

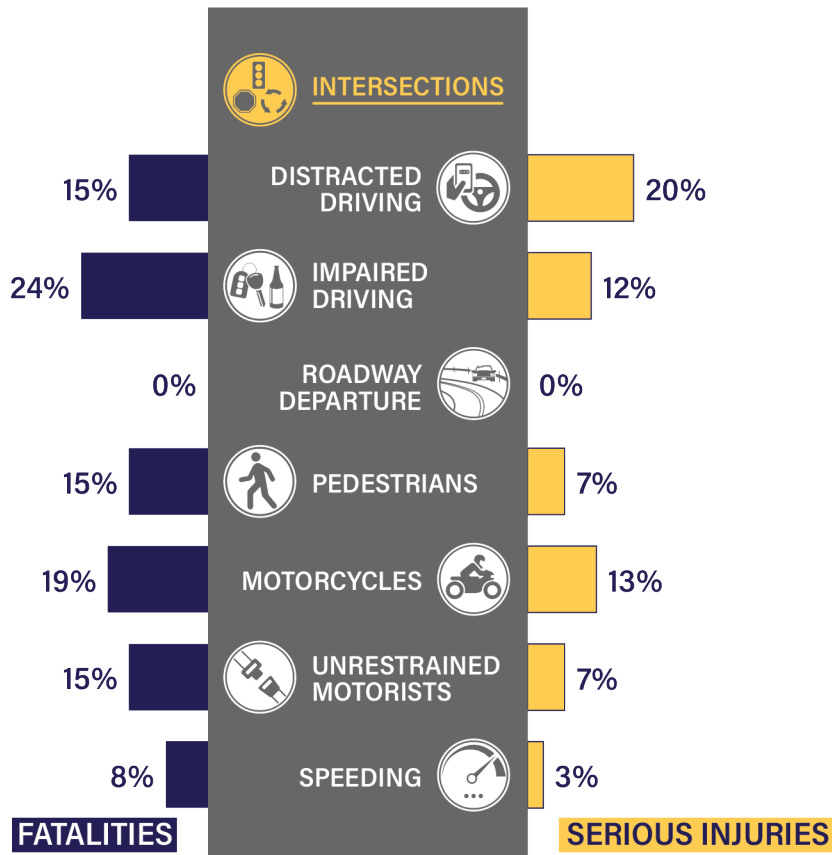


# Emphasis Area 1 Intersections

Intersections involve multiple turning and crossing maneuvers that create numerous conflict points and crash potentials between vehicles, pedestrians, and bicyclists – making intersections one of the most complex traffic situations that road users encounter. Many factors can contribute to an intersection crash, many of which are identified as their own Emphasis Area within this Plan. From 2015 through 2019, nearly 40 percent of fatalities and serious injuries occurred at an intersection, as determined by the reporting officer at the time of the crash.



## Intersection Emphasis Area Overlap with Other Emphasis Areas (2015-2019 Crashes)



**EMPHASIS AREA OBJECTIVE**

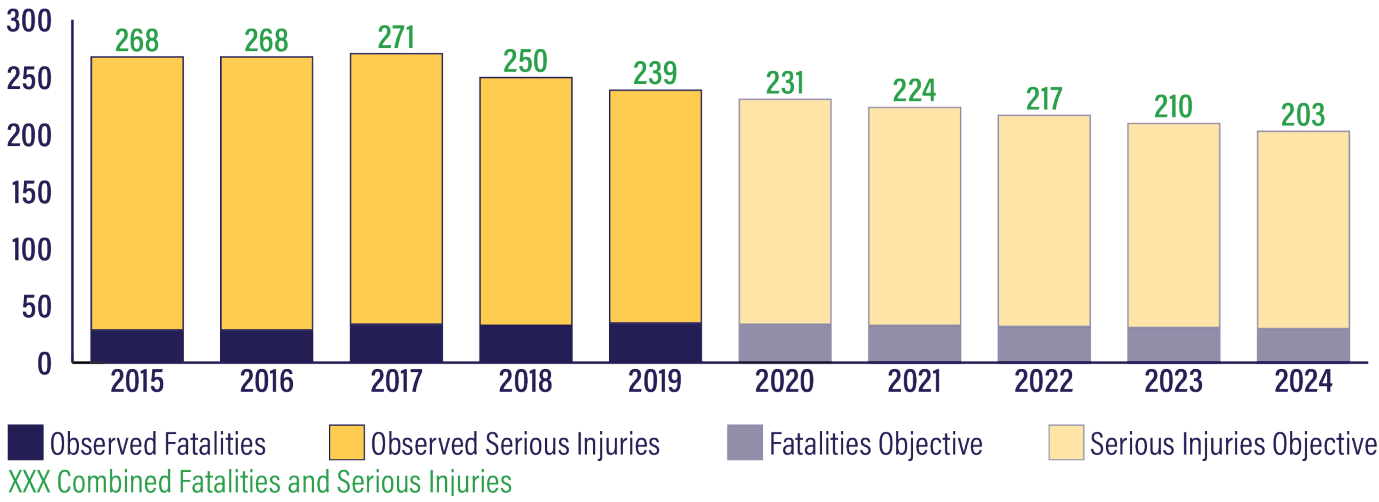
**REDUCE**  
**Intersection**  
**Fatalities & Serious Injuries by**  
**15%**  
from **239 to 203,**  
over the next **5 years.**

Intersections

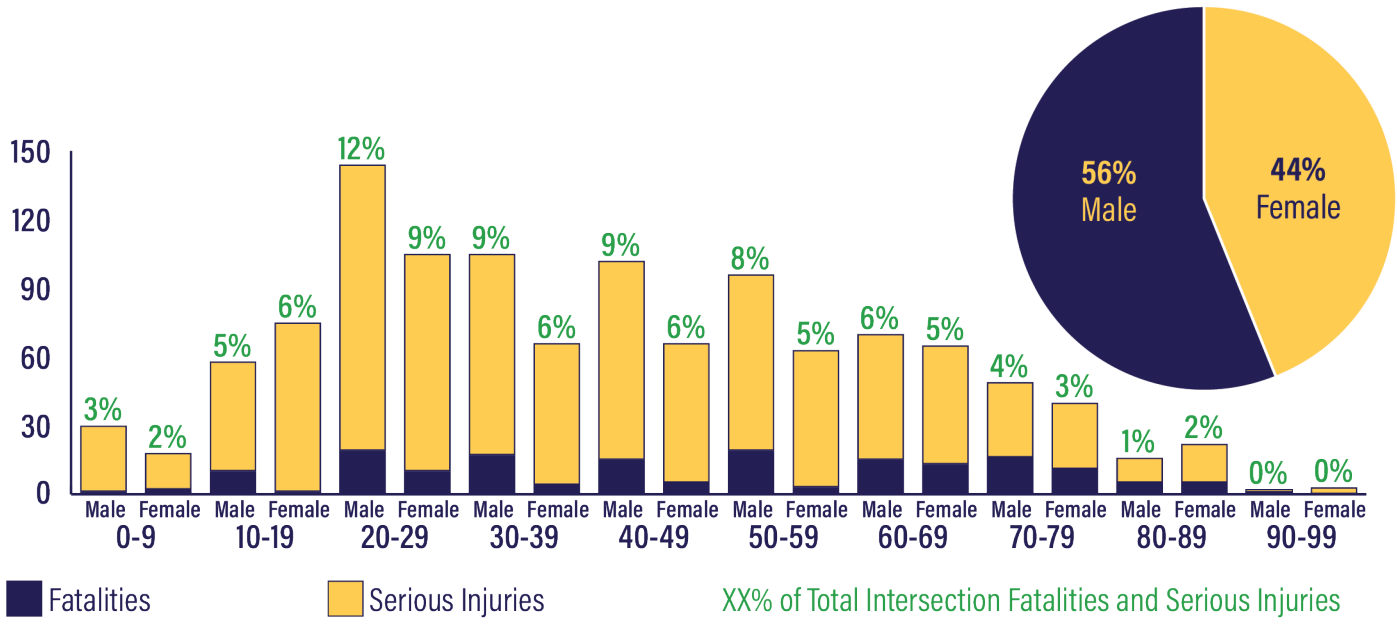
# Crash Data Summary (2015-2019)

**Intersection Crash Definition:** Persons fatally or seriously injured in crashes that occurred at an intersection or related to an intersection or crossover, as determined by the reporting officer at the time of the crash.

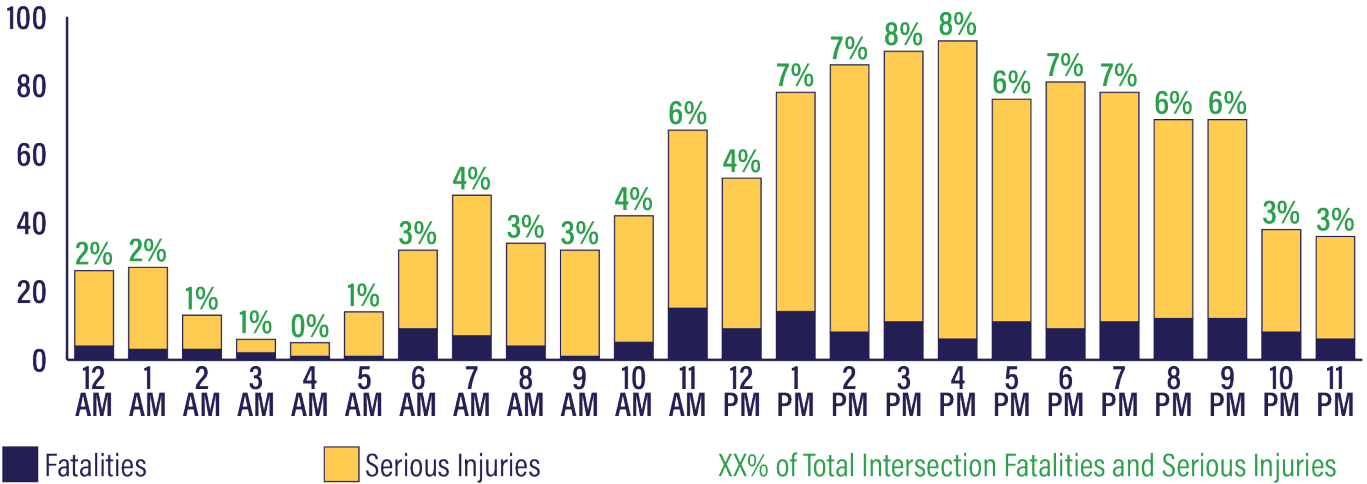
## Intersection Fatalities and Serious Injuries (5-Year Rolling Averages)



## Age/Gender of Crash Victim



## When?



	12 AM	1 AM	2 AM	3 AM	4 AM	5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	11 PM	Total
<b>Sunday</b>	6	6	3	1	2	4		2		4	11	6	4	11	13	5	5	16	13	3	11	17	4	2	149
<b>Monday</b>	3		2		2	1	4	3	2	3	2	7	9	11	18	12	9	6	10	12	9	7	6		138
<b>Tuesday</b>	3	2		1		3	13	11	6	7	8	11	10	14	13	12	19	10	11	9	5	10	3	1	182
<b>Wednesday</b>	4	1	1	2			4	7	7	6	6	7	4	6	11	15	13	10	11	13	10	10	5	4	157
<b>Thursday</b>	4	2			1	1	4	15	10	2	5	8	10	8	9	9	15	6	8	8	11	7	10	7	160
<b>Friday</b>	3	1	3			1	3	4	5	7	3	13	13	15	8	19	14	9	20	17	13	10	4	13	198
<b>Saturday</b>	3	15	4	2		4	4	6	4	3	7	15	3	13	14	18	18	19	8	16	11	9	6	9	211
<b>Total</b>	26	27	13	6	5	14	32	48	34	32	42	67	53	78	86	90	93	76	81	78	70	70	38	36	1,195

XX Intersection Fatalities and Serious Injuries during Day of Week and Hour of Day

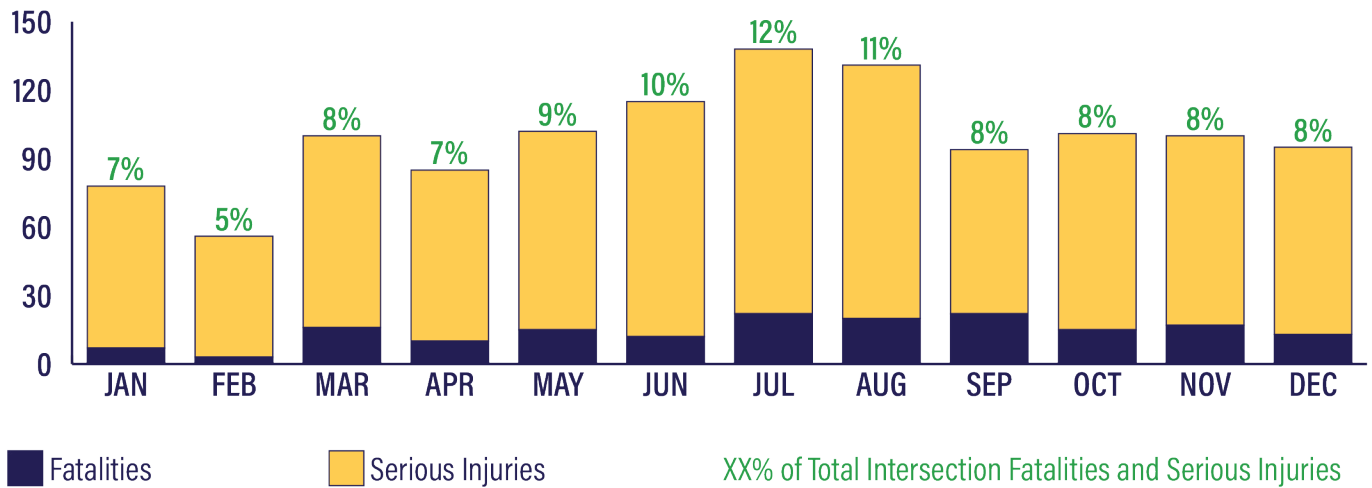
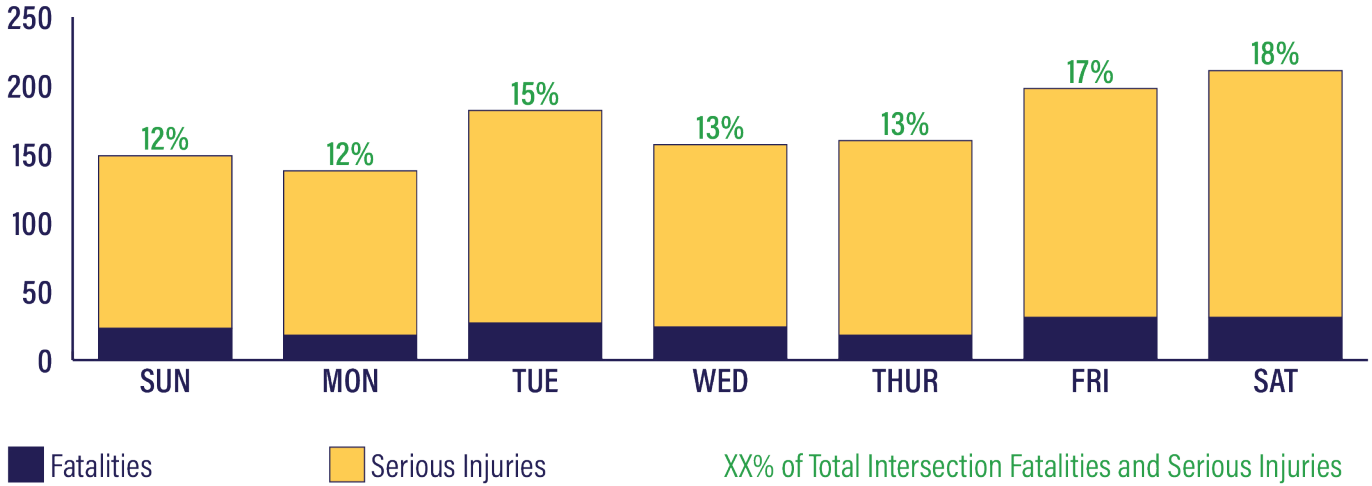
Lower Frequency  Higher Frequency

## 2015 to 2019 Intersection Fatalities & Serious Injuries

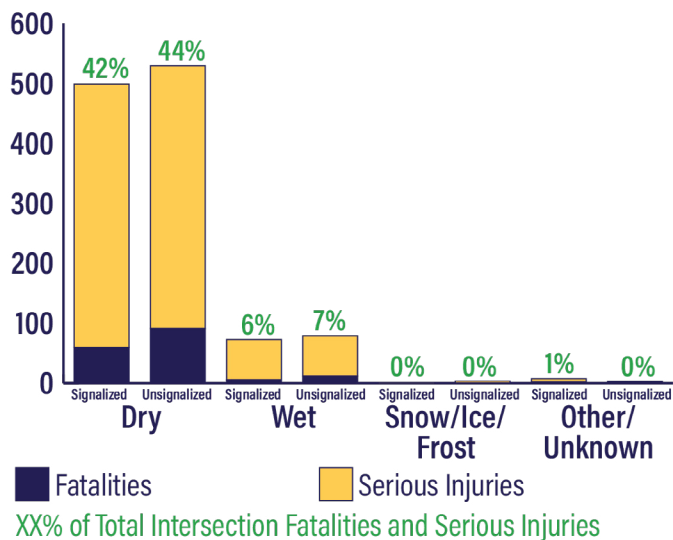
- 74% occurred in urban areas
- 60% occurred between 1 PM and 10 PM
- 56% were male
- 53% were angle crashes
- 53% occurred in New Castle County
- 51% occurred at unsignalized intersections
- 47% occurred along divided roadways
- 36% occurred at unsignalized intersections along undivided roadways
- 35% occurred on principal arterial roadways
- 21% were 20 to 29 years old
- 13% occurred on wet/snowy/icy roadways
- 13% occurred during dark, unlit conditions



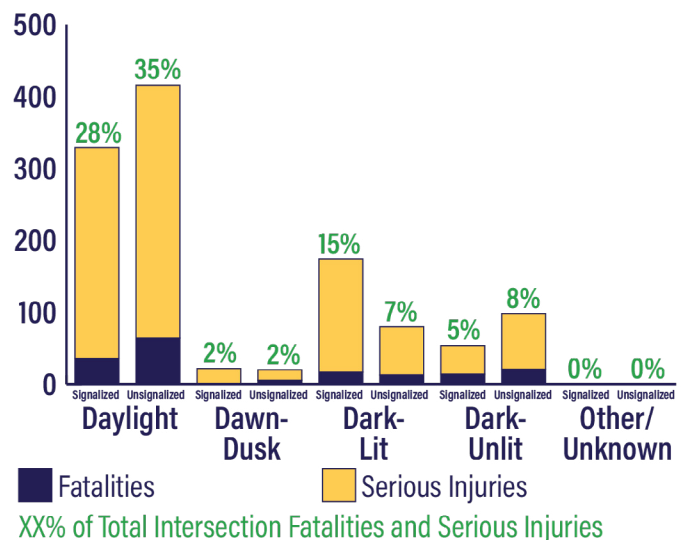
### When?



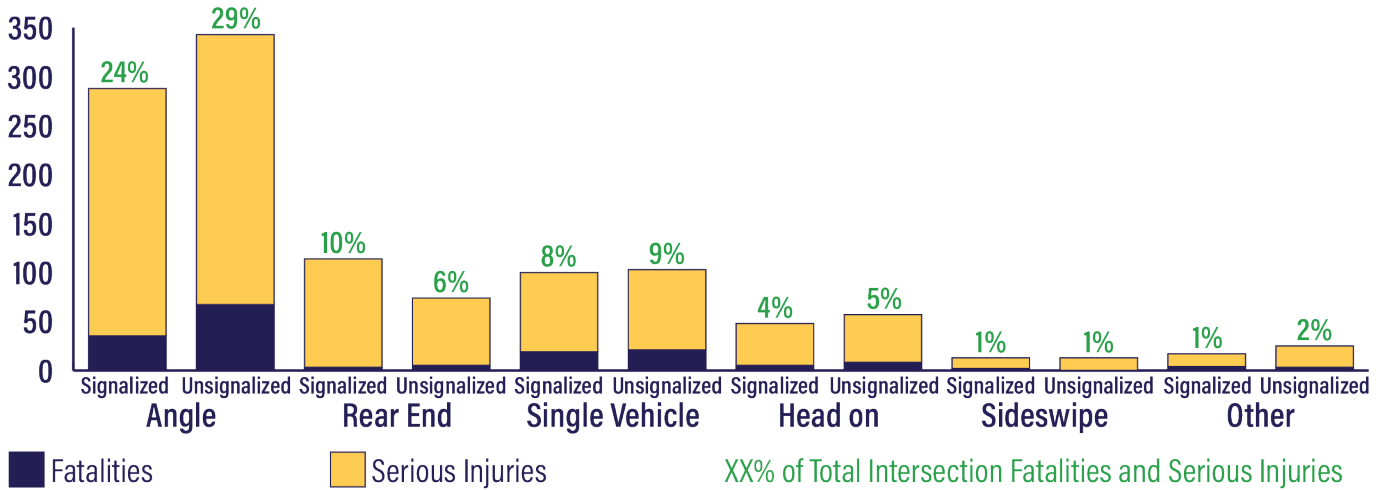
### Surface Condition



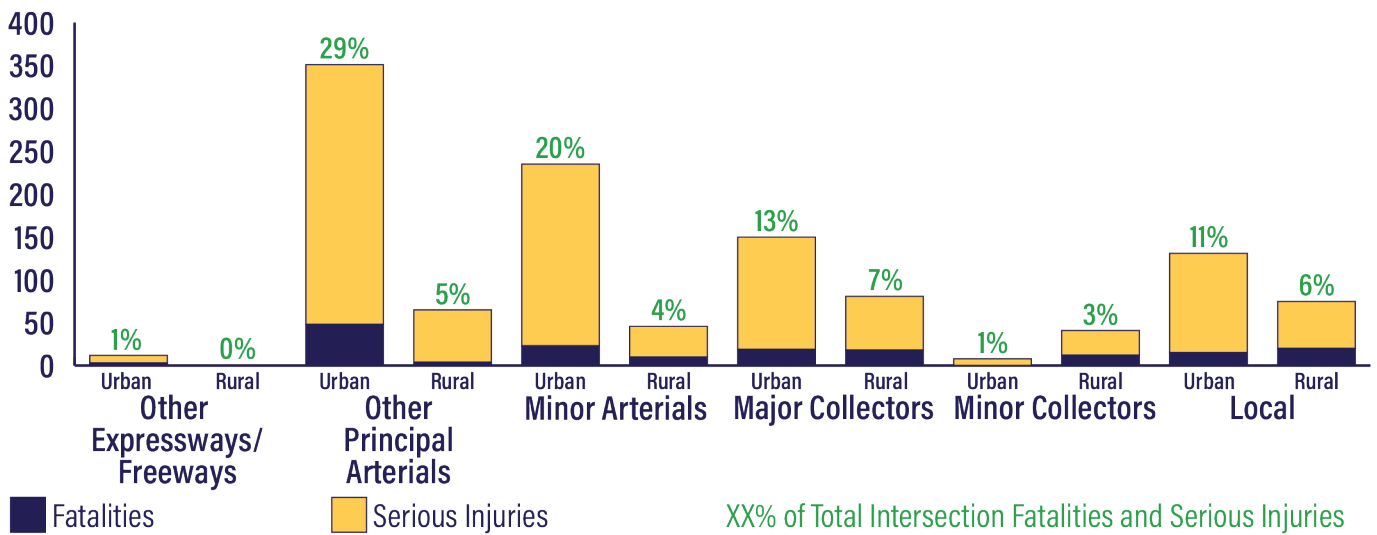
### Lighting Condition



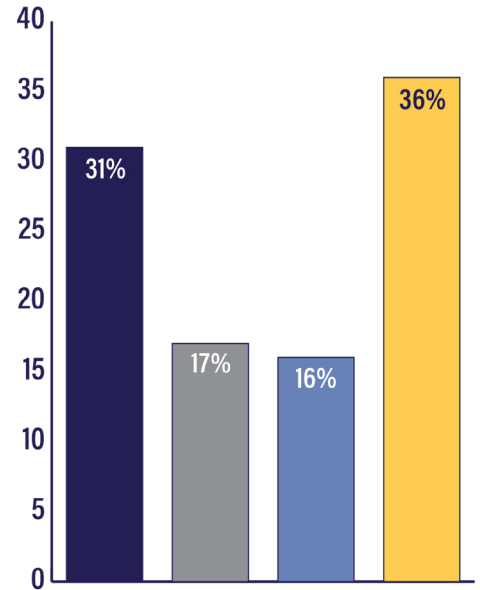
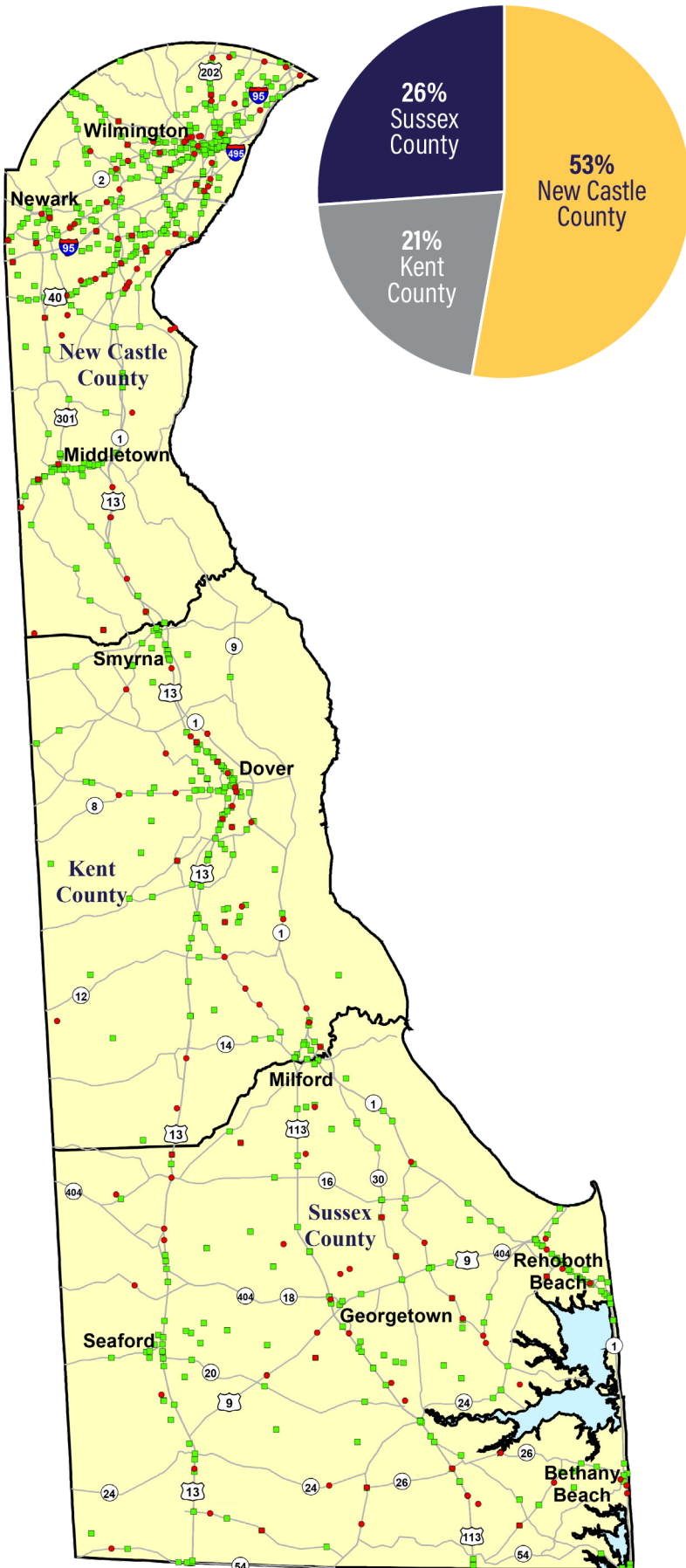
### Manner of Impact



### Roadway Functional Classification



Where?



- Signalized Intersection - Divided Roadway
- Signalized Intersection - Undivided Roadway
- Unsignalized Intersection - Divided Roadway
- Unsignalized Intersection - Undivided Roadway



Each symbol represents a crash location. Multiple crashes may have occurred at or near the same location; therefore, symbols may overlap. Additionally, multiple fatalities and/or serious injuries may have resulted from a single crash.

# Emphasis Area Strategies: Intersections



**Strategy 1: Reduce the frequency and severity of intersection crashes through operational, geometric and traffic control device improvements.**

- 1.1 Continue to prioritize critical corridors for safety audits to identify and implement effective countermeasures, such as reducing conflict points along divided highways.
- 1.2 Implement systemic intersection-related safety improvements at high-risk intersections.
- 1.3 Establish a proactive conflict point removal program focusing on median crossover closures, road vacations and removal of redundant intersections.
- 1.4 Establish an intersection safety program, similar to the Corridor Capacity Preservation Program (CCPP) with the goal of eliminating recurring high crash intersections.
- 1.5 Investigate the feasibility of piloting a traffic signal countdown indication.
- 1.6 Perform before/after studies to evaluate and identify the most effective treatments for a given crash type/location.



**Strategy 2: Reduce the frequency and severity of intersection crashes using innovative technology and automated enforcement practices.**

- 2.1 Expand the Electronic Red Light Safety Program (ERLSP) to include additional signalized intersections and utilize collections to fund additional safety projects.
- 2.2 Support the enactment of legislation to expand the use of automated enforcement for intersection violations including "block the box" and stop sign running.
- 2.3 Utilize technology to collect data regarding near-miss events at intersections to support the identification of appropriate safety countermeasures.
- 2.4 Implement Digital Short-Range Communications (DSRC) and/or cellular-based technology at intersections to ready infrastructure for the safety benefits of Vehicle to Infrastructure communications.
- 2.5 Investigate the feasibility of implementing dynamic all-red and dilemma zone protection at signalized intersections to reduce the occurrence of red light running.



**Strategy 3: Develop and distribute consistent public information messaging to educate the public on traffic laws, new traffic control devices and intersection safety.**

- 3.1 Implement targeted public awareness campaigns to improve road user knowledge and comprehension of new and existing traffic control devices for intersections.
- 3.2 Evaluate the analytics of social media pages to determine if appropriate target audiences are being reached with safety messaging.
- 3.3 Review and revise the Delaware Driver Manual to incorporate new and existing traffic control devices to improve road user's knowledge.

# Emphasis Area Strategies: Intersections



Strategy 4: Implement policies and guidelines targeting safety improvements at intersections.

- 4.1 Update DelDOT's Roundabout Design Guidance Memorandum to include the latest best practices and encourage designers to consider roundabouts where appropriate.

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- 4.2 Update the DelDOT Roundabout Design Guidance Memorandum to include design guidelines for compact roundabout installations.

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- 4.3 Evaluate the need for revisions to DelDOT's Complete Streets policy and implementation plan.