



# First Responder Roadway Safety: Estimating the Financial Cost of First Responder Vehicle Crashes

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## Abstract

Motor vehicle-related incidents, including both single-vehicle and multi-vehicle crashes, are the leading cause of line-of-duty death for first responders in the United States. Even though the number of these motor vehicle-related incidents among first responders is rising throughout the county, many public agencies are not willing to put aside money for research into improving first responder roadway safety as they are focused on helping those who are currently being injured, and significantly fewer private agencies are even considering funding such research. Along with the human life-cost of first responder vehicle crashes, the financial cost is substantial, as this can include costs such as workers' compensation, disability claims, court fees, and payouts to crash victims, depending on the severity of the crash and injuries. The findings in this paper will identify the first responder group that is at the greatest risk of vehicular incident and/or fatality and the real cost of first responder vehicle incidents as well as serve to support further research into ways to improve first responder safety in the state of Florida.

## Statistics

- The state of Florida saw 13, 24, and 16 fatal crashes that involved first responders in 2016, 2017, and 2018, respectively
- There were over 39,000 deaths and 4.8 million injuries attributed to motor vehicle crashes in the United States in 2020
- 3,331 of the 39,000 deaths from motor vehicles occurred in Florida

## Results

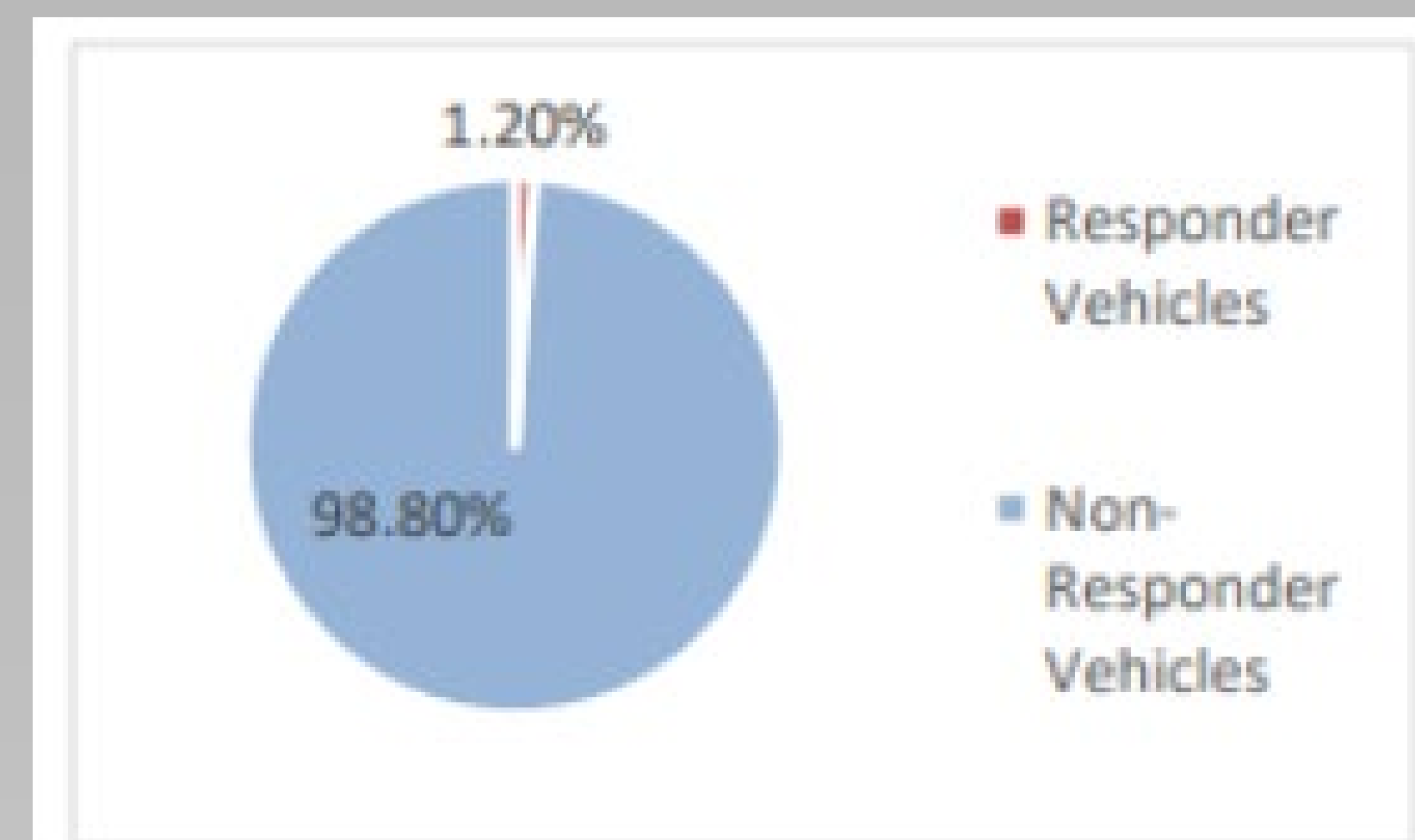


Figure 1: Percent of Total Crashes in 2016

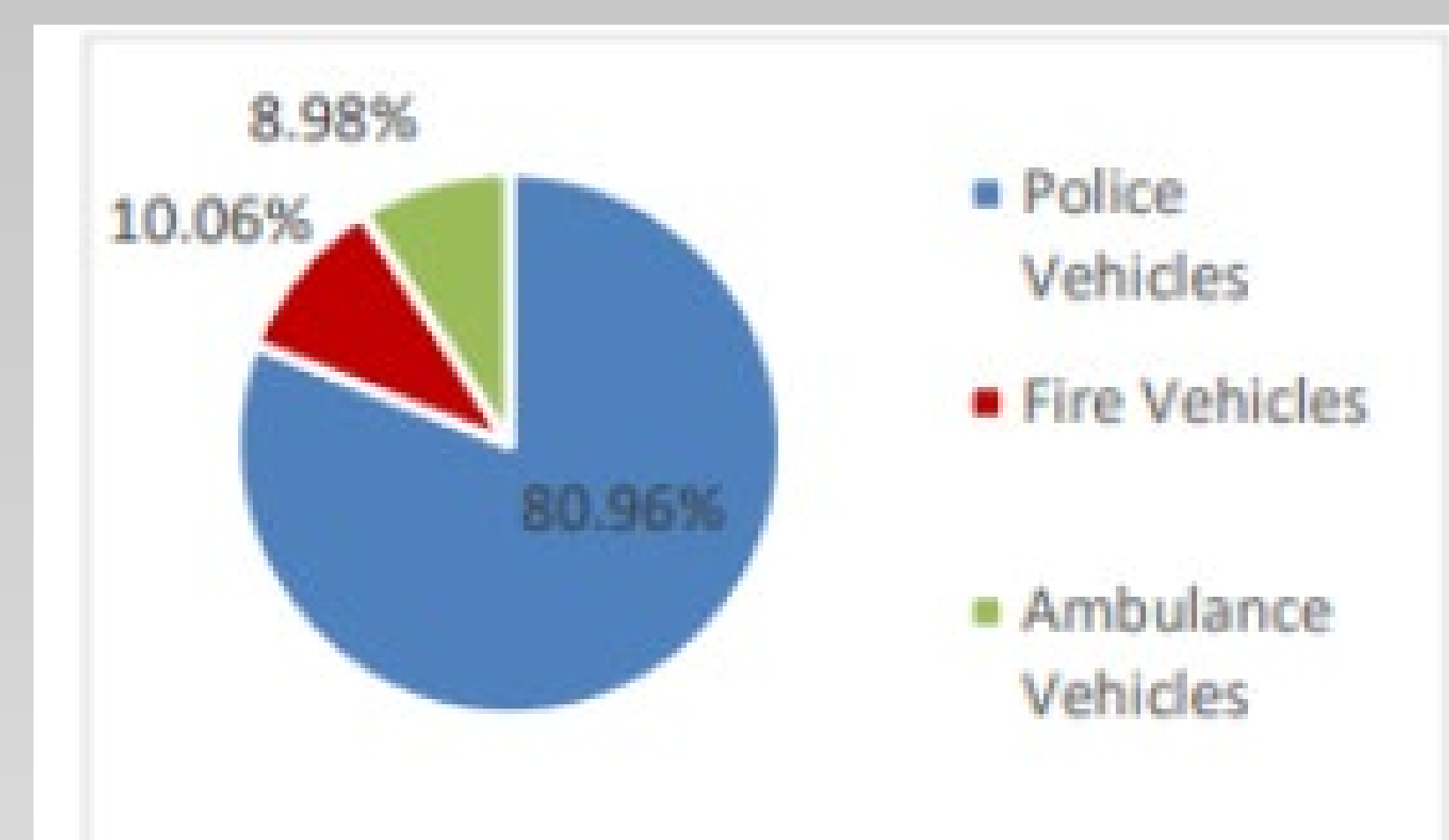


Figure 2: Percent of First Responder Crashes in 2016 by Vehicle Type

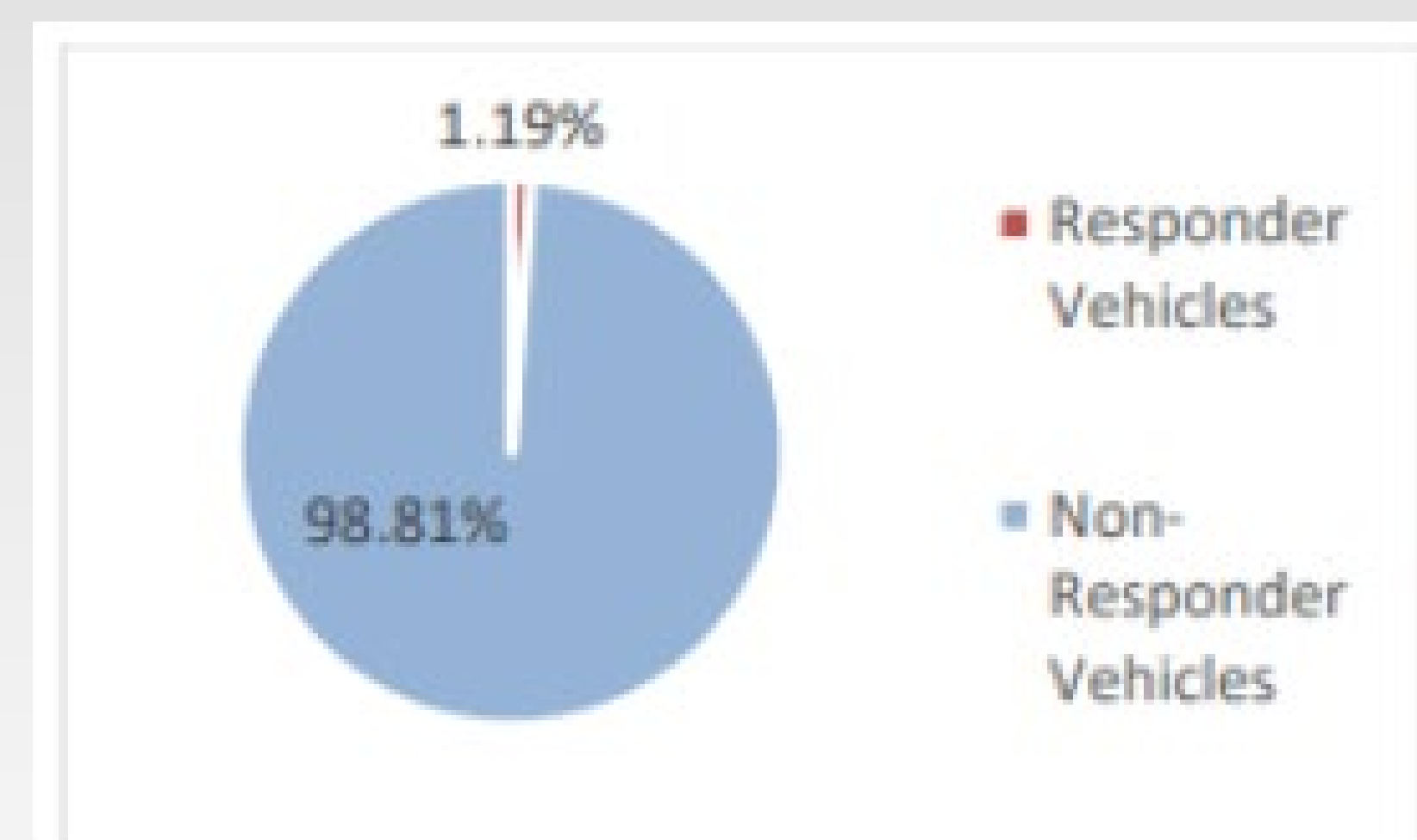


Figure 3: Percent of Total Crashes in 2017

## Results

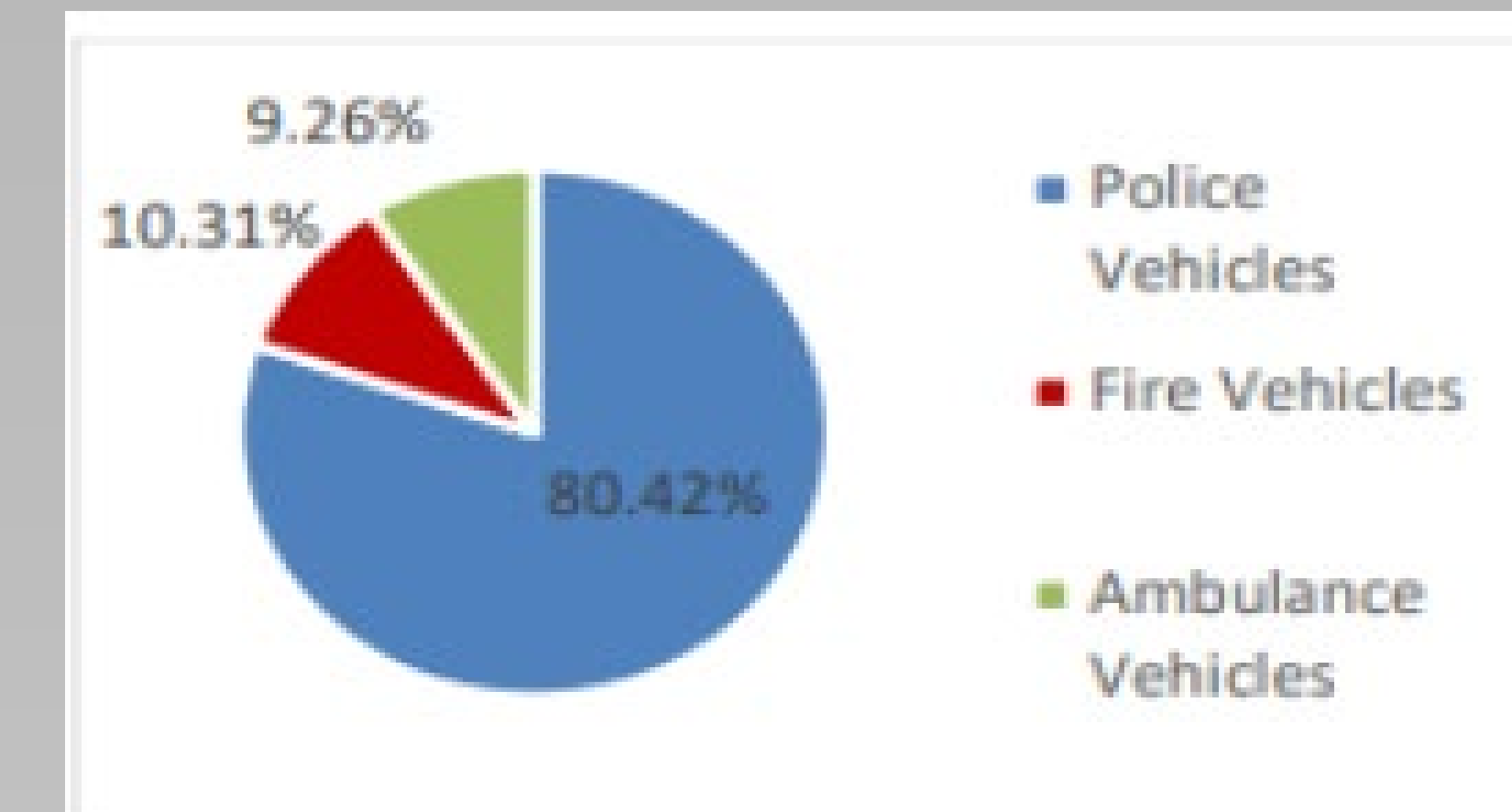


Figure 4: Percent of First Responder Crashes in 2017 by Vehicle Type

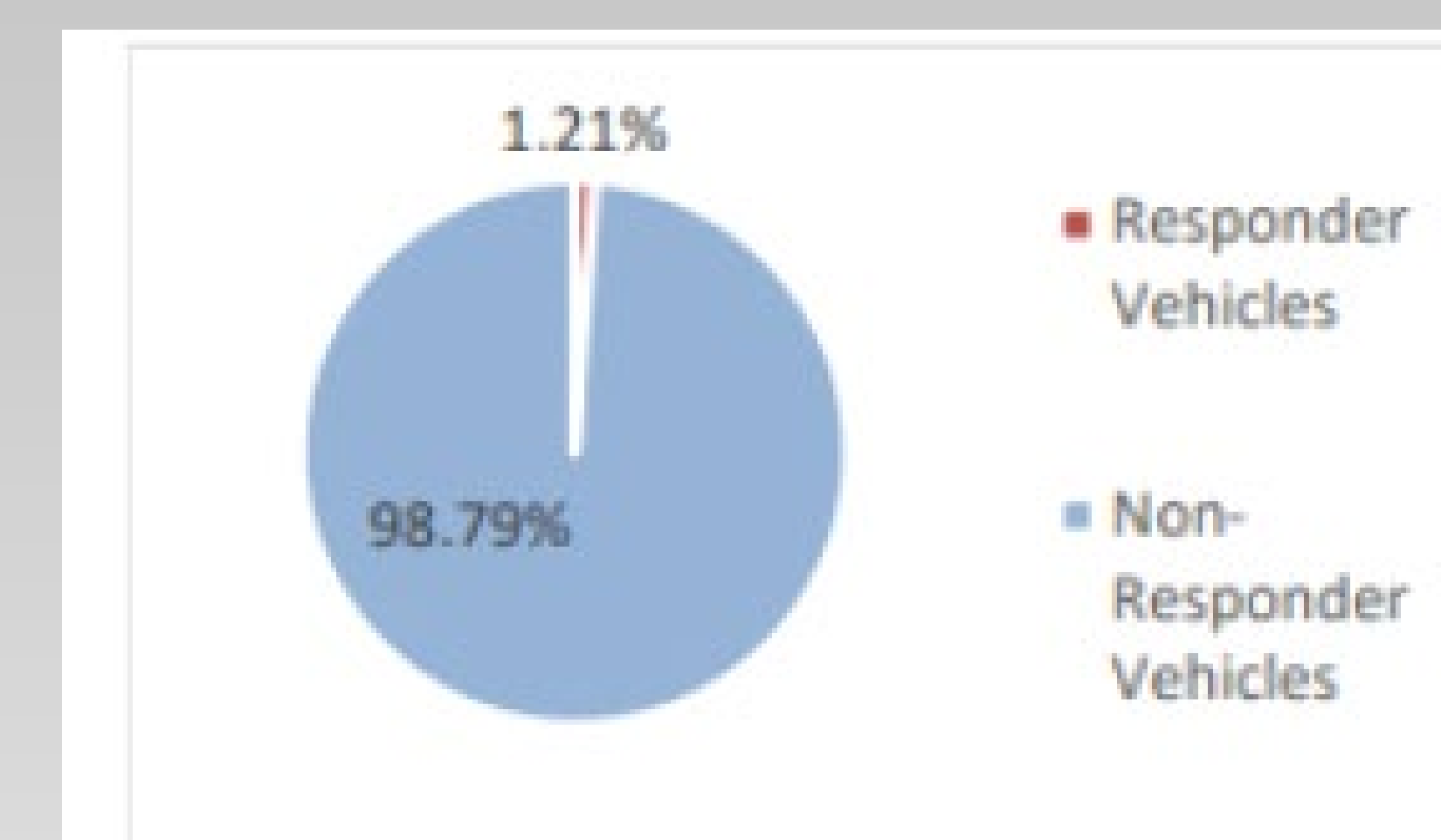


Figure 5: Percent of Total Crashes in 2018

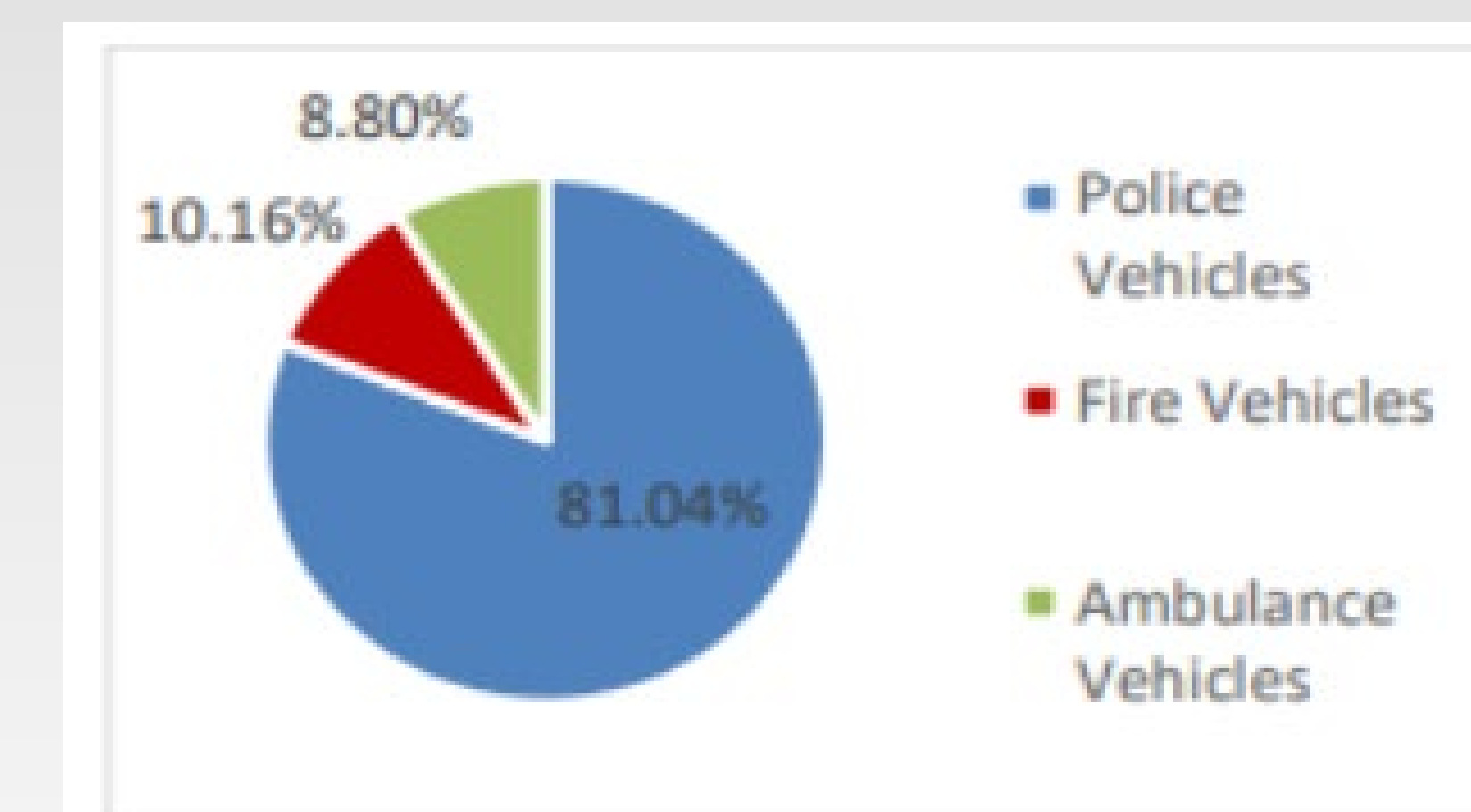


Figure 6: Percent of First Responder Crashes in 2018 by Vehicle Type

## Results

Table 1: Frequency of Fatalities among First Responder Vehicle Type

	Frequency of Fatalities		
	2016	2017	2018
Ambulance	2	2	1
Fire	2	4	1
Police	9	18	14
<b>Total</b>	<b>13</b>	<b>24</b>	<b>16</b>

Table 2: Potential Liability to the state of Florida in 2016

Vehicle	Potential Liability
Police Vehicles	\$ 3,079,334.00
Fire Vehicles	\$ 3,664,949.00
Ambulance Vehicles	\$ 23,191,706.00
<b>All First Responders</b>	<b>\$ 29,935,989.00</b>

Table 3: Potential Liability to the state of Florida in 2017

Vehicle	Potential Liability
Police Vehicles	\$ 3,111,872.00
Fire Vehicles	\$ 3,532,429.00
Ambulance Vehicles	\$ 24,659,113.00
<b>All First Responders</b>	<b>\$ 31,303,414.00</b>

Table 4: Potential Liability to the state of Florida in 2018

Vehicle	Potential Liability
Police Vehicles	\$ 3,200,255.00
Fire Vehicles	\$ 3,667,027.00
Ambulance Vehicles	\$ 37,739,176.00
<b>All First Responders</b>	<b>\$ 44,606,458.00</b>

## References

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