

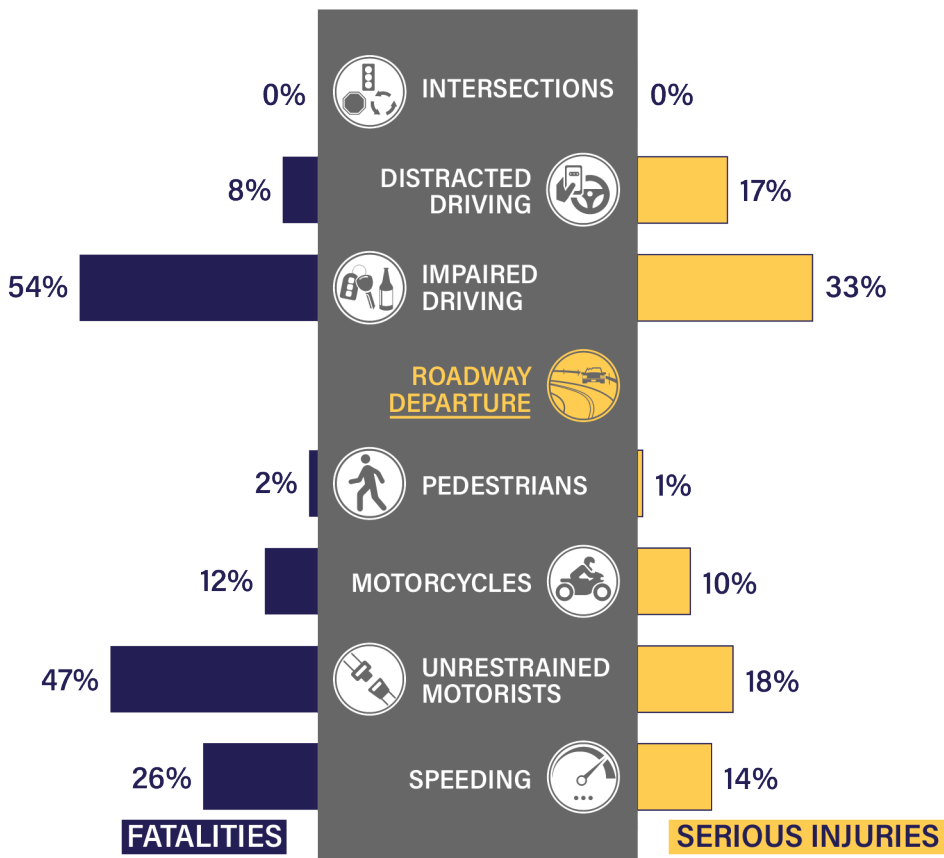
# Emphasis Area 4

## Roadway Departure

A roadway departure occurs when a vehicle crosses an edge line, a center line, or otherwise leaves the traveled way of any roadway. A roadway departure crash occurs when that vehicle leaves the traveled way and strikes another vehicle, one or more fixed objects located outside of the traveled way, overturns, or a combination of those actions. Often, roadway departure crashes involve a single vehicle; therefore, safety strategies typically first address keeping the vehicle on the roadway and secondly, address the consequences of leaving the roadway. Historically, roadway departure crashes in Delaware have represented a high percentage of fatalities and serious injuries. From 2015 through 2019, nearly 28 percent of fatalities and 16 percent of serious injuries resulted from roadway departure crashes, which is a decrease from 2007 through 2014.



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



**EMPHASIS AREA OBJECTIVE**

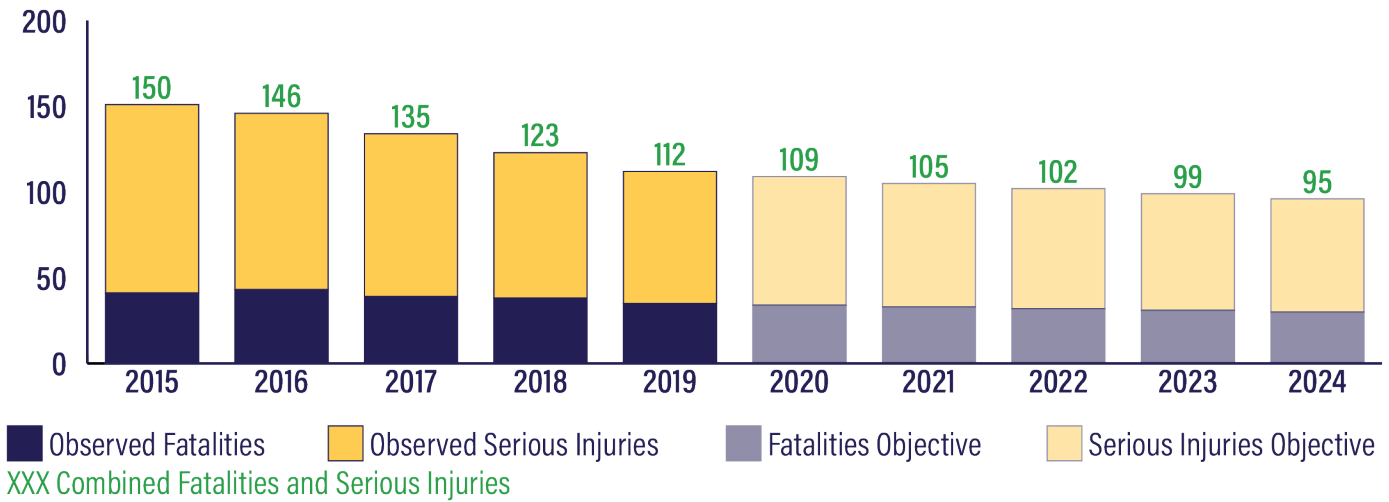
**REDUCE**  
**Roadway Departure**  
**Fatalities &**  
**Serious Injuries by**  
**15%**  
**from**  
**112 to 95,**  
**over the next**  
**5 years.**

Roadway Departure

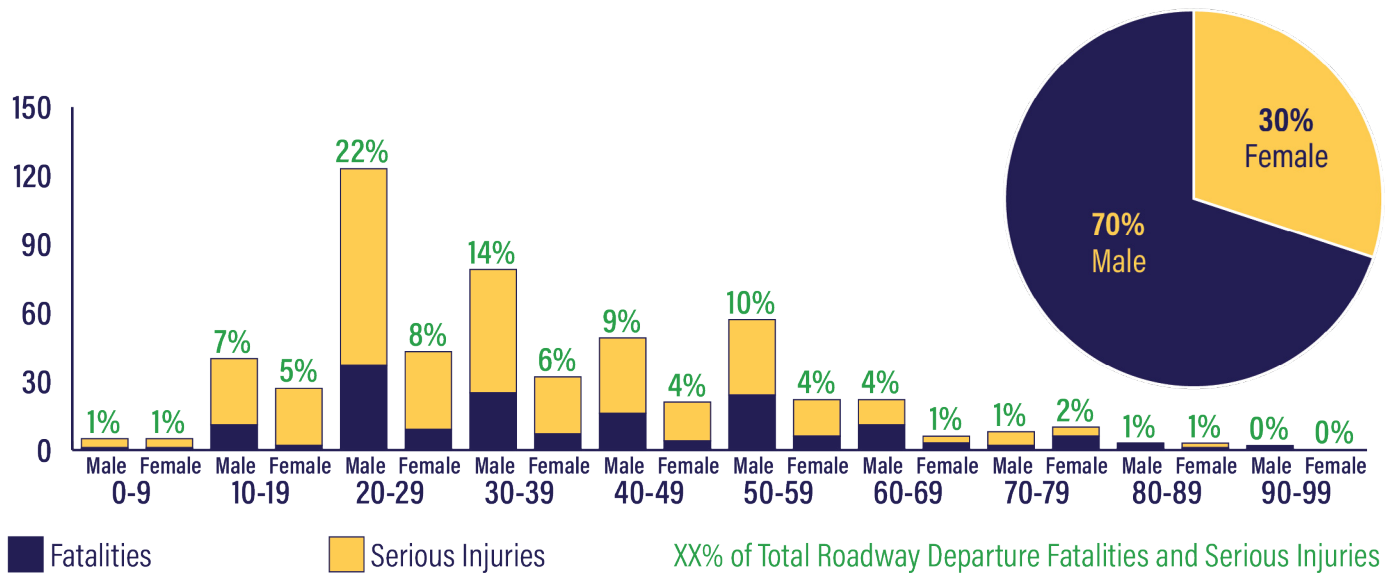
# Crash Data Summary (2015-2019)

**Roadway Departure Crash Definition:** Persons fatally or seriously injured in crashes that involve a roadway departure as defined by FHWA's roadway departure definition.

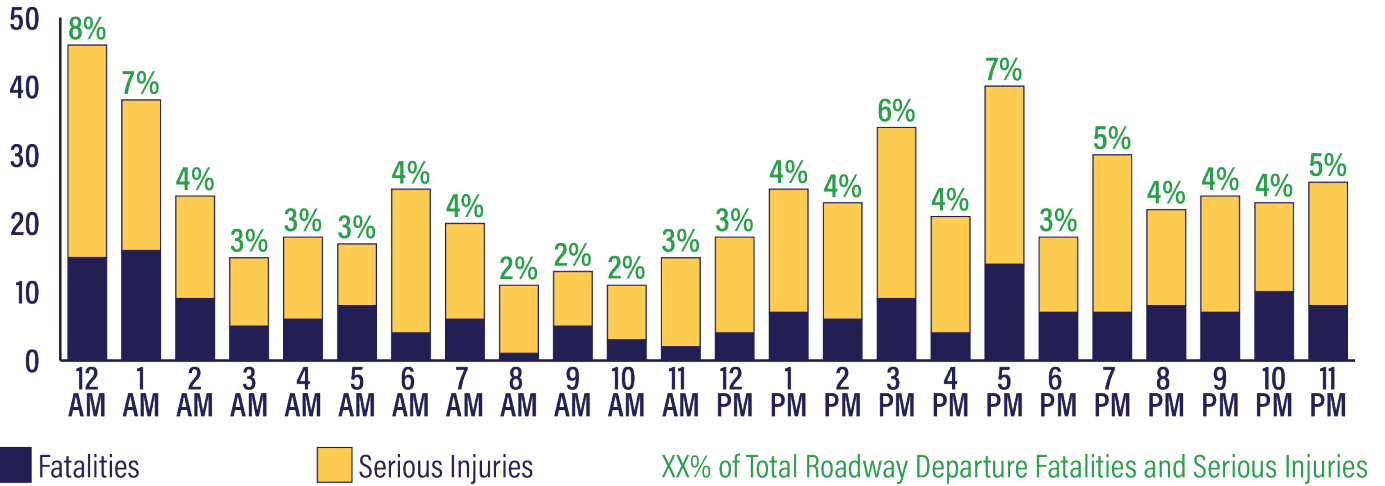
## Roadway Departure Fatalities and Serious Injuries (5-Year Rolling Averages)



## 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>	12	12	11	5	7	4	4	1	2	6	1	2	3	3	4	6	3	2	4	5	3	3	3	2	108
<b>Monday</b>	3	6	2	2		2	2	2		1	2	3	2	4	4	5	1	5	3	2	5	1	3	4	64
<b>Tuesday</b>	4	2		1		1	4	5	3	1	3	2	3	2	3	1	4	6	2	3	2	5	4	2	63
<b>Wednesday</b>	1		3		2	2	2	2	1				2	1	4	8	1	3	3		2		3	3	43
<b>Thursday</b>	4	6	2		1	2	2	5	2	3	4	1	3	3	1	4	3	8	3	4	3	2	1	1	68
<b>Friday</b>	10	8	2	1	1	4	5	4	3	1		5	3	7	4	2	2	7	1	5	3	8	3	9	98
<b>Saturday</b>	12	4	4	6	7	2	6	1		1	1	2	2	5	3	8	7	9	2	11	4	5	6	5	113
<b>Total</b>	46	38	24	15	18	17	25	20	11	13	11	15	18	25	23	34	21	40	18	30	22	24	23	26	557

XX Roadway Departure Fatalities and Serious Injuries during Day of Week and Hour of Day

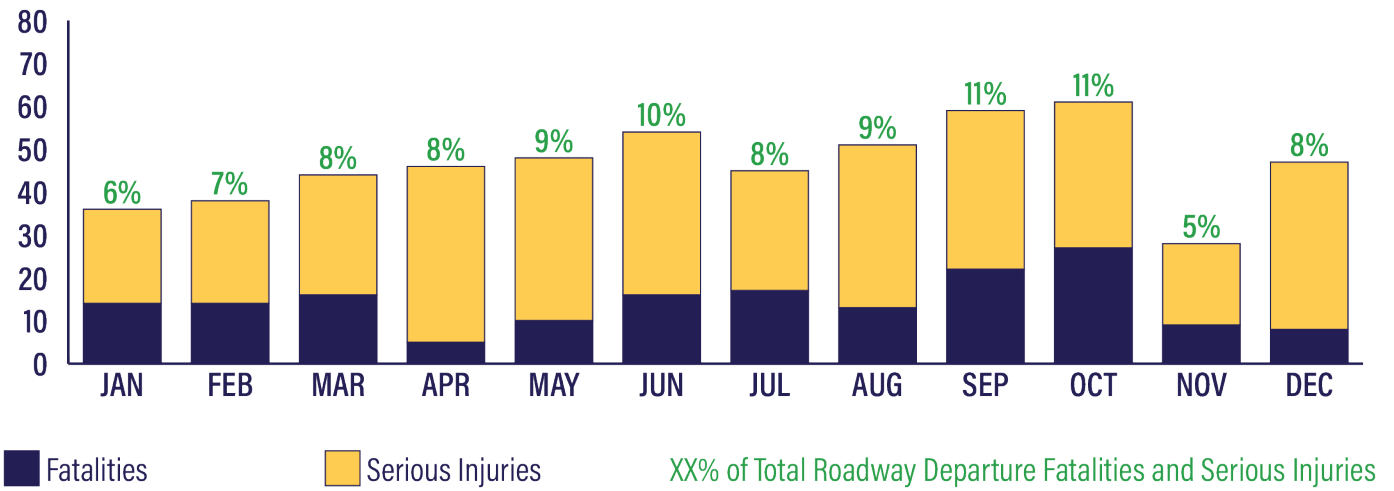
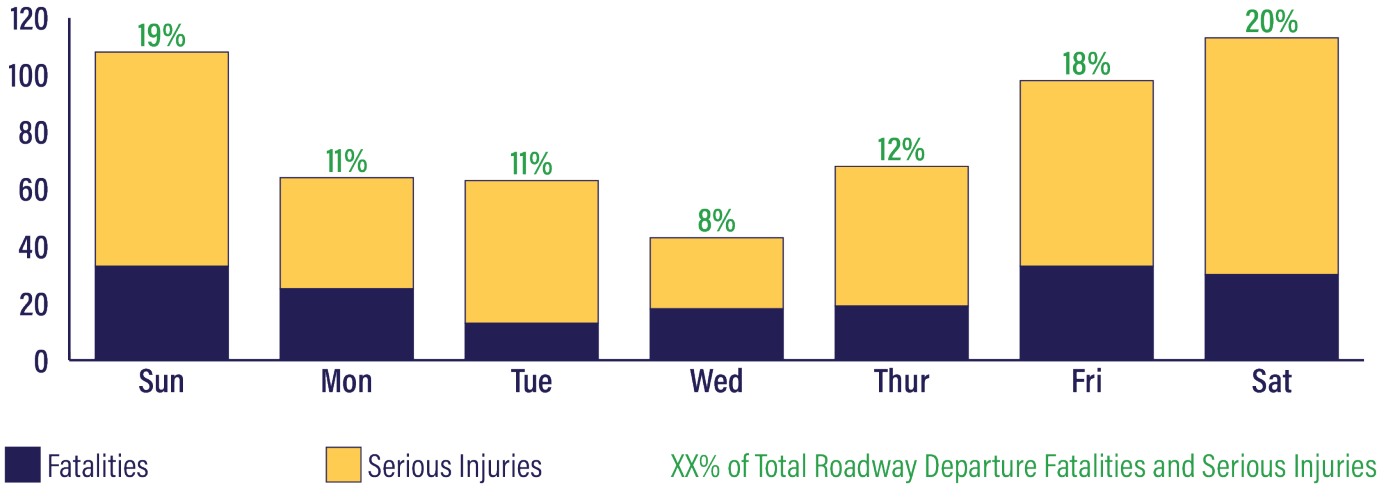
Lower Frequency  Higher Frequency

## 2015 to 2019 Roadway Departure Fatalities & Serious Injuries

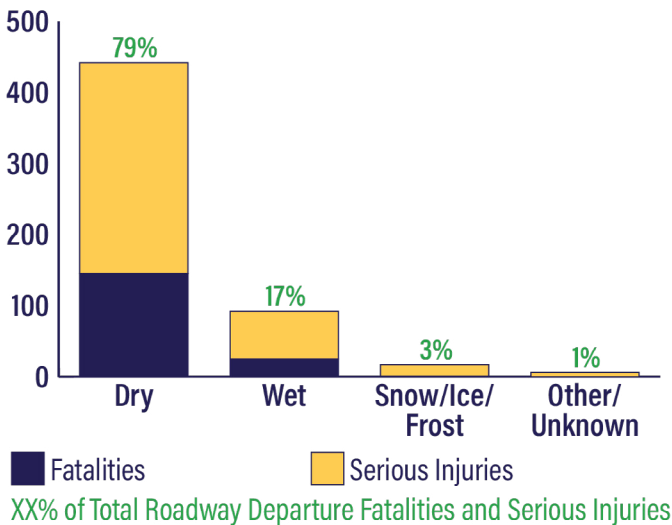
- 80% occurred in single vehicle crashes
- 70% were male
- 60% occurred along collector and local roadways
- 57% occurred on a Friday, Saturday, or Sunday
- 52% occurred in rural areas
- 48% occurred within a horizontal curve
- 40% occurred during dark (unlit) conditions
- 30% were 20 to 29 years old
- 20% occurred on wet/snowy/ice roadways
- 20% occurred between 11 PM and 2 AM
- 20% involved striking a tree



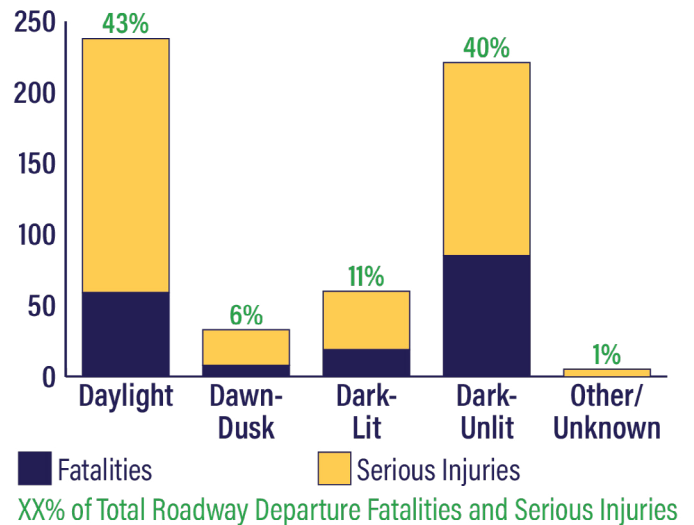
### When?



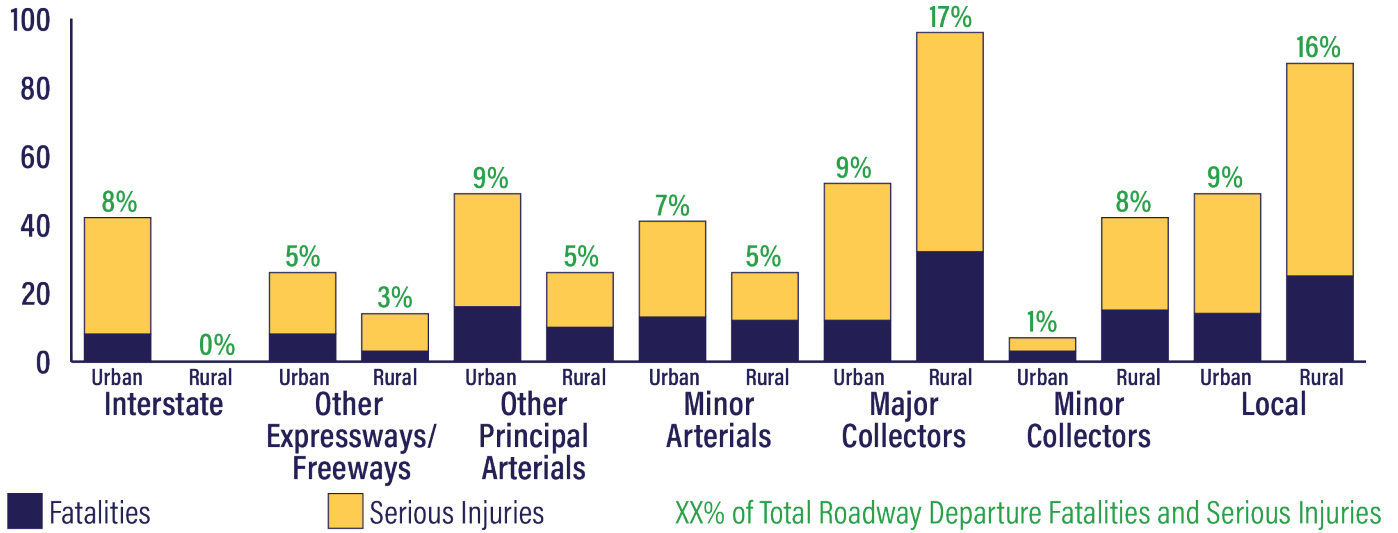
### Surface Condition



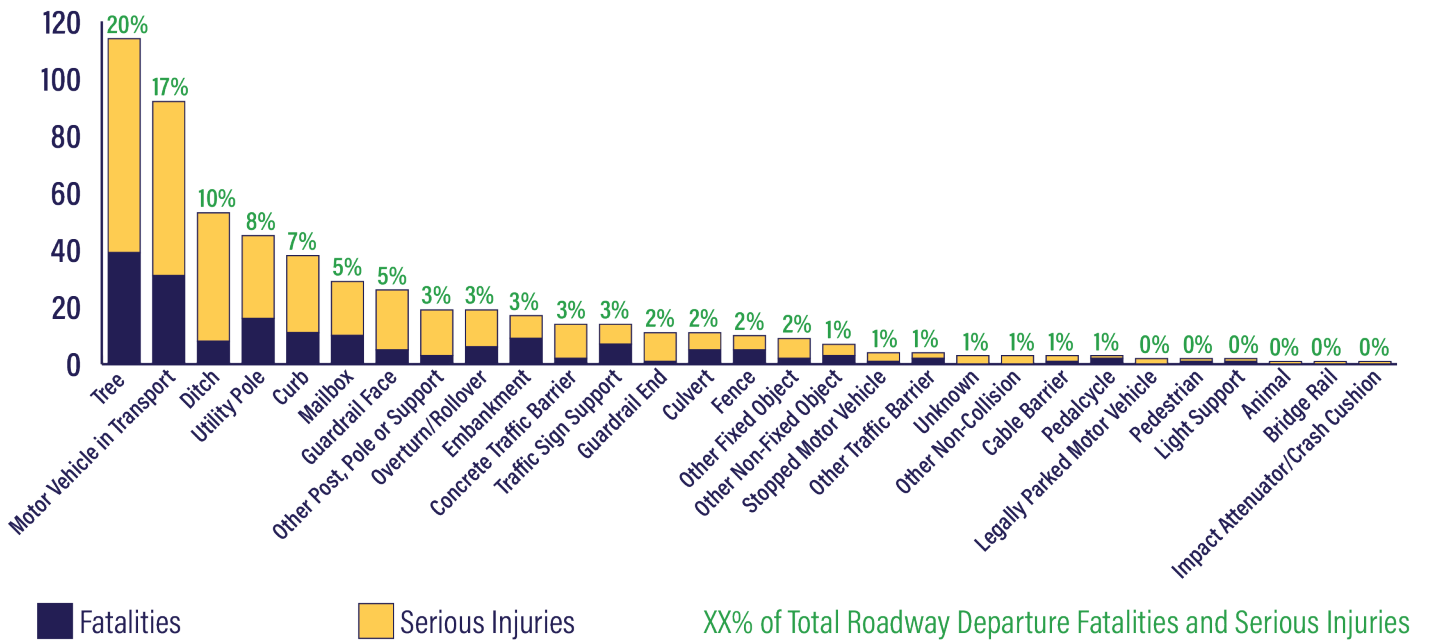
### Lighting Condition



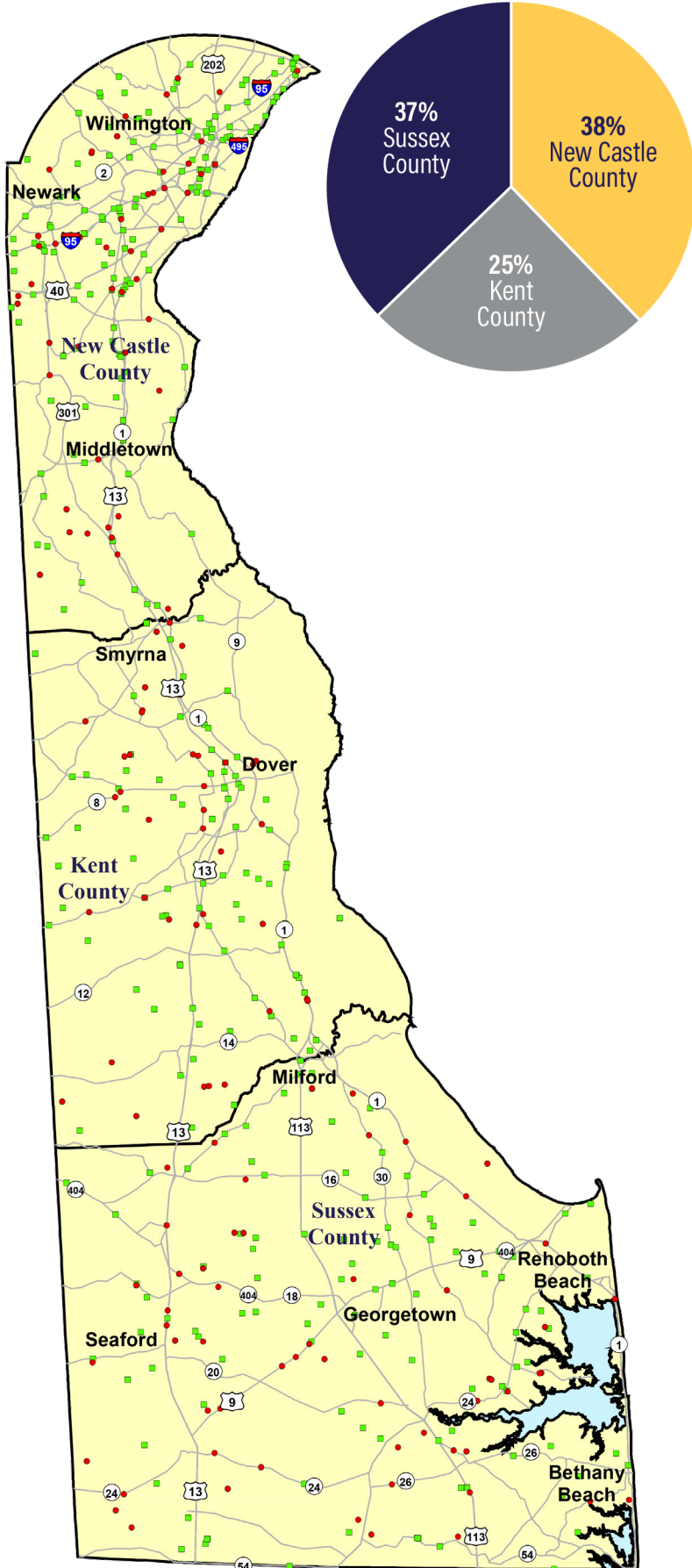
## Roadway Functional Classification



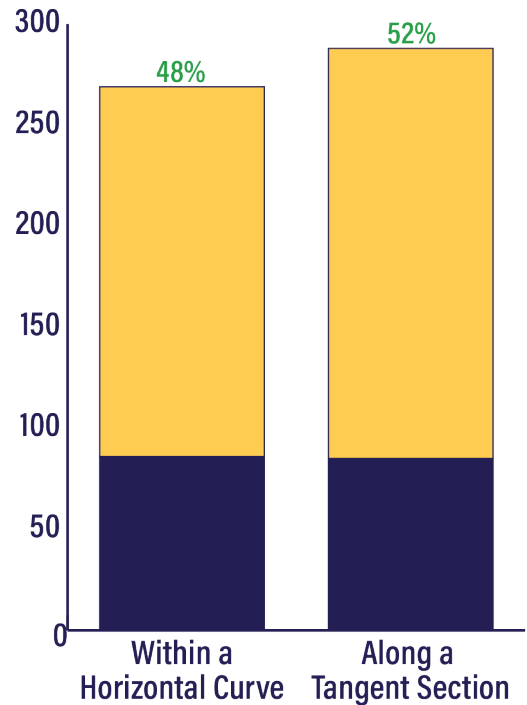
## Most Harmful Event



Where?



**37%**  
of all fatalities in Sussex County  
occurred in roadway departure  
crashes



■ Fatalities      ■ Serious Injuries  
XX% of Total Roadway Departure Fatalities and Serious Injuries

**54%**  
of vehicle occupant fatalities and  
20% of vehicle occupant serious  
injuries in roadway departure  
crashes were unrestrained  
motorists

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.

● Fatality  
■ Serious Injury

# Emphasis Area Strategies: Roadway Departure



**Strategy 1: Reduce the likelihood of vehicles leaving a travel lane through the implementation of engineering countermeasures.**

- 1.1 Continue the systemic installation of proven engineering safety countermeasures such as high-friction surface treatments, rumble strips, and traffic control devices.
- 1.2 Update DelDOT's Rumble Strip Design Guidance Memorandum to incorporate sinusoidal rumble strips.
- 1.3 Implement enhanced pavement markings on roadways and prioritize high-risk corridors to improve nighttime and inclement weather pavement marking visibility.
- 1.4 Conduct targeted road safety audits to identify opportunities to reduce roadway departure crashes.
- 1.5 Investigate and implement innovative solutions targeted at keeping vehicles on the roadway.
- 1.6 Develop a systemic safety improvement program to implement roadway lighting along high-risk corridors.



**Strategy 2: Minimize the consequence of leaving the roadway by improving the roadside environment.**

- 2.1 Develop a program to install median guardrail on high-risk segments of divided highways based on a data-driven prioritization process.
- 2.2 Maintain clear zones whenever possible including removing, preventing, or delineating trees within the clear zone.
- 2.3 Work with utility companies to identify roadside utility equipment with a history of vehicular impacts to remove, relocate, redesign, shield or delineate this infrastructure.
- 2.4 Support national research initiatives for improved roadside safety hardware and implement best practices.
- 2.5 Formalize the DelDOT MASH committee including its membership, roles, and responsibilities.
- 2.6 Consider implementing guidelines for the repair and maintenance of guardrail, end treatments and associated hardware.



**Strategy 3: Develop and distribute consistent public information messaging to educate the public about safe driving practices that reduce the frequency of roadway departure crashes.**

- 3.1 Incorporate roadway departure messaging into public safety awareness campaigns for other Emphasis Area campaigns.
- 3.2 Increase public awareness of the benefits of rumble strips.
- 3.3 Incorporate roadway departure safety practices and driving tips within the Driver's Education and Defensive Driving curricula.

# Emphasis Area Strategies: Roadway Departure



Strategy 4: Develop policies and guidelines to implement effective safety measures to reduce the frequency and severity of roadway departure crashes.

- 4.1 Develop implementation guidance for high-friction surface treatments.

---

- 4.2 Evaluate the feasibility of incorporating safety factors as a selection criterion for DelDOT's Pavement Rehabilitation Program.

---

- 4.3 Review DelDOT's design policies and guidelines for opportunities to promote design practices to reduce roadway departure crashes.

---

- 4.4 Support legislation related to the use of Road Departure Mitigation units in all vehicles and partner with various companies/agencies to implement their use.



Strategy 5: Improve roadway departure crash data collection and analysis to enhance the identification of high-risk corridors and high-risk driving behaviors.

- 5.1 Collect comprehensive pavement skid resistance data and correlate with roadway departure crash frequency.