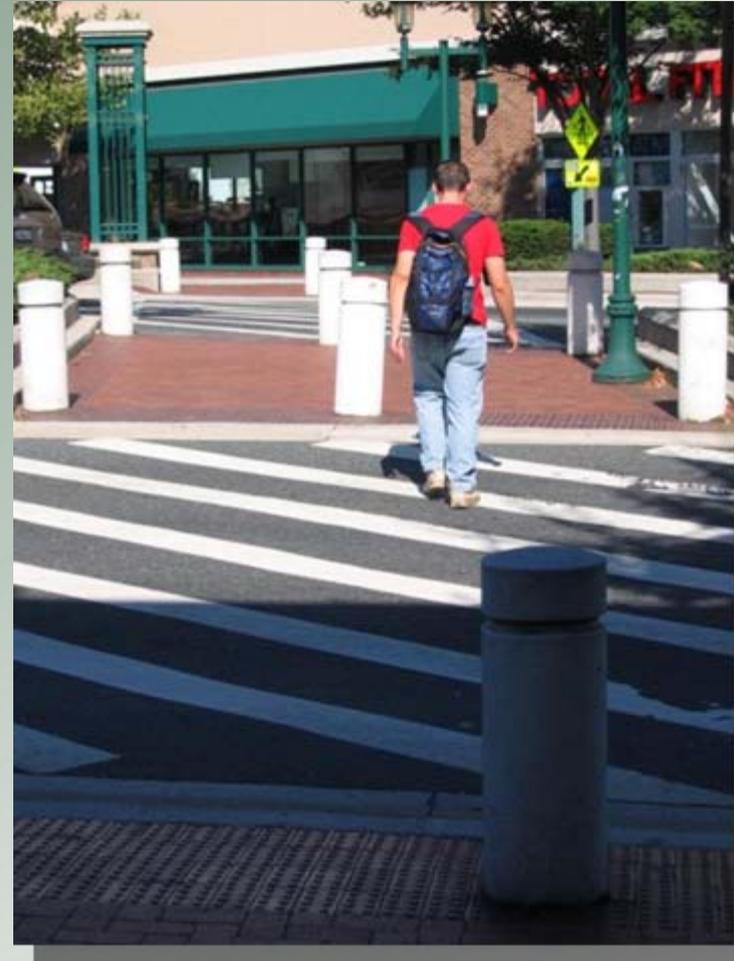
Complement Community Values

- Quieter
- Functional
- Aesthetically pleasing



Special Considerations

- Pedestrians
- Bicyclists
- Visually-impaired



Multi-Lane Roundabouts



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

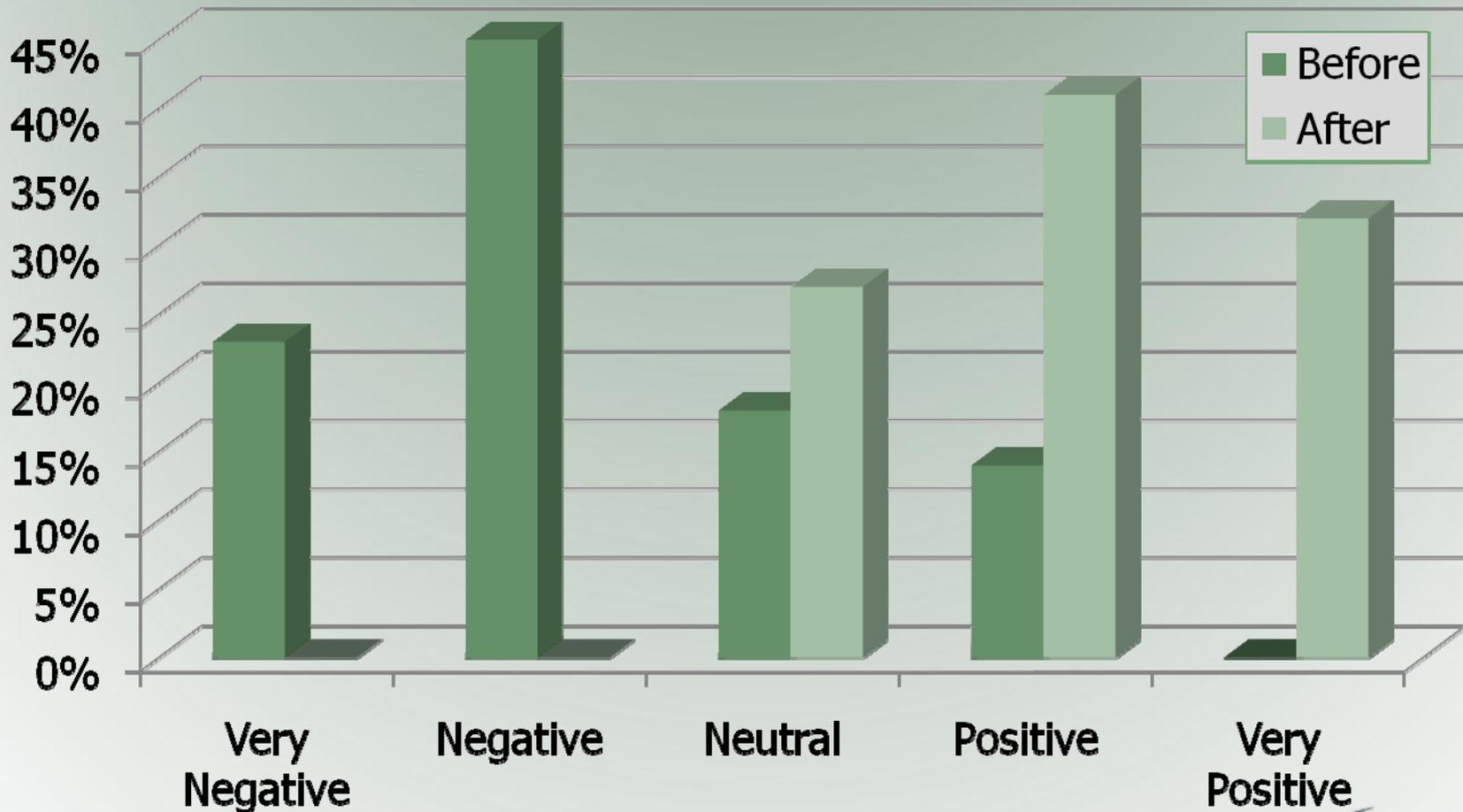


Roundabouts and Driveways



Roundabout Resistance

Public Attitude Towards Roundabouts (Before and After Construction)



Very Negative

Negative

Neutral

Positive

Very Positive

Roundabouts

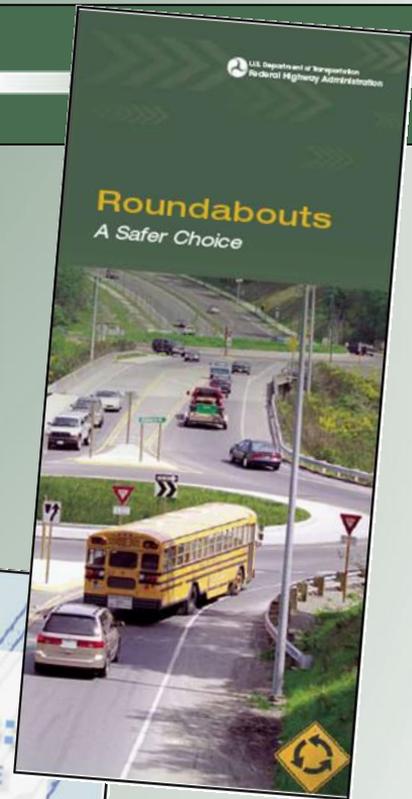
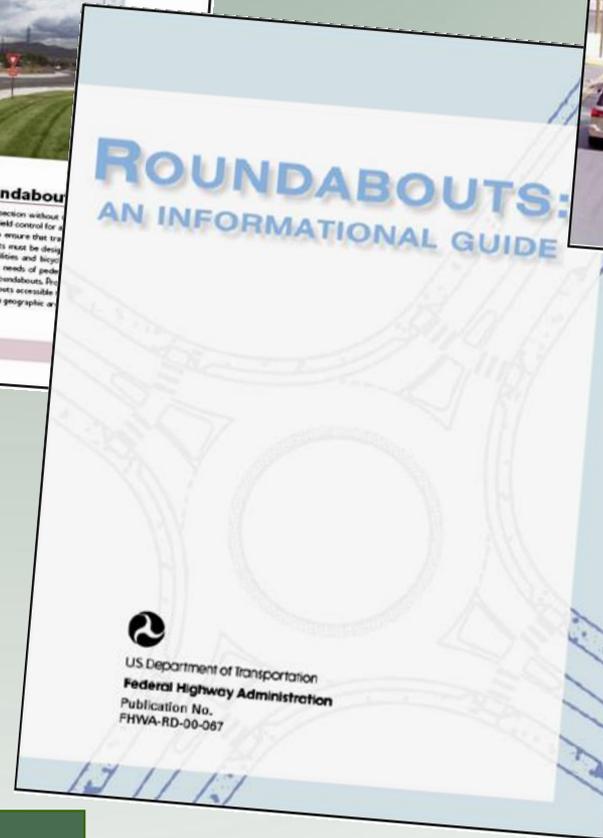
Source: NCHRP Synthesis 264

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/>