

# Safety benefits – case study

Results:

- 69.1% crash reduction
- Zero (0) fatal crashes at the 5 locations
- 88% decrease in injury crashes

## Results

**Problem:** Five rural, two-way, stop-controlled intersections in Maryland were experiencing a high incidence of injury crashes.

**Solution:** MDSHA wanted to reduce the number of crashes while maintaining capacity and reducing costs. They decided to convert five two-way stop-controlled intersections to single-lane roundabout intersections.

Table 1 summarizes the "before and after" crash analysis at the five roundabouts. Following the table is a brief discussion of the results at each roundabout.

**Table 1: Summary of crash reductions after conversion to roundabout intersections**

Locations	Implementation Date	Before				After				Percent Reduction in Crashes Per Year (Injuries/Year)		
		Months	Total Crashes	Injury Crashes	Fatal Crashes	Months	Total Crashes	Injury Crashes	Fatal Crashes	Total Crashes	Injury Crashes	Fatal Crashes
Caerfoss (MD-58 and MD-63/ MD-494)	Dec-95	60	19	8	1	121	9	1	0	76.5%	93.8%	100.0%
Lisbon (MD-94 and MD-144)	Apr-93	60	42	19	0	161	18	4	0	84.0%	92.2%	0.0%
Lothian (MD-2 and MD-408/ MD-422)	Oct-95	60	39	26	1	122	40	11	0	49.6%	79.2%	100.0%
Taneytown (MD-140 and MD-832/ Antrim Blvd.)	Aug-96	60	30	15	0	112	10	3	0	82.1%	89.3%	0.0%
Leeds (MD-213 and Leeds Rd/Elk Mills Rd.)	Aug-95	60	20	14	1	124	22	2	0	46.8%	93.1%	100.0%
<b>Total</b>	--	<b>300</b>	<b>150</b>	<b>82</b>	<b>3</b>	<b>640</b>	<b>99</b>	<b>21</b>	<b>0</b>	<b>69.1%</b>	<b>88.0%</b>	<b>100.0%</b>

Federal Highway Administration Office of Safety • Case Study: FHWA-SA-09-018 • Roundabouts – The Maryland Experience; A Maryland Success Story