



# Local Road Safety Plan: Safety Data Analysis

Collier Community Traffic Safety Team  
May 28, 2020





# Local Road Safety Plan: Safety Data Analysis

Collier Community Traffic Safety Team  
May 28, 2020



# Presentation Overview

- State Strategic Highway Safety Plan Emphasis Area Comparison
- Countywide Crash Data Analysis
- Traffic Citation Data Analysis
- High Crash Corridors and Intersections



# State Strategic Highway Safety Plan Comparison

Florida's Strategic Highway Safety Plan (SHSP) Defines 11 Emphasis Areas:

- Lane Departure
- Impaired Driving
- Pedestrian/Bicycle
- Intersection
- Unrestrained Occupant
- Motorcyclist
- Aging Road User
- Speeding and Aggressive Driving
- Commercial Motor Vehicle
- Teen Driver
- Distracted Driving
- Work Zone

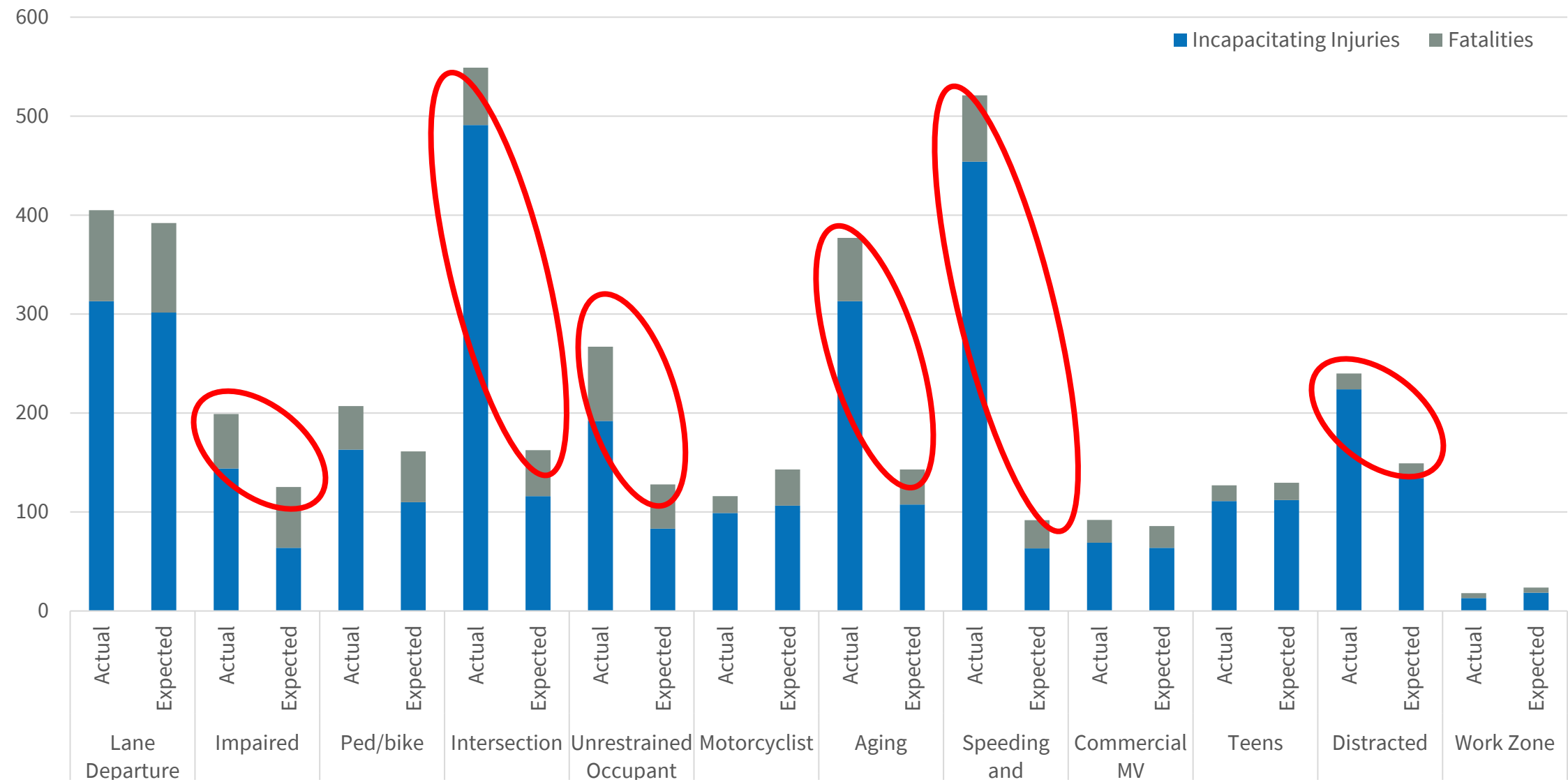
# State Strategic Highway Safety Plan Comparison

## Florida vs. Collier SHSP Emphasis Area Distributions

SHSP Emphasis Area	FLORIDA (2011-15)				COLLIER (2014-18)			
	Incap. Injuries	Fatalities	Severe Injuries	Percent of Total*	Incap. Injuries	Fatalities	Severe Injuries	Percent of Total*
Lane Departure	34,276	5,940	40,216	34.8%	313	92	405	36.9%
Impaired	7,252	4,030	11,282	9.8%	144	55	199	18.1%
Ped/bike	12,499	3,365	15,864	13.7%	163	44	207	18.9%
Intersection	13,183	3,053	16,236	14.1%	491	58	549	50.0%
Unrestrained Occupant	9,456	2,932	12,388	10.7%	192	75	267	24.3%
Motorcyclist	12,093	2,402	14,495	12.6%	99	17	116	10.6%
Aging	12,228	2,320	14,548	12.6%	313	64	377	34.4%
Speeding and Aggressive Driving	7,190	1,873	9,063	7.9%	454	67	521	47.5%
Commercial MV	7,247	1,444	8,691	7.5%	69	23	92	8.4%
Teens	12,741	1,148	13,889	12.0%	111	16	127	11.6%
Distracted	15,236	994	16,230	14.1%	224	16	240	21.9%
Work Zone	2,099	340	2,439	2.1%	13	5	18	1.6%
Total*	102,759	12,665	115,424	N/A	904	193	1097	N/A

\* Crashes may be assigned to more than one emphasis area. Therefore, the totals are less than the sum of each emphasis area.

# State Strategic Highway Safety Plan Comparison



# State Strategic Highway Safety Plan Comparison

- Collier County has an elevated proportion of the following emphasis areas crash types:
  - ☐ Impaired Driving
  - ☐ Intersection
  - ☐ Unrestrained Occupant
  - ☐ Aging Road User
  - ☐ Speeding and Aggressive Driving
  - ☐ Distracted Driving
- Collier County has fewer severe injury crashes per capita than the State:
  - ☐ 46% as many incapacitating injury crashes per 100k population
  - ☐ 80% as many fatalities per 100k population

# Countywide Crash Data Analysis

- VMT Distribution of Collier County and Florida by Functional Class
  - ❑ Collier County relies more on signalized arterial and major collector roadways than the state as a whole.
  - ❑ Generally these roadways have worse safety outcomes than limited access highways and lower speed minor collector and local streets.

Roadway Functional Classification	Florida		Collier		Crash Characteristics
Interstate, Turnpike & Freeways	26%		21%		Limited Access, Low Crashes/VMT
Other Principle Arterials	25%	50%	16%	59%	Higher Speed, More Conflict Points
Minor Arterials	15%		29%		
Major Collectors	11%		14%		
Minor Collectors	2%	23%	2%	20%	Lower Speed, Less Severe Crashes
Locals	21%		18%		



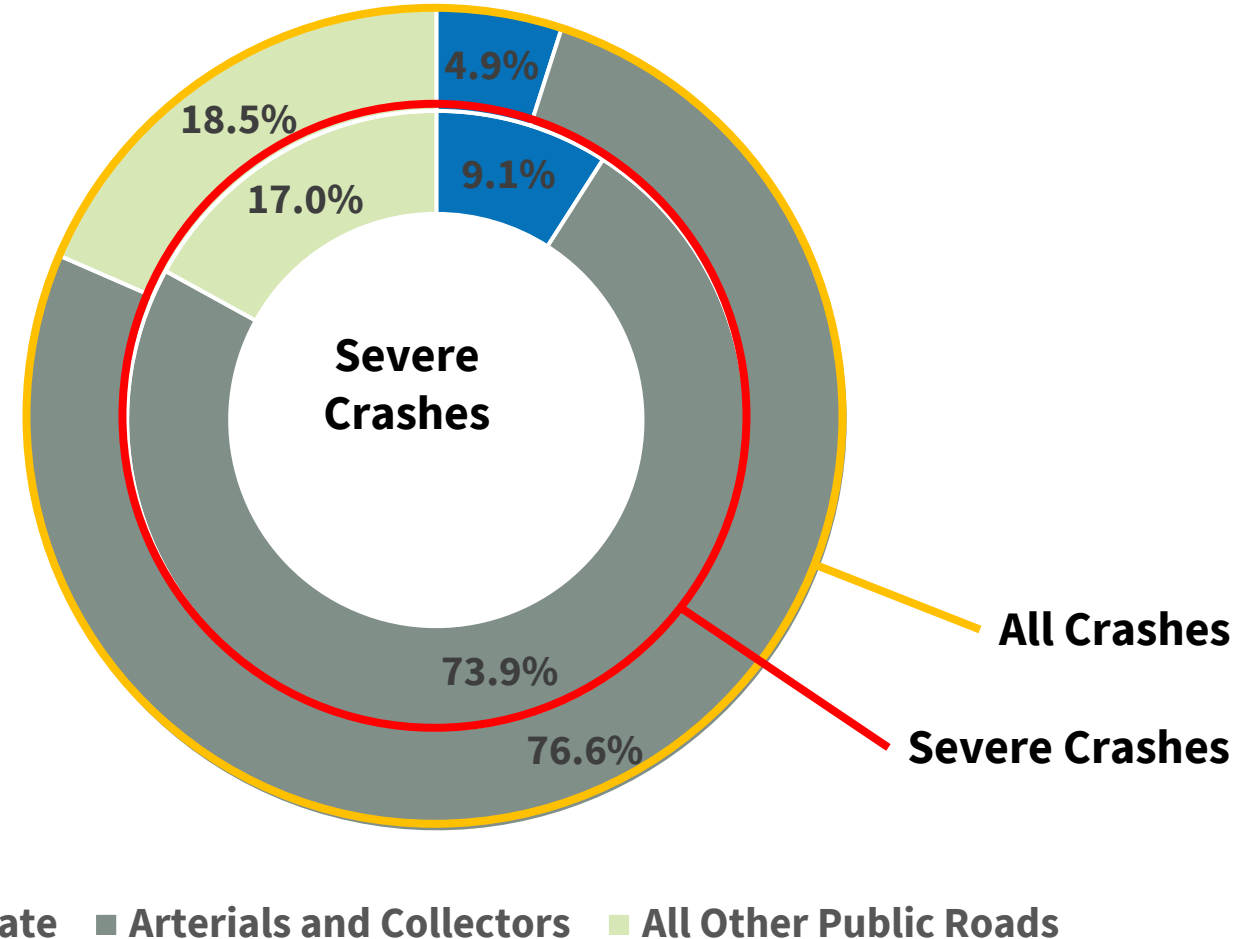
# Countywide Crash Data Analysis

Road System	Maintenance Authority	Functional Classification	Roadway Centerline Miles	Vehicle Miles of Travel	Fatal + Incap		All		Percent Severe
					Count	Percent	Count	Percent	
Thoroughfares	Interstate Highway		64	3,647,028	88	9%	2,047	4%	4%
	Other State Highway	Principal Arterial	128	3,163,126	208	86%	6,197	78%	3%
		Minor Arterial	13	602,347	35	14%	1,761	22%	2%
		Subtotal	142	3,765,473	243	24%	7,958	14%	3%
	County	Principal Arterial	7	420,646	14	3%	781	3%	2%
		Minor Arterial	120	4,824,772	254	57%	15,459	68%	2%
		Major Collector	96	2,385,702	157	35%	6,030	26%	3%
		Minor Collector	34	710,559	20	4%	596	3%	3%
		Subtotal	257	8,341,679	445	44%	22,866	41%	2%
	City	Principal Arterial	-	-	-	0%	-	0%	0%
		Minor Arterial	2	24,934	2	7%	29	3%	7%
		Major Collector	16	237,808	17	57%	663	66%	3%
		Minor Collector	11	97,493	11	37%	305	31%	4%
		Subtotal	29	360,235	30	3%	997	2%	3%
	All Thoroughfares			491	16,114,415	806	79%	33,868	61%
All Other Roads			NA	NA	165	21%	7,664	39%	1%
Total (Including Local & Interstate)					971	100%	41,532	100%	2%

# Countywide Crash Data Analysis

Excluding I-75, arterial and collector roads account for:

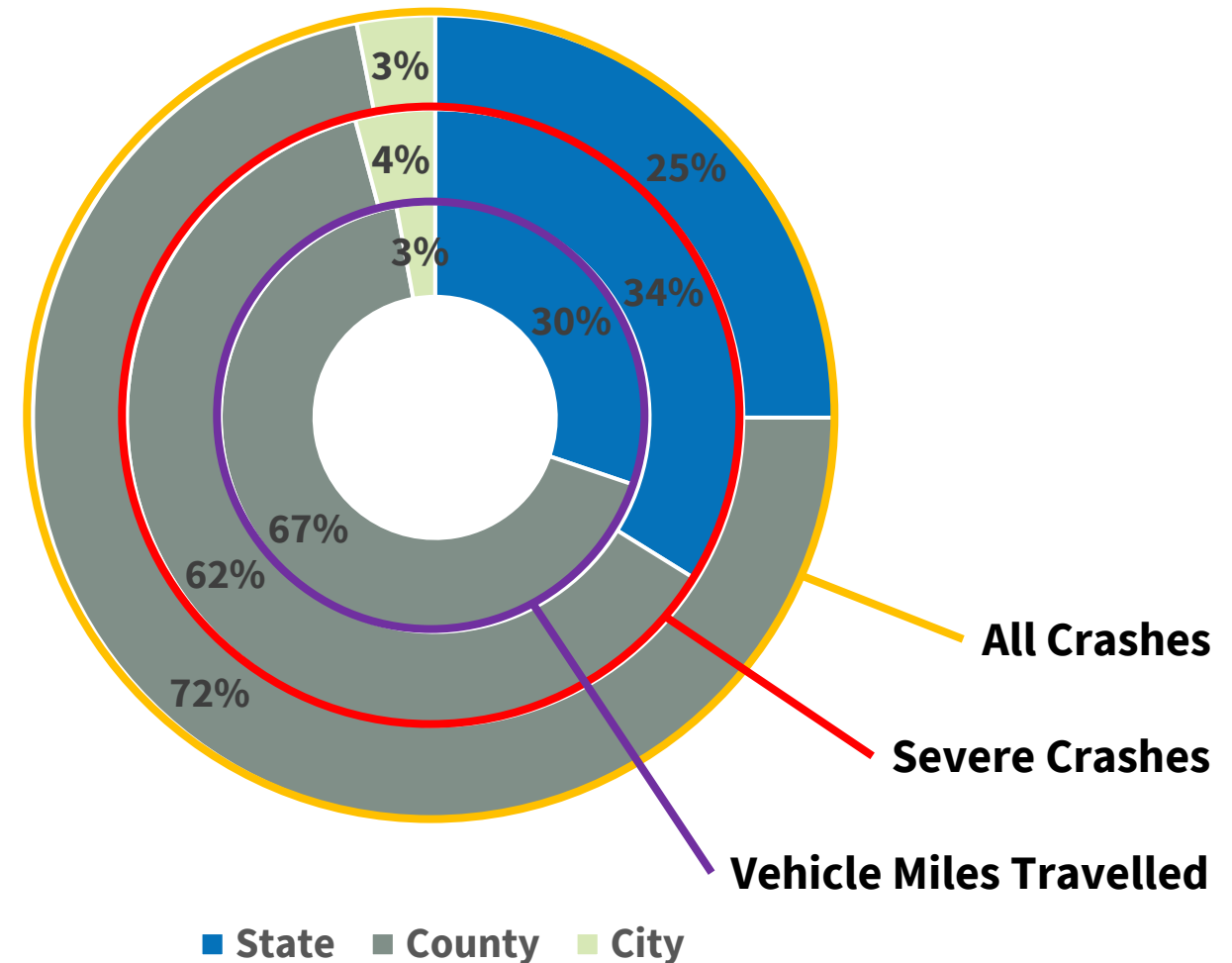
- 74% of severe crashes
- 77% of all reported public roadway crashes



# Countywide Crash Analysis

## Crash Distribution by Major Roadway Maintenance Authority:

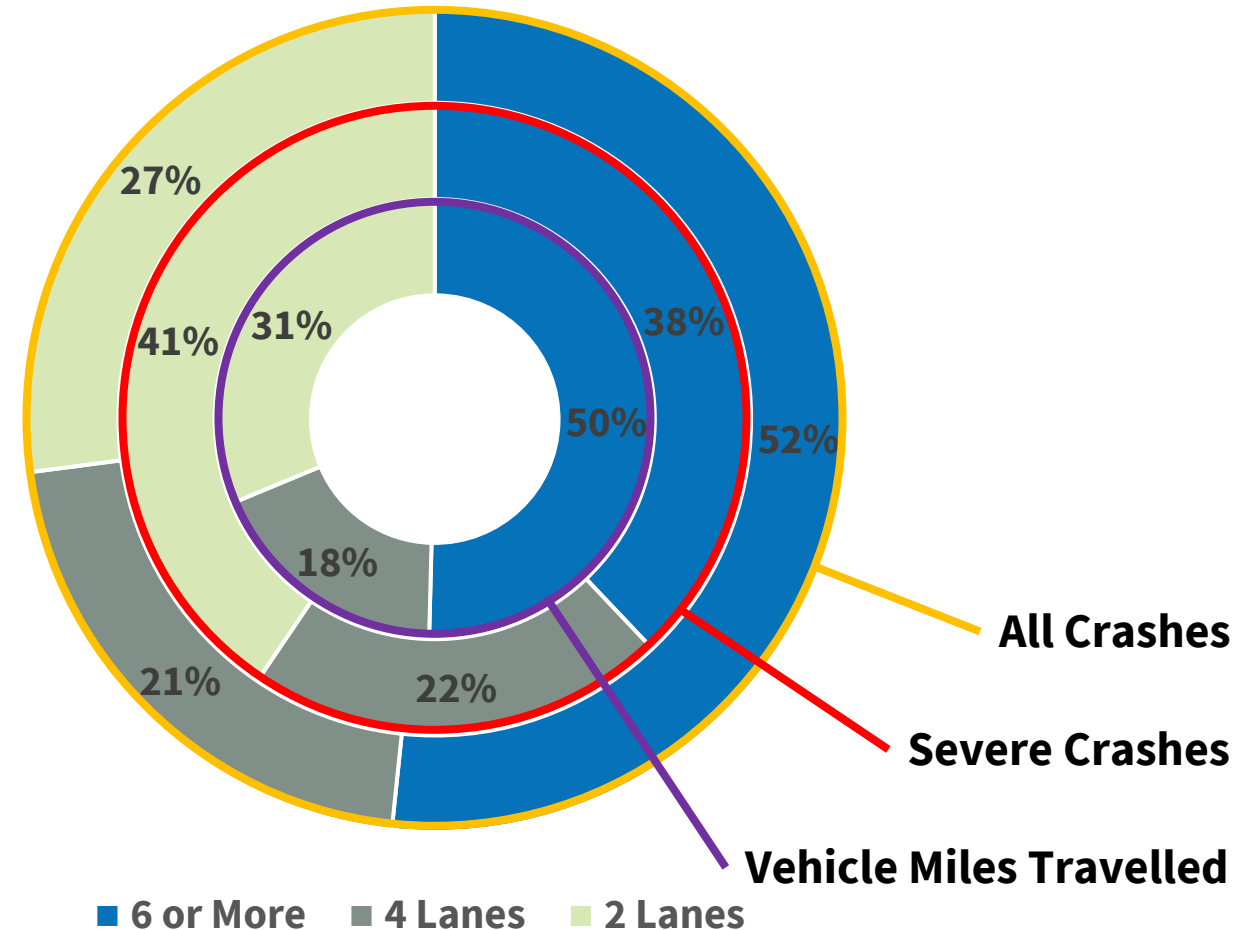
- County-maintained roads account for 62% of severe crashes and 72% of all crashes.
- Crash distribution is roughly proportional to vehicle miles traveled for each maintenance authority.



# Countywide Crash Data Analysis

## Crash Distribution by Major Roadway Number of Lanes:

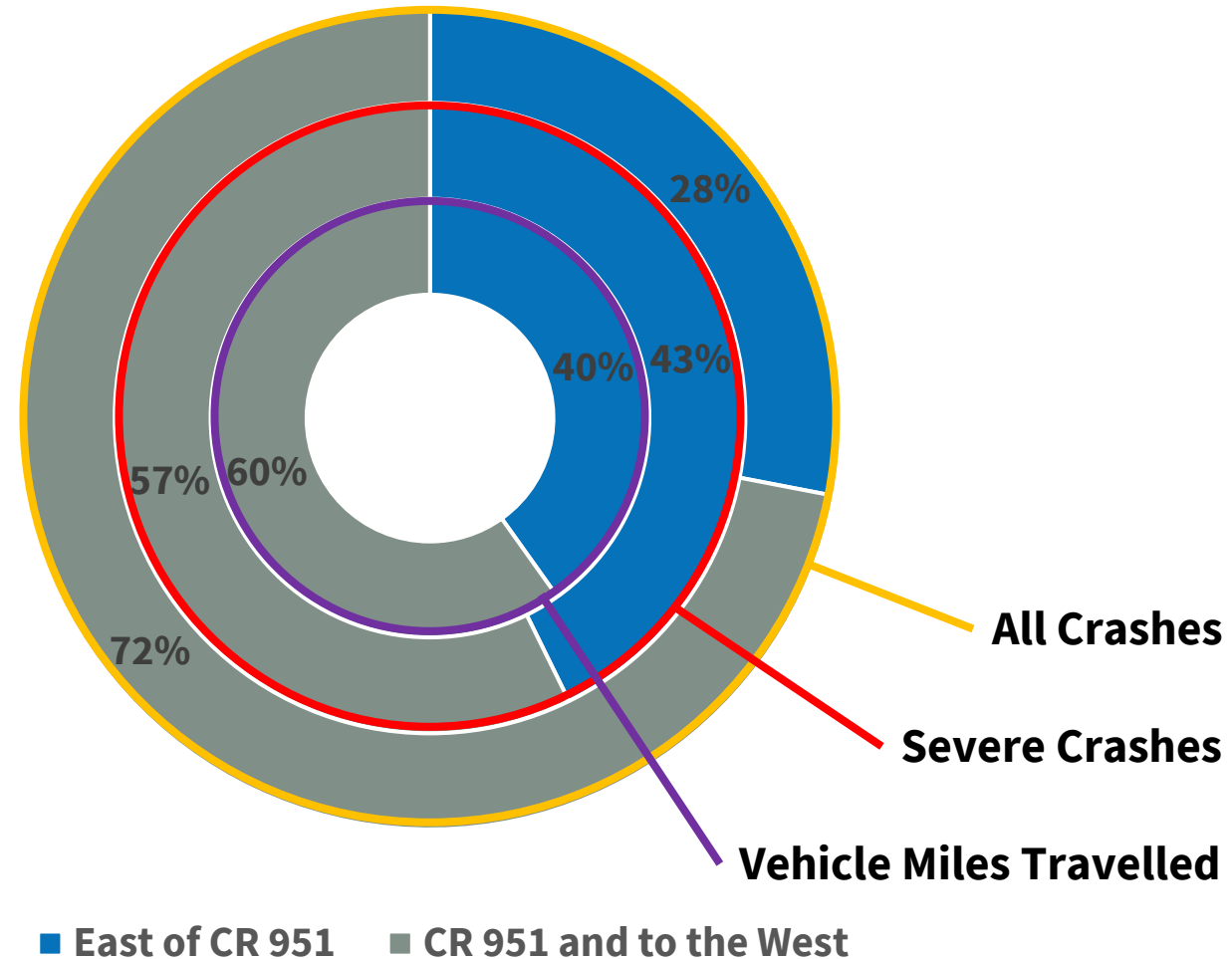
- 2-lane major roadways have proportionately more severe crashes per vehicle mile travelled than multi-lane roads.
- This could indicate rural highway safety issues



# Countywide Crash Data Analysis

## Major Roadway Crashes\* by Sub-Area:

- The Western (urban) part of the county accounts for 72% of all crashes and 57% of severe crashes—roughly proportional to vehicle miles of travel.
- The eastern (rural ) part of the county has fewer crashes overall, but a greater proportion of severe crashes.

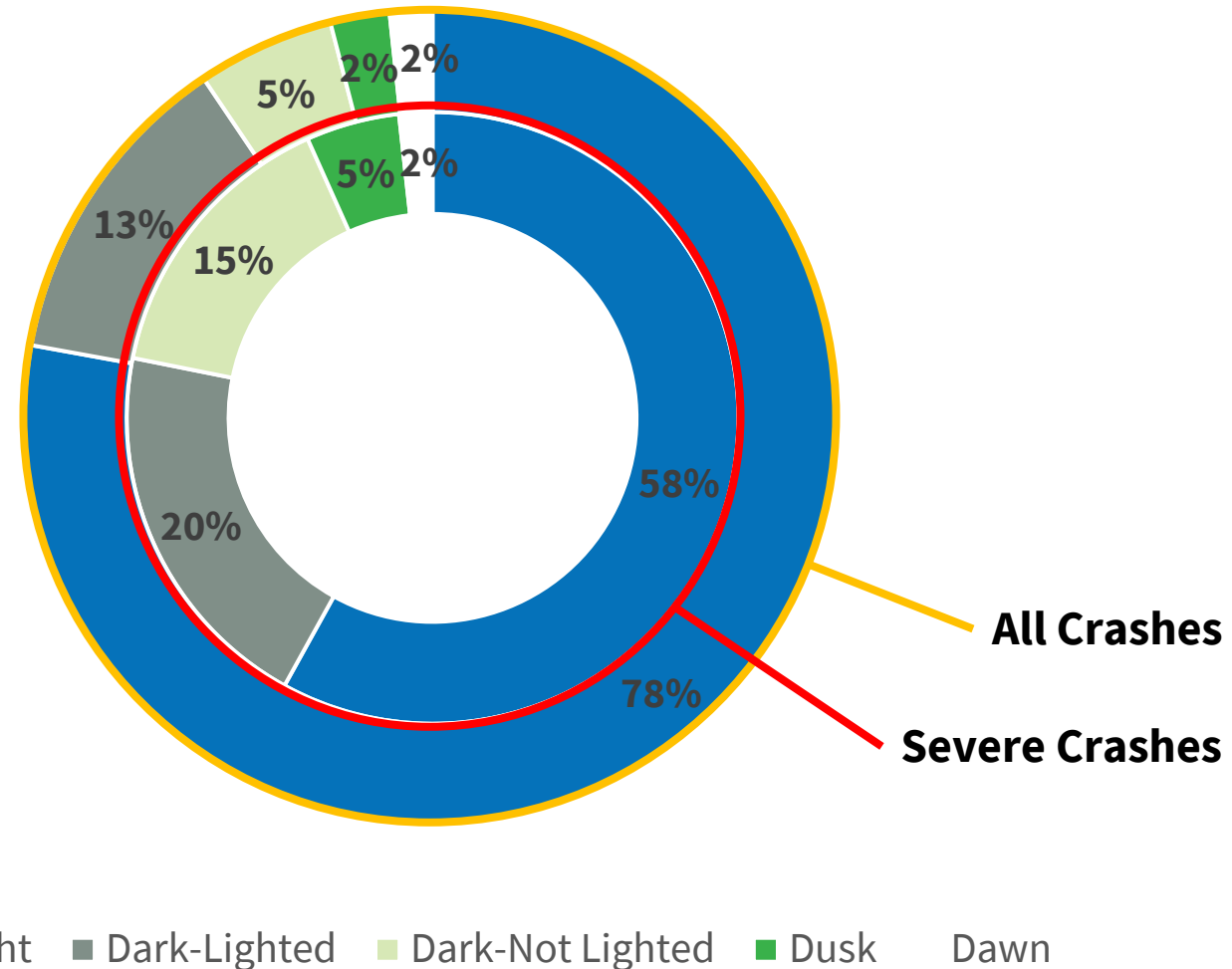




# Countywide Crash Data Analysis

## Lighting Condition

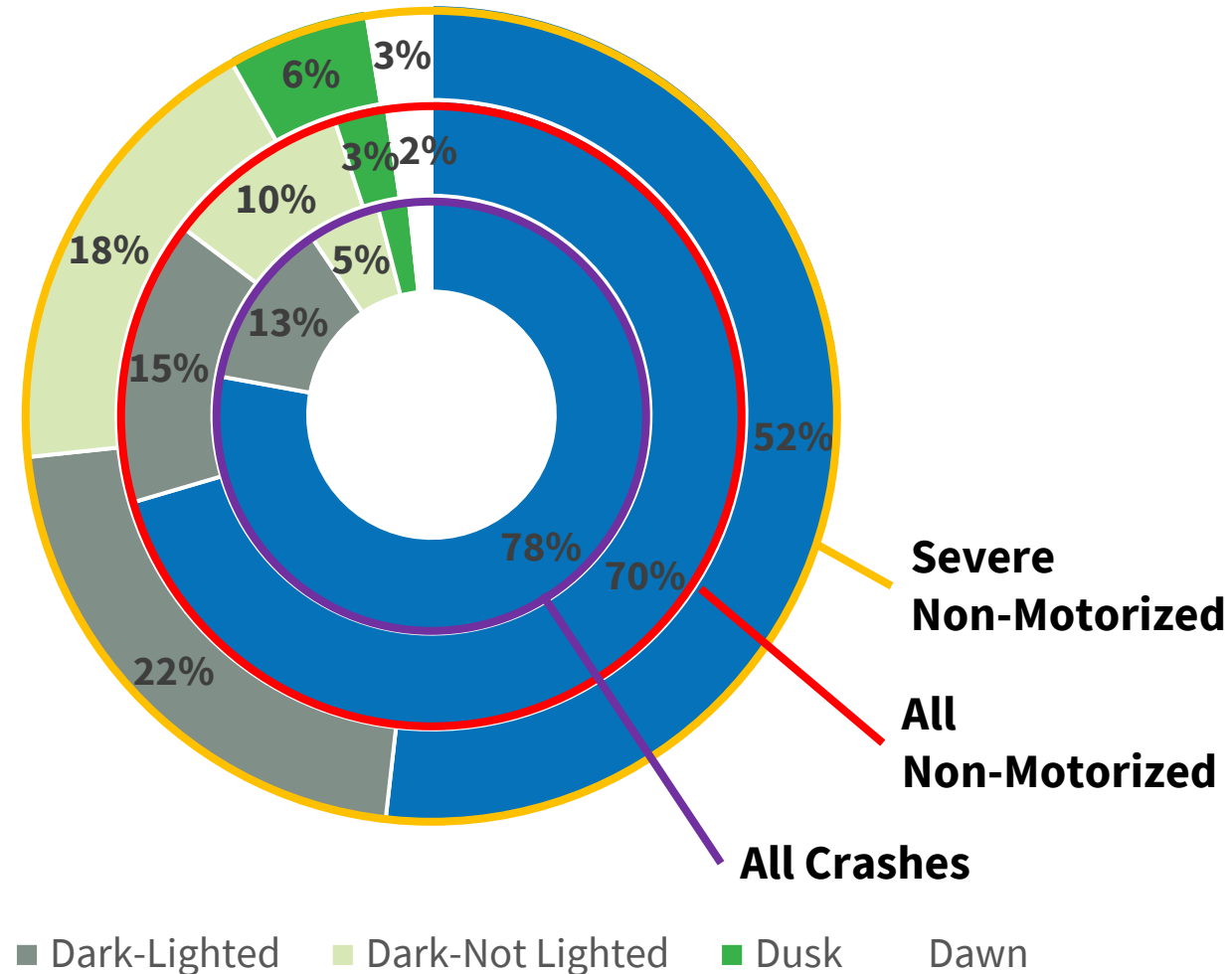
- 78% of all crashes occur during daylight hours.
- Only 58% of severe crashes occur during daylight.



# Countywide Crash Data Analysis

## Non-Motorized Crashes by Lighting Condition:

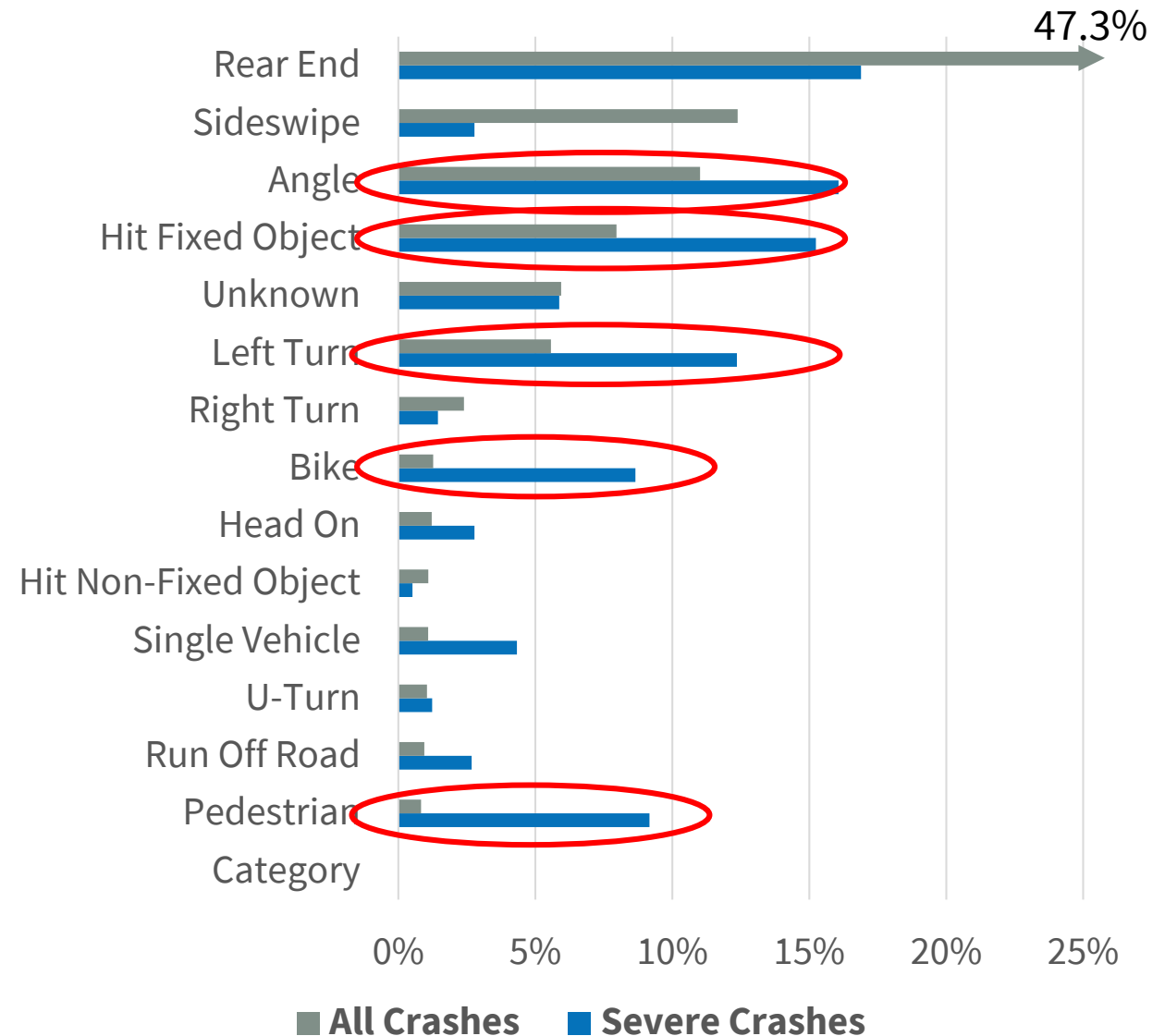
- Non-motorized crashes are more likely to occur outside of daylight hours.
- This is especially true of severe non-motorized crashes.



# Countywide Crash Data Analysis

## Crash Type Distribution:

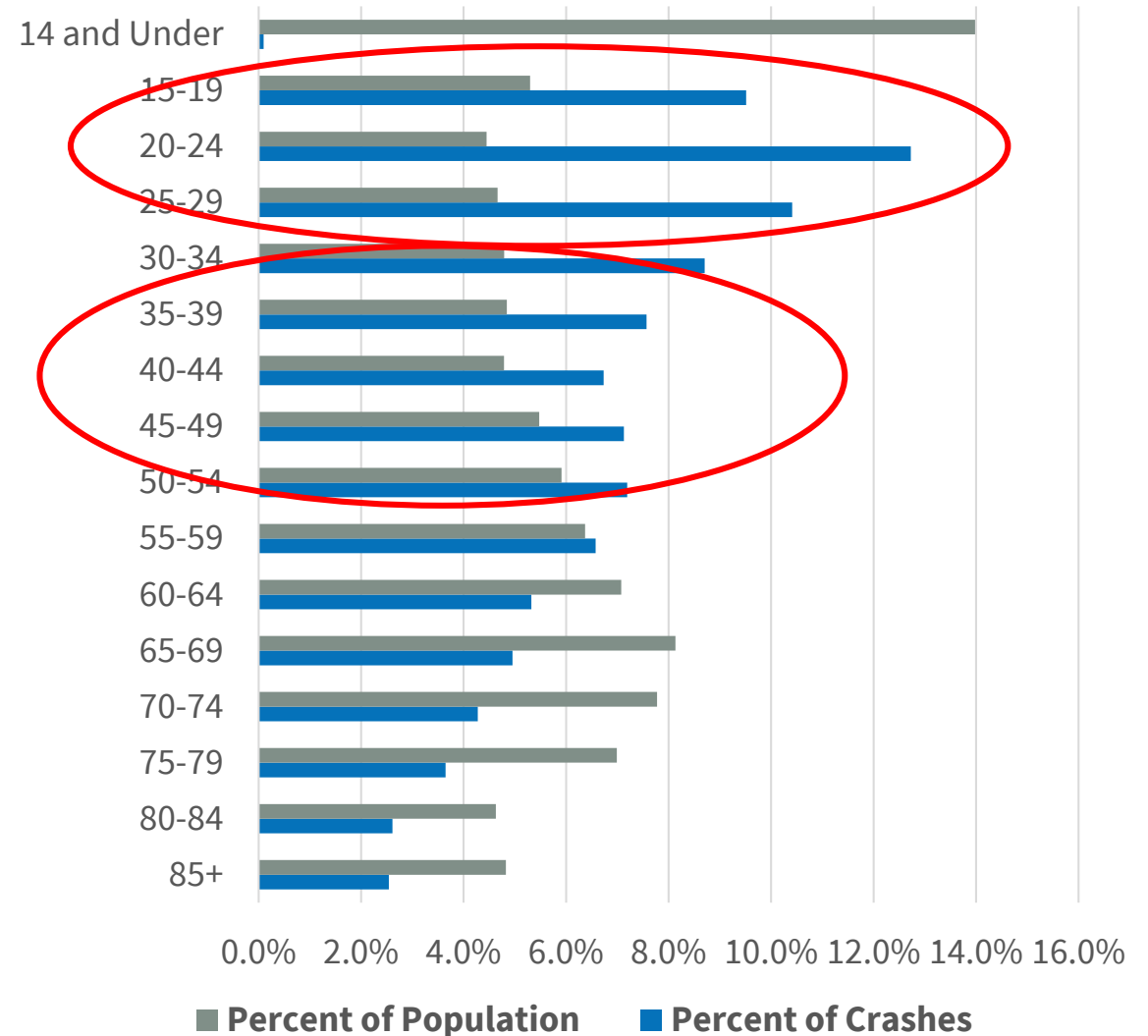
- Rear end crashes are the most common overall crash type.
- Several crash types have out-sized severity ratios compared with overall frequency.



# Countywide Crash Data Analysis

## At Fault Driver Age:

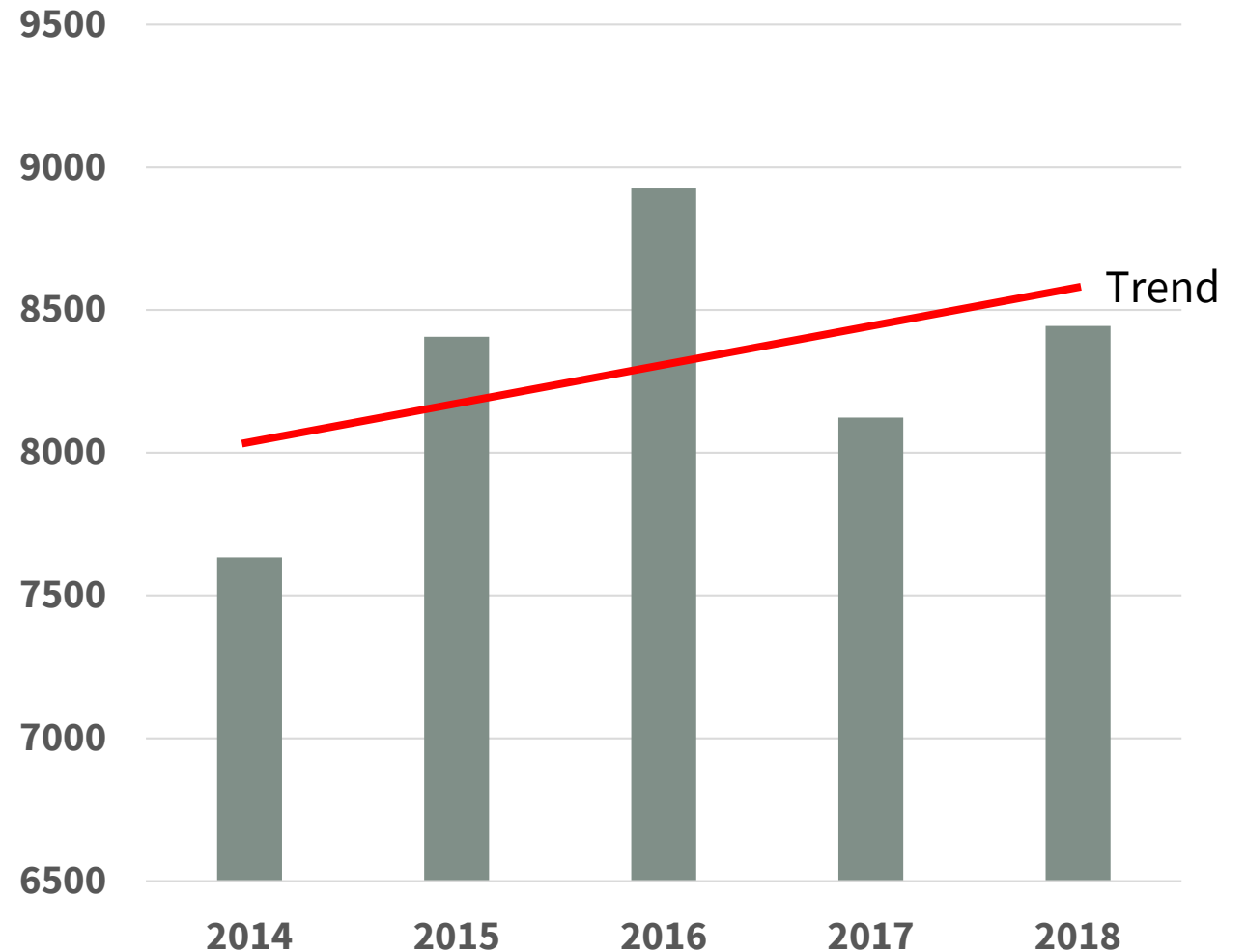
- Younger and middle-aged adults are over-represented in reported crashes.
- Older drivers may have less exposure (fewer miles travelled).



# Countywide Crash Data Analysis

## Annual Trend:

- Crashes trending upward year-over-year, but trend is unstable.

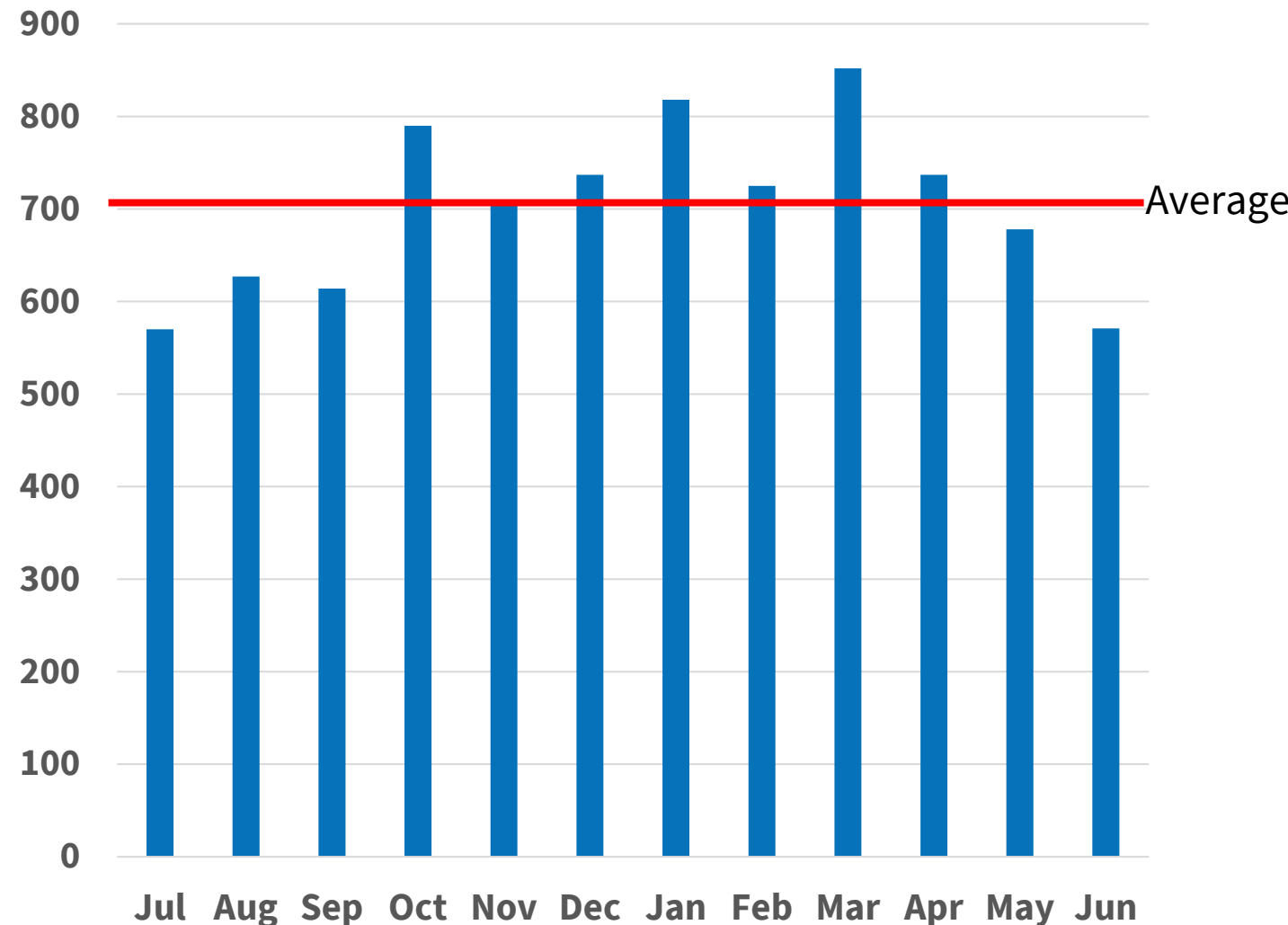




# Countywide Crash Data Analysis

Average Crashes per Month:

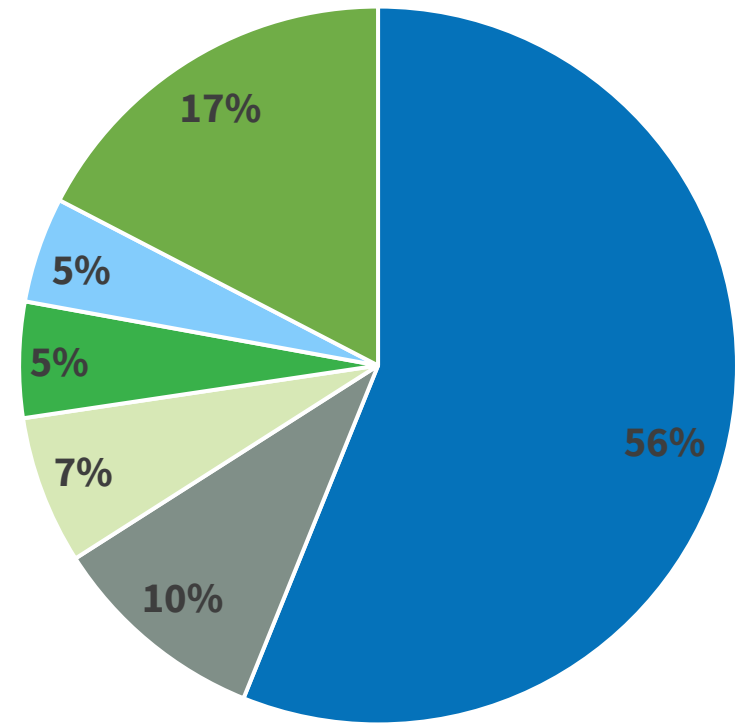
- Average of 702 reported crashes per month.
- Monthly trends generally follow overall seasonal patterns.



# Citation Data

## Most Common Moving Violations:

- Exceeding posted speed most common citation
- Disregard traffic control or traffic signal are second most common



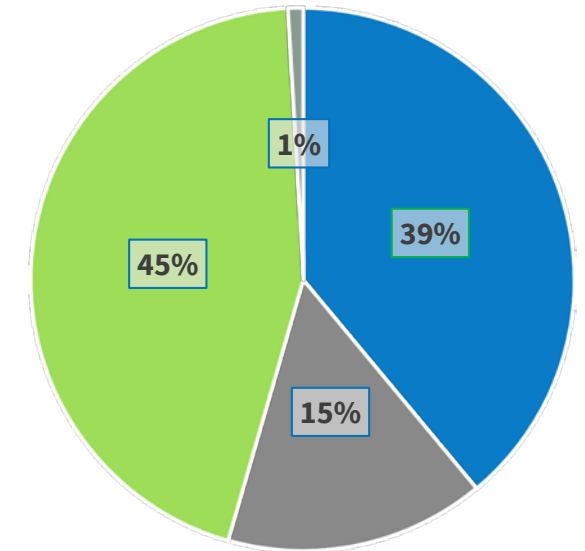
- Exceeding Posted Speed
- Disregard Traffic Control Device
- Disregard Traffic Signal
- Driving with Revoked or Suspended License (without knowledge)
- Failure to Yield ROW
- All Other (< 5%)

# Citation Data

## Traffic Citation Data:

- Collier County issues fewer citations than the state average per capita and per vehicle miles travelled.
- FHP and Collier Sheriff issue the bulk of traffic citations.

State and County	Violations (2014-18)	Total VMT (2014-18)	Citations per 100K VMT	Population	Citations per 100K Pop.
Florida	1,978,741	582,491,060	340	20,159,183	9,816
Collier	22,136	9,939,709	223	351,121	6,304
Brevard	29,592	17,784,554	166	568,367	5,206
Escambia	24,176	9,657,445	250	310,556	7,785
Lee	83,614	20,667,894	405	682,448	12,252
Manatee	23,208	10,038,803	231	358,616	6,472
Sarasota	33,880	12,052,890	281	400,694	8,455



- Florida Highway Patrol
- City Police Department
- Sheriff's Office
- Other

# High Crash Segments (From CMP Report)

On Street	From Street	To Street	Total Crashes	Length (miles)	AADT	Crash Rate	Frequency / Rate
<b>Golden Gate Pkwy</b>	Santa Barbara Blvd	Collier Blvd	559	2.21	27,496	5.048	Both
<b>I 75</b>	Broward County Line	SR 29	470	29.13	22,000	0.402	Frequency
<b>Airport Rd</b>	Pine Ridge Rd	Orange Blossom Dr	455	1.45	34,686	4.943	Both
<b>Tamiami Trail East</b>	Airport Rd	Rattlesnake Hammock Rd	453	1.69	47,814	3.074	Frequency
<b>Airport Rd</b>	Radio Rd	Golden Gate Pkwy	405	1.43	44,008	3.534	Both
<b>Immokalee Rd</b>	I 75	Logan Blvd	402	1.37	38,245	4.210	Both
<b>Tamiami Trail North</b>	Immokalee Rd	Vanderbilt Beach Rd	396	1.51	35,925	4.005	Both
<b>Golden Gate Blvd</b>	Collier Blvd	Wilson Blvd	381	5.03	25,481	1.630	Frequency
<b>I 75</b>	SR 29	SR 951	366	21.23	24,970	0.378	Frequency
<b>Immokalee Rd</b>	Livingston Rd	I 75	355	0.71	46,874	5.886	Both
<b>Pine Ridge Rd</b>	Livingston Rd	I 75	351	0.95	52,322	3.869	Both
<b>I 75</b>	Pine Ridge Rd	Immokalee Rd	331	4.27	35,295	1.203	Frequency
<b>Immokalee Rd</b>	Logan Blvd	Collier Blvd	331	1.94	89,362	1.048	Frequency
<b>Golden Gate Pkwy</b>	Livingston Rd	I 75	293	2.05	42,756	1.835	Frequency
<b>Davis Blvd</b>	Lakewood Blvd	County Barn Rd	291	1.68	28,243	3.359	Frequency
<b>Airport Rd</b>	Golden Gate Pkwy	Pine Ridge Rd	290	2.59	46,556	1.316	Frequency
<b>Tamiami Trail East</b>	Rattlesnake Hammock Rd	Treetops Dr	280	2.45	37,428	1.674	Frequency
<b>I 75</b>	Immokalee Rd	Lee County Line	278	3.06	99,582	0.501	Frequency
<b>Immokalee Rd</b>	Collier Blvd	Wilson Blvd	271	5.10	29,259	0.995	Frequency
<b>Tamiami Trail North</b>	12th Ave N	Goodlette Rd S	269	1.66	51,500	1.727	Frequency
<b>Radio Road</b>	Livingston Road	Santa Barbara Boulevard	250	1.99	18,398	3.742	Rate
<b>Santa Barbara Boulevard</b>	Golden Gate Parkway	Green Boulevard	215	1.71	20,314	3.391	Rate
<b>Airport Road</b>	Davis Boulevard	North Rd	198	0.52	43,551	4.819	Rate
<b>Collier Boulevard</b>	Golden Gate Pwky	Green Boulevard	177	1.04	27,271	3.420	Rate
<b>Pine Ridge Road</b>	Goodlette-Frank Road	Shirley Street	165	0.67	36,418	3.733	Rate
<b>Immokalee Rd</b>	Stockade Rd	SR 29	157	1.52	6,949	8.155	Rate

# In Progress

- QC SHSP Comparison
- High Injury Network Definition/Mapping
- High Crash Locations by Crash Type
  - Angle/Left Turn
  - Fixed Object
  - Vulnerable Users
    - Motorcycle
    - Non-Motorized
- Correlation of non-motorized crashes and socioeconomic data



## Contact:

Demian Miller, AICP  
Principal  
Tindale Oliver

813-224-8862  
[dmiller@tindaleoliver.com](mailto:dmiller@tindaleoliver.com)

Anne McLaughlin  
Executive Director  
Collier MPO

239-252-5884  
[anne.mclaughlin@colliercountyfl.gov](mailto:anne.mclaughlin@colliercountyfl.gov)