

## Delaware 10 & Delaware 15



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- AADT
  - Delaware 10: 5,062 vpd
  - Delaware 15: 2,634 vpd
- Speed Limit
  - Delaware 10: 50 mph
  - Delaware 15: 35 mph
- 25 crashes during the past three years



## Site Visit Observations

- High volume of traffic on Delaware 10
  - Queue develops on northbound and southbound approaches due to volume on Delaware 10
- Limited sight distance from northbound and southbound approaches
- Traffic on Delaware 10 is fast moving with passing permitted in the vicinity
- One lane of traffic from all approaches with no turning lanes

## Type of Crash Summary

Type of Crash	Frequency	Percentage
Failure to remain stopped	13	52%
Rear end collision	5	20%
Ran stop sign	3	12%
Failure to yield right of way	2	8%
Deer in roadway	1	4%
Improper passing on right	1	4%

## Reason for Crash Summary

Reason for Crash	Frequency	Percentage
Didn't see vehicle	WB: 5	WB: 20%
	EB: 5	EB: 20%
Inattentive driving	8	32%
DUI	2	8%
Unknown	2	8%
Roadway conditions	1	4%
Vehicle blocking view	1	4%
Driver confusion	1	4%

## Approach of Driver Responsible for Crash

Approach	Frequency	Percentage
Northbound	9	36%
Southbound	10	40%
Eastbound	5	20%
Westbound	1	4%

## Why are crashes occurring?

- Drivers on Delaware 15 have difficulty waiting for a large enough gap in traffic due to inattention, sight distance, and volume on Delaware 10
- Crashes are evenly distributed from both minor road approaches
  - Does not suggest a problem for particular minor road approach

## How can crashes be prevented?

- DeIDOT plans to convert intersection to a roundabout

	Expected crashes per year with no treatment	Expected crashes per year with roundabout conversion
<b>All Crashes</b>	8.33	2.42 (1.75-3.08)
<b>Injury</b>	5.33	0.69 (0.59-0.80)

- Roundabout Disadvantages: Increased right-of-way requirements, cost, construction time, public opposition

## Cost/ Benefit Analysis

Counter measure	Cost	Benefit	Cost: Benefit Ratio
Convert to roundabout	\$195,000- \$500,000	\$6,030,013	1:12.1 – 1:30.9