# **Georgia Traffic Safety Facts**

### 2020 Data

#### July 2022

In this fact sheet, information is presented as follows.

- <u>Non-Motorist Fatalities</u> and Serious Injuries
- Crash Characteristics
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This fact sheet contains information from the Fatality Analysis Reporting System (FARS), Georgia Department of Transportation (GDOT) crash data modified by Crash Outcomes Data Evaluation System (CODES) at the Department of Public Health (DPH), Georgia Emergency Medical Services Information System (GEMSIS), Hospital Discharge Data, Emergency Room Data, and the Georgia Trauma Registry. Refer to the Data Considerations section at the end of this publication regarding the data and information presented.



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### PEDESTRIANS AND BICYCLISTS (Non-Motorists)

Non-motorists, as defined in this fact sheet, include pedestrians and bicyclists. In some of the following discussions of pedestrian and bicyclist injuries both traffic and non-traffic (i.e., occurring on any place other than a traffic way – trail, driveway, parking lot, or sidewalk) are included in aggregate reporting.

#### 2020 Key Findings

Although pedestrians and bicyclists represented less than one percent of all individuals involved in motor vehicle crashes (0.9 percent), they accounted for 19 percent of all traffic fatalities.

#### Pedestrians

- There were 279 pedestrians fatally injured in traffic crashes, an 18 percent increase from the 236 pedestrian fatalities in 2019.
- The pedestrian fatality rate per population among Black/African American Non-Hispanic individuals is nearly doubled (1.8 times) the pedestrian fatality rate experienced among White Non-Hispanics.
- Fifty-eight percent of all pedestrian crashes occurred within the Atlanta region.
- Thirty-three percent of pedestrian crashes on two-way, undivided principal arterials resulted in a pedestrian serious injury or fatality.
- In 2020, nearly four out of five pedestrian fatalities (80 percent) and more than half (56 percent) of pedestrian injuries occurred on roadways with posted speed limits at or above 40 mph.
- The motor vehicle-related, pedestrian hospitalization and emergency room visit charges were \$172 million for Georgia residents.

#### Bicyclists

- There was an average of 25 bicyclist fatalities in traffic crashes each year between 2016-2020. In 2020, there were 32 bicyclist fatalities on Georgia roadways.
- The bicyclist crash rate is highest in urban counties outside of the Atlanta region.
- Sixty-two percent of bicyclist crashes occur at intersections.
- Among the bicyclists treated at trauma care facilities, individuals aged 10-to-14 years had the highest rate of trauma care compared to any other age group.
- The motor vehicle-related, bicyclist hospitalization and emergency room visit charges were \$67 million for Georgia residents.

#### **Non-Motorist Fatalities and Serious Injuries**

#### Non-Motorist Fatalities

In 2020, there were 279 pedestrians and 32 bicyclists fatally injured in motor vehicle traffic crashes in Georgia (Table 1). The number of pedestrian fatalities in traffic crashes has more than doubled in the past decade and increased by 18 percent, from 236 pedestrian fatalities in 2019 to 279 in 2020. There was an average of 25 bicyclist fatalities in traffic crashes per year between 2016-2020.

Although non-motorists represented less than one percent of all persons involved in motor vehicle crashes (0.9 percent), they accounted for 19 percent of all traffic fatalities—a net two percent increase from the previous year. There were approximately three pedestrian and bicyclist fatalities for every 100,000 population in 2020. Figure 1 shows the rate and percent of non-motorist traffic fatalities for the past decade.







Table 1 presents the number of total traffic fatalities, Georgia population, and non-motorist fatalities (pedestrians and bicyclists) from 2011 to 2020.

- The number of total traffic fatalities increased by 12 percent, from 1,491 in 2019 to 1,664 in 2020.
- The number of non-motorist fatalities increased by 21 percent, from 257 in 2019 to 311 in 2020.
- The rate of non-motorist fatalities increased by 20 percent, from 2.42 to 2.90 fatalities per 100,000 population.

	Total		Pedestrian		Bio	cyclist	Non-Motorists Fatalities			
Year	Traffic Fatalities	Population	Number	Percent of All Traffic Fatalities	Number	Percent of All Traffic Fatalities	Number	Percent of All Traffic Fatalities	Rate per 100,000 Population	
2011	1,226	9,815,210	130	11%	14	1.1%	144	12%	1.47	
2012	1,192	9,919,945	167	14%	17	1.4%	184	15%	1.85	
2013	1,180	9,992,167	176	15%	28	2.4%	204	17%	2.04	
2014	1,164	10,097,343	163	14%	19	1.6%	182	16%	1.80	
2015	1,432	10,214,860	194	14%	23	1.6%	217	15%	2.12	
2016	1,556	10,310,371	232	15%	29	1.9%	261	17%	2.53	
2017	1,540	10,429,379	253	16%	15	1.0%	268	17%	2.57	
2018	1,504	10,519,475	262	17%	30	2.0%	292	19%	2.78	
2019	1,491	10,617,423	236	16%	21	1.4%	257	17%	2.42	
2020	1,664	10,710,017	279	17%	32	1.9%	311	19%	2.90	

Table 1. Rate and Percent of Non-Motorist Traffic Fatalities, 2011-2020

Source: FARS 2011-2020; OASIS 2011-2020

#### Non-Motorist Injuries

The following section describes various responses to serious injuries experienced by pedestrians and bicyclists involved in motor vehicle traffic crashes and non-traffic crash incidents. Injured pedestrians and bicyclists can be counted multiple times for each response (e.g., an injured person may be counted as an emergency room visit, hospitalization, and/or trauma center patient). The various responses to injuries are described below.

#### Table 2. Description of Traffic Injury Surveillance Data Sources

	Traffic Injury Surveillance Data Sources
	Suspected Serious Crash Injuries are reported by law enforcement responding to a motor vehicle crash scene.
+ b	<i>Emergency Medical Services</i> include all ground and air transports to an emergency facility for patients who are injured and require medical care in the state of Georgia.
±	<i>Trauma Center</i> patients are identified as those with serious injuries that meet specific criteria. The State of Georgia follows the identification and treatment guidelines established by the American College of Surgeons along with the Centers for Disease Control and Prevention (CDC) Field Triage Criteria.
	<i>Emergency Room and Hospitalizations</i> include Georgia resident discharges from Georgia non-federal acute care hospitals. Emergency room (ER) visits include individuals who were discharged directly from the ER. Hospitalizations include individuals who may have visited the emergency room.

Table 2 shows the number and percent change of non-motorist, motor vehicle traffic-related serious injuries for each injury surveillance source. Between 2019 and 2020, all surveillance sources show a decrease in pedestrian serious injuries, and all but one source (Emergency Medical Services – EMS) show a decrease in bicyclist serious injuries. The number of non-motorists transported to a hospital facility by EMS decreased by 1 percent; however, pedestrian injury transports decreased by 11 percent, and bicyclist injury EMS transports increased by 40 percent.

### Table 3. Non-Motorist Motor Vehicle Traffic-Related Serious Injuries by Injury Surveillance Source, 2019-2020

Injury Surveillance	2019		20	20	2019-2020 Percent Change				
Source	Pedestrian	Bicyclists	Pedestrian	Bicyclists	Pedestrian	Bicyclists	Non-Motorists		
Crash Reports	395	88	358	71	▽ -9%	▽ -19%	▽ -11%		
Emergency Medical Services**	2,102	510	1,877	716	▽ -11%	<b>40%</b>	▽ -1%		
Trauma	1,141	519	826	148	▽ -28%	▽ -71%	▽ -41%		
Emergency Department*	2,682	543	1,529	349	▽ -43%	▽ -36%	▽ -42%		
Hospital*	758	92	654	68	▽ -14%	▽ -26%	▽ -15%		

Note: \*All persons involved in a Georgia crash receive care in a Georgia Emergency Department or Hospital, regardless of their state residency. \*\*EMS arrivals to motor vehicle traffic crashes with reported serious injuries and fatalities may or may not have resulted in transport to a medical facility.

Source: CODES 2019- 2020, DPH Hospital Inpatient Discharge and Emergency Room Visit Data 2019-2020, GEMSIS 2019-2020, Georgia Trauma Registry 2019-2020

Table 4 shows the number, proportion, and rate (per population) of non-motorist serious injuries by age group and surveillance system. In 2020, the 25-to-34 and 55-to-64 years represented the two age groups with the highest rate or proportion of police-reported suspected serious injuries, EMS transports, trauma care, emergency room visits, and hospitalizations compared to other age groups.

- Non-motorists aged 25-to-34 years have the rate of police-reported suspected serious injuries, transports by EMS and emergency room visits compared to other age groups.
- Non-motorists aged 55-to-64 years have the highest rate of EMS transports, trauma care, and hospitalizations compared to other age groups—18 percent of all non-motorists in this age group received treatment at a trauma center or hospital.

## Table 4. Non-Motorist Traffic-Related Serious Injuries, Percent of Total Serious Injuries, and Rate per 100,000 Population by Age Group and Injury Surveillance Source, 2020

Age Group	Police-Reported Suspected Serious Crash Injuries		Emergency Medical Services		Trauma Center		Emergency Room			Hospitalizations					
	#	%	Rate	#	%	Rate	#	%	Rate	#	%	Rate	#	%	Rate
<10	18	4%	1.3	145	6%	10.9	32	3%	2.4	72	4%	5.4	4	1%	0.3
10-14	20	5%	2.8	141	5%	19.4	33	3%	4.5	77	4%	10.6	6	1%	0.8
15-24	76	18%	5.2	403	16%	27.6	139	14%	9.5	404	22%	27.7	109	15%	7.5
15-20	41	10%	4.6	235	9%	26.5	78	8%	8.8	237	13%	26.7	61	8%	6.9
21-24	35	8%	6.1	168	6%	29.4	61	6%	10.7	167	9%	29.2	48	7%	8.4
25-34	87	20%	5.8	458	18%	30.4	180	18%	11.9	429	23%	28.5	135	19%	9.0
35-44	76	18%	5.4	377	15%	27.0	169	17%	12.1	275	15%	19.7	125	17%	9.0
45-54	52	12%	3.7	399	15%	28.7	138	14%	9.9	241	13%	17.3	116	16%	8.3
55-64	55	13%	4.2	411	16%	31.1	174	18%	13.1	251	13%	19.0	133	18%	10.1
65+	38	9%	2.4	259	10%	16.5	109	11%	6.9	129	7%	8.2	94	13%	6.0
Total*	429	100%	4.0	2,593	100%	24.2	974	100%	9.1	1,878	100%	17.5	722	100%	6.7

\*Includes twelve suspected serious injuries with unknown age

Source: CODES 2020, DPH-OHIP Hospital Inpatient Discharge and Emergency Room Visit Only Data 2020, GEMSIS 2020, Georgia Trauma Registry 2020

#### Suspected Serious Crash Injuries

Pedestrians aged 21-to-24 years have the highest rate of serious injuries and fatalities per population compared to other age groups. In 2020, there were 8.57 serious injuries and fatalities among pedestrians for every 100,000 population aged 21-to-24 years.

Bicyclists aged 55-to-64 years have the highest rate of serious injuries and fatalities compared to other age groups, followed by bicyclists in the 45-to-54 age group (Table 5).

### Table 5. Non-Motorist Suspected Serious Injury and FatalityRate by Age Group (Traffic), 2019 and 2020

Age Group	Pede Injurie	estrian Se es and Fa	erious talities	Bicyclist Serious Injuries and Fatalities			
Croup	Number	Percent	Rate	Number	Percent	Rate	
<10	14	2%	0.72	8	8%	0.41	
10-14	18	3%	2.48	8	8%	1.10	
15-20	54	9%	6.09	6	6%	0.68	
21-24	49	8%	8.57	6	6%	1.05	
25-34	120	19%	7.97	12	12%	0.80	
35-44	113	18%	8.10	16	16%	1.15	
45-54	73	12%	5.25	18	18%	1.29	
55-64	107	17%	8.09	19	19%	1.44	
65+	76	12%	5.01	7	7%	0.46	
Total*	624	100%	5.83	100	100%	0.93	

\*Total includes serious injuries of unknown age Source: CODES 2019-2020

#### **Emergency Medical Services**

In 2020, six percent of all motor vehicle traffic-related Emergency Medical Services (EMS) transports involved non-motorists. EMS transported 1,877 pedestrians, and 716 bicyclists involved in motor vehicle traffic-related crashes to a hospital facility. The number of EMS pedestrian transports decreased by 11 percent from the 2,102 transports in 2019. The number of EMS bicyclist transports increased by 40 percent from the 510 transports in 2019.

#### **Trauma Center Patients**

According to the Georgia Trauma Registry data, motor vehicle traffic-related incidents (motor vehicle occupants, motorcyclists, pedestrians, and bicyclists) accounted for nearly one-third of all injuries treated by designated and non-designated Georgia Trauma Centers<sup>1</sup> in 2020. In 2020, the number of pedestrians identified as trauma patients treated within Georgia Trauma Centers had decreased by 28 percent, from 1,141 in 2019 to 826 in 2020. The number of bicyclist trauma patients decreased by 71 percent, from 519 in 2019 to 148 in 2020.

Nearly one out of every three patients (30 percent) of pedestrians treated at the trauma centers had minor injuries, and 19 percent had very severe injuries. Similarly, nearly one-third (31 percent) of bicyclists treated at trauma centers had minor injuries, and 15 percent had very severe injuries (Figure 2).

# Figure 2. Trauma Registry Pedestrian and Bicyclist Injuries Treated by Injury Severity Score, 2020



#### **Emergency Room Visits & Hospitalizations**

In 2020, the total motor vehicle-related (traffic and non-traffic) hospitalization and emergency room charges among Georgia residents were \$172 million for pedestrians and \$67.48 million for bicyclists.

- Traffic-related pedestrian emergency room visits and hospitalizations <u>de</u>creased by 26 percent, and bicyclist emergency room visits and hospitalizations <u>de</u>creased by 31 percent between 2019 and 2020. In 2020, there were 2,183 traffic-related emergency room visits and hospitalizations<sup>2</sup> involving pedestrians and 613 traffic-related emergency room visits and hospitalizations involving bicyclists.
- Non-traffic-related pedestrian emergency room visits and hospitalizations <u>in</u>creased by 51 percent, and bicyclist emergency room visits and hospitalizations <u>in</u>creased by nearly eightyfold (79.5 times) between 2019 and 2020. Bicyclists across all age groups experienced an increase in non-trafficrelated emergency room visits and hospitalizations, but the increase was most predominant in children ages 5-to-14 years.

<sup>&</sup>lt;sup>1</sup> Not all hospitals are designated as Trauma Centers.

<sup>&</sup>lt;sup>2</sup> Hospitalizations may include individuals that visited the emergency room. Emergency room visits include individuals who were discharged directly from the ER. Hospitalizations and emergency room visits are for Georgia residents only, while fatalities can be a person from out of state.

#### **Crash Characteristics**

According to the police crash reports, nearly one out of every four pedestrian crashes that occurred in Georgia (625 out of 2,332) resulted in at least one pedestrian that was seriously or fatally injured in 2020. In the same year, 15 percent of all bicyclist crashes (100 out of 654) resulted in at least one bicyclist that was seriously or fatally injured. Table 6 shows the number of nonmotorist crashes, persons involved in crashes, and suspected serious injuries between 2016-2020.

#### Urban vs. Rural<sup>3</sup>

There were 21.77 pedestrians per 100,000 population, and 6.11 bicyclists per 100,000 population involved in a motor vehicle traffic crash across the state of Georgia (Figure 3). In Georgia, non-motorist crashes are more frequent in the urban areas (the Atlanta and other urban regions) compared to rural areas where the residential population is less than 50,000 people.

- Pedestrian crashes and crash rates were highest within the ten counties of the Atlanta Region<sup>4</sup> – 28.59 pedestrians per 100,000 population.
- The Atlanta Region accounted for 44 percent of the state population. However, 58 percent (1,343 out of 2,332) of all pedestrian crashes, 46 percent (165 out of 358) of all pedestrian serious injuries, and 45 percent (126 out of 279) of all pedestrian fatal injuries occurred within this area.
- Bicyclist crashes and crash rates were highest within the 31 other urban counties
   8.55 bicyclists per 100,000 population.

### Table 6. Non-Motorist Crashes and Serious Injury and Fatal Crashes, 2016-2020

	Pe	edestrian	Bicyclist			
Year	Crashes	Serious Injury and Fatal Crashes	Crashes	Serious Injury and Fatal Crashes		
2016	3,834	822	695	57		
2017	3,681	909	686	75		
2018	2,172	581	550	69		
2019	2,986	613	793	108		
2020	2,332	625	654	100		

Source: CODES 2016-2020, FARS 2016-2020

## Table 7. Number and Percent of Non-Motorist Crashes by Region Type, 2020

Region	Pedes Cras	strian shes	Bicyclist Crashes		
	Number	Percent	Number	Percent	
Atlanta Region (10 counties)	1,343	58%	251	38%	
Other Urban (31 counties)	715	31%	322	49%	
Rural Counties (118 counties)	274	12%	81	12%	
Statewide	2,332	100%	654	100%	

# Figure 3. Pedestrian and Bicyclist Crash Rate per 100,000 Population by Region Type, 2020



Source: CODES 2020; OASIS 2020

<sup>&</sup>lt;sup>3</sup> Rural counties are counties that have a residential population less than 50,000 persons. This is different than roadway classifications where urban road systems can be located in urban clusters (or metropolitan areas) of at least 2,500 persons within the rural counties.

<sup>&</sup>lt;sup>4</sup> The Atlanta Region includes the ten counties that are defined by the Atlanta Regional Commission (ARC): Cherokee, Clayton, Cobb, DeKalb, Douglas, Fayette, Fulton, Gwinnett, Henry, and Rockdale counties.

Table 8 shows the percent of pedestrian and bicyclist crashes by region and roadway classification in 2020. Statewide, most pedestrian crashes occurred on minor arterial roadways (31 percent), and most bicyclist crashes occurred on local roadways (34 percent).

- In the Atlanta region, more pedestrian <u>crashes</u> occurred on *minor arterial* roadways (20 percent)—whereas most pedestrian crashes in other urban counties occur on *principal arterial* roadways.
- Within the Atlanta region, 19 percent of pedestrian <u>fatalities</u> (27 out of 133) occurred on the interstate (not shown).

## Table 8. Motor Vehicle Traffic Crashes Involving Non-Motorists byRegion and Roadway Classification, 2020

Non-Motoris Roadway Cla	t Type assification	Atlanta Region	Other Urban Counties	Rural Counties	Total
	Interstate	2%	1%	1%	4%
Pedestrian	Principal Arterial	12%	9%	3%	24%
	Minor Arterial	20%	8%	3%	31%
	Collectors	5%	4%	2%	12%
	Local	13%	8%	3%	24%
	Other	5%	1%		6%
	Total	58%	31%	12%	100%
	Interstate				
Bicyclist	Principal Arterial	5%	10%	3%	18%
	Minor Arterial	12%	15%	2%	30%
	Collectors	5%	7%	2%	14%
	Local	13%	16%	4%	34%
	Other	2%	1%	1%	4%
	Total	38%	49%	12%	100%

Source: Roadway data obtained for Numetric, 2020

Note: The sum of the individual cells may not equal row or column totals due to rounding error.

In 2020, 88 out of 159 Georgia counties experienced at least one non-motorist traffic fatality. The counties with the highest number of pedestrian fatalities were DeKalb (72 pedestrian fatalities), Fulton (67), Clayton (59), and Cobb (45). While most pedestrian fatalities occurred in the Atlanta region, other urban counties and rural counties have higher rates of pedestrian serious and fatal injury per population and pedestrian crashes for every 1,000 motor vehicle crashes. Similarly, most bicyclist fatalities occurred in the Atlanta region and other rural counties like Chatham County; however, rural counties have higher rates of bicyclist serious and fatal injury per population and bicyclist crashes for every 1,000 motor vehicle crashes.

Non-Motorist Type and Rank		Serious Inju Fatali Cour	uries and ties nt	Serious Injur per 100,00	and Fatal y Rate 0 Population	Non-Motorists Crash Rate per 1,000 MV Crashes	
		County	Number	County	Rate	County	Rate
Dedectrien	1	Dekalb	72	Monroe	21.4	Chattahoochee	28.6
Pedesinan	2	Fulton	67	Clayton	20.2	Echols	22.2
	3	Clayton	59	Grady	16.3	Johnson	19.8
	4	Cobb	45	Dougherty	15.0	Terrell	19.6
	5	Chatham	28	Treutlen	14.7	Turner	19.4
Rieveliet	1	Chatham	8	Terrell	11.7	Terrell	13.1
Bicyclist	2	Cobb	8	Cook	11.6	Lanier	11.1
	3	Bibb	6	Johnson	10.3	Randolph	10.8
	4	Richmond	6	Lanier	9.3	Ben Hill	10.1
	5	Fulton	6	Jeff Davis	6.6	Johnson	9.9

#### Table 9. Top Counties with the Highest Non-Motorist Serious Injury and Fatal Crashes, 2020

Source: CODES 2020; OASIS 2020 ; FARS 2020

#### Environmental Characteristics

Table 10 shows the information on environmental characteristics (location of crash, hit-and-run status, light condition, day, and season) describing where and when pedestrian and bicyclist fatalities occurred in 2020.

- More than half (55 percent) of the pedestrian crashes occurred at locations that were not intersections, whereas 62 percent of bicyclist crashes occurred at intersections.
- Over one-fifth (22 percent) of all pedestrian crashes and 17 percent of all bicyclist crashes were hit-and-runs.
- Half (50 percent) of the pedestrian crashes occurred in dark conditions, whereas 72 percent of bicyclist crashes occurred during daylight conditions. According to FARS, 80 percent of fatal pedestrian crashes occur during the nighttime hours (6:00 p.m. – 5:59 a.m.).
- Most pedestrian and bicyclist weekday and weekend crashes occurred between 12:00 p.m. and 5:59 p.m.
- Nearly one-third (30 percent) of pedestrian crashes occurred in the winter months, and 31 percent of bicyclist crashes occurred in the fall months.

 Table 10. Motor Vehicle Crashes Involving Pedestrians and Bicyclists by

 Environmental Characteristics, 2020

Environmental Characteristics	All Ped Cras	estrian shes	All Bicyclist Crashes		
	Number	Percent	Number	Percent	
Location *					
Not at Intersection	1,287	55%	225	34%	
At Intersection	870	37%	407	62%	
Roadway Intersection	550	24%	283	43%	
In Crosswalk	217	9%	69	11%	
Driveway Intersection	60	3%	35	5%	
Sidewalk	34	1%	5	1%	
Other Intersection**	9	0.4%	15	2%	
Other Location	161	7%	18	3%	
On Shoulder	72	3%	15	2%	
Off Roadway	56	2%	2	0.3%	
Entrance/Exit Ramp	24	1%	1	0.2%	
Light Conditions					
Dark	1,167	50%	148	23%	
Daylight	1,083	46%	474	72%	
Dawn	25	1%	7	1%	
Dusk	51	2%	21	3%	
Time of Day					
Daytime (6:00a.m. – 5:59p.m.)	1,076	46%	437	66%	
Nighttime (6:00p.m. – 5:59a.m.)	1,256	53%	217	33%	
Day of Week / Time of Day					
Weekday (6:00a.m. Mon - 5:59p.m. Fri)	1,556	67%	456	70%	
12:00 a.m5:59 a.m.	137	6%	16	2%	
6:00 a.m11:59 a.m.	333	14%	92	14%	
12:00 p.m 5:59 p.m.	541	23%	238	36%	
6:00 p.m 11:59 p.m.	545	23%	110	17%	
Weekend (6:00p.m. Fri - 5:59a.m. Mon)	776	33%	198	30%	
12:00 a.m5:59 a.m.	149	6%	15	2%	
6:00 a.m 11:59 a.m.	63	3%	28	4%	
12:00 p.m 5:59 p.m.	139	6%	79	12%	
6:00 p.m 11:59 p.m.	425	18%	76	12%	
Season / Time of Day					
Winter (Jan-Feb, Dec)	688	30%	113	17%	
Daytime	330	14%	79	12%	
Nighttime	358	15%	34	5%	
Spring (Mar-May)	468	20%	169	<b>26%</b>	
Daytime	233	10%	123	19%	
Nighttime	235	10%	46	7%	
Summer (Jun-Aug)	504	22%	171	<b>26%</b>	
Daytime	242	10%	108	17%	
Nighttime	262	11%	63	10%	
Fall (Sep-Nov)	672	29%	201	31%	
Daytime	271	12%	127	19%	
Nighttime	401	17%	74	11%	

\*Location does not include crashes with unknown location or those less than 0.5 percent of total pedestrian or bike crashes. \*\*Other intersections include roundabouts, railroad crossings, and manage lanes (i.e., HOV lanes). \*\*\* Nighttime and daytime groupings are based on the time of day in hours. The timegroupings do not consider the change in lighting conditions associated with the seasons (i.e., longer daylight hours in the summer). Source: CODES 2020 Another important environmental factor that impacts the severity of traffic-related crash injuries is roadway characteristics. According to an AAA study, as vehicle speeds increase, the risk of pedestrian severe or fatal injuries increases. At low vehicle impact speed (15 mph or below), most pedestrians (91 percent) that are struck do not sustain severe or fatal injuries—8 percent will have a severe injury, and 2 percent will have a fatal injury. Pedestrians' risk of injury increases greatly when the vehicle impact speed increases at 25 mph or above. According to this 2011 AAA national study<sup>5</sup>, a vehicle impact speed at:

- 25 mph, resulted in 30% of struck pedestrians sustaining severe injuries and 12% sustaining fatal injuries
- 35 mph, resulted in 47% of struck pedestrians sustaining severe injuries and 20% sustaining fatal injuries
- 40 mph, resulted in 79% of struck pedestrians sustaining severe injuries and 45% sustaining fatal injuries

The national findings are similar to the patterns experienced in Georgia-the risk of pedestrian serious and fatal injuries increased significantly on roadways with posted speed limits at or above 40 mph. Among the pedestrian crashes on roadways with a posted speed limit of 40 mph, 17% of struck pedestrians sustained serious injuries, and 22% of struck pedestrians sustained fatal injuries (Figure 4). In 2020, nearly four out of five pedestrian fatalities (80 percent) and more than half (56 percent) of pedestrian injuries occurred on roadways with posted speed limits at or above 40 mph.

According to Numetric, 27 percent of all pedestrian crashes resulted in at least one pedestrian serious injury or fatality (Table 11). The percent of all pedestrian crashes that were either serious injury or fatal varied by roadway classification and traffic way—

- 44 percent of pedestrian crashes on two-way, <u>divided</u> principal arterials resulted in a pedestrian serious injury or fatality, and
- 33 percent of pedestrian crashes on two-way, <u>undivided</u> principal arterials resulted in a pedestrian serious injury or fatality.

### Figure 4. Percent of Pedestrian Crashes that Resulted in a Pedestrian Serious or Fatal Injury by Posted Speed Limit, 2020



#### Table 11. Percent of All Pedestrian Crashes that were Serious Injury or Fatal by Roadway Classification and Trafficway, 2020

Roadway Classification	One-Way	Two-Way, Divided	Two-Way, Not Divided	All Trafficways
Interstate	60%	71%		68%
Local / Collector	18%	13%	20%	19%
Minor Arterial	6%	25%	29%	27%
Principal Arterial	21%	44%	33%	38%
All Roadway Classifications	23%	36%	24%	27%

Source: Numetric 2020

<sup>&</sup>lt;sup>5</sup> AAA Foundation for Traffic Safety, 2011, "Impact Speed and a Pedestrian's Risk of Severe Injury or Death." Available online: https://nacto.org/wp-content/uploads/2017/11/2011PedestrianRiskVsSpeed.pdf

#### **Contributing Circumstances**

According to FARS data, more contributing factors to fatal crashes were documented for fatally injured pedestrians than drivers involved in the crashes. Nearly one-fifth of all fatal pedestrian crashes have contributing factors reported for drivers involved in the crash.

While underreported, the top contributing circumstances among *pedestrians fatally* injured in 2020:

- Failure to yield right-of-way (52 percent);
- Improper crossing of roadway or intersection (jaywalking) (27 percent);
- Darting or dashing into traffic (15) percent); and,
- In roadway improperly (standing, lying, working, playing, etc.) (12 percent).

Other contributing circumstances among drivers involved in all pedestrian-related crashes include:

- Confirmed or suspected distracted drivers<sup>6</sup> (48) percent of all drivers involved in pedestrian-related motor vehicle crashes);
- Driver failed to yield (24 percent);
- Driver vision was obscured, or pedestrian was not visible (10 percent);
- Improper turning, backing, signaling, or misjudged clearance (8 percent);
- Confirmed or suspected alcohol- and/or drugimpaired driver (7 percent); and,
- Speeding driver (3 percent).

#### ALCOHOL INVOLVEMENT IN PEDESTRIAN-RELATED FATAL **CRASHES**

In 2020, 10 percent of pedestrians and 2 percent of all drivers involved in pedestrian-related fatal crashes had some alcohol present in their system (BACs of .01 g/dL or higher). These numbers are likely to be underreported due to a large proportion of unreported/unknown BACs. See 'Data Considerations' for more information. Nearly one out of five pedestrians ages 45-to-54 had some alcohol at the time of the fatal crash—16 percent had a BAC greater than 0.08 g/dL.

		P	edestrians	;		Drivers				
Age Group	Total Pedestrian Involved	.00 g/dL BAC	.01–.07 g/dL BAC	.08+ g/dL BAC	Unknown	Total Drivers Involved	.00 g/dL BAC	.01–.07 g/dL BAC	.08+ g/dL BAC	Unknown
<15	8	-	-	-	100%	-	-	-	-	-
15-24	34	18%	-	6%	76%	39	10%	-	-	90%
15-20	15	7%	-	7%	87%	-	-	-	-	-
21-24	19	26%	-	5%	68%	-	-	-	-	-
25-34	44	16%	-	9%	75%	84	4%	2%	1%	93%
35-44	47	6%	2%	11%	81%	52	6%	2%	6%	87%
45-54	37	5%	3%	16%	76%	54	6%			94%
55-64	66	8%	2%	8%	83%	37	5%			95%
65+	43	23%	-	7%	70%	26	12%			88%
Unknown	7	-	-	-	100%	35	-	-	-	-
Total	286	12%	1%	9%	79%	327	6%	1%	1%	92%

Table 12. Alcohol Involvement in Pedestrian-Related Fatal Crashes by	Age Group and Person Type, 2020
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Source: FARS 2020

Data Considerations: Alcohol impairment occurs when the driver's ability to operate a motor vehicle safely is compromised or when non-motorists experience reduced alertness and coordination. Impairment can occur above or below the Georgia legal limit of .08 g/dL. Additionally, the presence of alcohol may or may not be a contributing factor in the crash. Due to inherent limitations of the crash dataset, most pedestrians and drivers involved in traffic crashes do not have blood alcohol test results reported.

<sup>&</sup>lt;sup>6</sup> See the 2020 Distracted Drivers Georgia Traffic Safety Facts "Data Considerations" section for more information on the suspected-distracted driver definition established by CODES.

#### Demographics

#### Sex & Age

The male incident rates were more than double the female incident rates. The male non-motorist crash rate per 100,000 population was 33.5 compared to 12.9 for females. The male non-motorist serious injury rate was 5.7 compared to 2.0 for females. The male non-motorist fatality rate was 4.3 compared to 1.5 for females – males are nearly three times (2.9 times) more likely to be fatally injured compared to females.

See the serious injury section and the cross-cutting highlight below (Older Pedestrian Population) for more information on pedestrian serious injuries and fatalities by age group.

#### **OLDER PEDESTRIAN POPULATION**

In 2020, pedestrians aged 65+ years represented 8 percent of all pedestrians involved in crashes (202 out of 2,449), 10 percent of all pedestrian serious injuries (34 out of 358), and 15 percent of all pedestrian fatalities (42 out of 279). Persons aged 65+ years represented 15 percent of the Georgia population in 2020—with an annual growth of 4 percent. As shown in Table 13, the number of pedestrians 65+ years of age that were seriously or fatally injured increased by 27 percent (from 63 in 2019 to 80 in 2020), and the rate of seriously or fatally injured pedestrians 65+ years increased by 22 percent (from 4.15 in 2019 to 5.08 in 2020). Table 14 shows the number, percent, and rate of serious injuries reported for each injury surveillance source for the older pedestrian population aged 55 years and older.

Year	Serious	Fatalities	Total Serious Injuries and Fatalities		Popul	ation	<b>Rate</b> Per 100,000 Population		
	injury		Number	Annual % Change	Number	Annual % Change	Rate	Annual % Change	
2016	42	26	68	19%	1,354,662	4%	5.02	15%	
2017	56	36	92	35%	1,407,810	4%	6.53	30%	
2018	22	42	64	-30%	1,460,409	4%	4.38	-33%	
2019	33	30	63	-2%	1,516,954	4%	4.15	-5%	
2020	38	42	80	27%	1,574,667	4%	5.08	22%	

#### Table 13. Older Pedestrian (Aged 65+ Years) Serious Injuries, Fatalities, and Injury Rate, 2016-2020

Source: CODES 2020, FARS 2020, OASIS 2020

### Table 14. Older Pedestrian (Aged 65+ Years) Traffic-Related Serious Injuries, Percent of Total Serious Injuries, and Rate by Age Group and Injury Surveillance Source, 2020

Age Group	ge Police-Reported Suspected Serious Crash Injuries		Emergency Medical Services		Trauma Center		Emergency Room			Hospitalizations					
	#	%	Rate	#	%	Rate	#	%	Rate	#	%	Rate	#	%	Rate
Less than 55	281	78%	3.6	1,399	75%	17.9	586	71%	7.5	1,220	80%	15.6	453	69%	5.8
55-64	43	12%	3.3	288	15%	21.8	143	17%	10.8	197	13%	14.9	113	17%	8.5
65-74	21	6%	2.2	125	7%	13.0	72	9%	7.5	78	5%	8.1	62	9%	6.6
75-84	10	3%	2.2	46	2%	10.0	20	2%	4.4	28	2%	6.1	23	4%	5.0
85+	3	1%	1.9	19	1%	12.2	5	1%	3.2	6	0%	3.9	3	0%	1.9
*Total	358	100%	3.3	1,877	100%	17.5	826	100%	7.7	1,529	100%	14.3	654	100%	6.1

\*Includes twelve suspected serious injuries with unknown age. Source: CODES 2020, DPH-OHIP Hospital Inpatient Discharge and Emergency Room Visit Only Data 2020, GEMSIS 2020, Georgia Trauma Registry 2020

#### Pedestrian Race/Hispanic Origin

In 2020, Black/African American, Non-Hispanics represented the majority (42 percent) of pedestrians fatally injured in motor vehicle traffic crashes and 32 percent of the Georgia residential population – compared to White, Non-Hispanics that represent 37 percent of pedestrian fatalities and 52 percent of the population (Table 7).

The Black/African American, Non-Hispanic pedestrian fatality rate was higher than any other race – 3.46 per 100,000 population (Figure 10). The pedestrian fatality rate per population among Black/African American Non-Hispanic individuals is nearly doubled (1.8 times) the pedestrian fatality rate experienced among White Non-Hispanics.

According to the American Community Survey<sup>7</sup>, an estimated 62 percent of Black/African American Non-Hispanics use public transportation (excluding taxicabs) as a means of transportation to work in Georgia.

#### Table 15. Pedestrian Fatalities by Race/Hispanic Origin, 2020

Race / Hispanic Origin	Georgia Population	Pedes Fatali	<b>Rate</b> per 100,000		
	Percent of Total Population	Number	Percent	Population	
Hispanic	10%	21	8%	1.97	
White, Non-Hispanic	52%	104	37%	1.88	
Black/African American, Non-Hispanic	32%	118	42%	3.46	
American Indian, Non- Hispanic/ Unknown	<1%	1	<1%	**	
Asian, Non-Hispanic	4%	5	2%	**	
Multiple Races Unspecified	2%	2	1%	**	
All Other Non-Hispanic or Race	<1%	1	<1%	**	
Unknown Race and Unknown Hispanic		27	10%	**	
TOTAL	100%	279	100%	2.61	

Note: Race and Hispanic origin are not available in crash records. Source: FARS 2020

<sup>&</sup>lt;sup>7</sup> 2020 American Community Survey 1-year estimates: Table S0802 Means of Transportation to Work by Selected Characteristics

### **VULNERABLE POPULATIONS**

Vulnerable populations are communities within specific geographic areas that may be vulnerable in their ability to respond and prepare for public health emergencies and disasters. Demographic factors such as the proportion of community members without vehicles, with disabilities, older adults, minority status, and low-income/socioeconomic status are measures and attributes of socially vulnerable communities.

According to the Georgia Traffic Safety Facts study called "*Examining Social Vulnerability and the Association with Pedestrian Crashes*" (Georgia Crash Outcomes Data Evaluation System, 2022 <sup>(1)</sup>), there is a positive correlation between vulnerable census tracts in Georgia and the rates of pedestrian serious and fatal injury crashes across the Atlanta region, other urban regions, and rural regions. In other words, the more vulnerable a community is, the higher the rate of pedestrian serious and fatal injury crashes. This positive, significant relationship was present for overall social vulnerability (shown in Figure 5 for the Atlanta Region) as well as for socioeconomic status, household composition and disability, minority status and language, and housing type and transportation vulnerability themes.

# Figure 5. Bivariate Map of Serious Injury and Fatal Pedestrian Crash Rates (per 100,000 census tract population) and Social Vulnerability Index in the Atlanta Region, by Overall SVI and SVI Themes.



**Dark purple** census tracts are communities with <u>high</u> social vulnerability and <u>high</u> pedestrian serious and fatal injury crash rates.

Darker blue census tracts are communities with <u>low</u> social vulnerability and <u>high</u> pedestrian serious and fatal injury crash rates.

Source: Georgia Crash Outcomes Data Evaluation System. (2022, July). Examining Social Vulnerability and the Association with Pedestrian Crashes: 2016-2020 data. (Georgia Traffic Safety Facts). Atlanta, GA: Governor's Office of Highway Safety.

CDC's SVI data and other related sociodemographic variables can be leveraged to impartially assess roadway and public health concerns related to pedestrian safety. The findings from this research may encourage stakeholders to apply SVI assessments when implementing pedestrian safety efforts (i.e., engineering improvements, programmatic interventions, campaigning and education efforts, and other countermeasures to improve pedestrian safety).

#### Safety Equipment & Protective Gear

#### Pedestrian Safety Equipment Use

Safety equipment for pedestrians includes clothing or materials that make the pedestrian more visible to others. This can include reflective gear and the use of lights (white in the front and red in the back) at night or dusk when visibility is poor. Safety equipment use among pedestrians is a relatively new field in police crash reports, and in 2020 safety equipment use was recorded for 42 percent of all pedestrians involved in motor vehicle traffic crashes (1,030 out of 2,449 pedestrians). Of those pedestrians with known equipment use, 4 percent were using lighting or reflective clothing (44 out of 1,030).

#### **Bicycle Helmet Use**

In 2020, safety equipment use was recorded for 90 percent of all bicyclists involved in motor vehicle traffic crashes (606 out of 677 bicyclists). Of those bicyclists with known equipment use, 23 percent wore a helmet, reflective clothing, or lighting (140 out of 606). Among the 83 bicyclists fatally injured in traffic crashes between 2018 and 2020, 8 percent were helmeted, 60 percent were un-helmeted, and 31 percent had an unknown or unreported helmet use.

#### **Personal Conveyances**

According to the National Highway Traffic Safety Administration (NHTSA), people fatally injured in motor vehicle traffic crashes who were on "personal conveyances" are not classified as pedestrians. "Personal conveyances" are defined as roller skates, inline skates, skateboards, baby strollers, scooters, toy wagons, motorized skateboards, motorized toy cars, Segway-style devices, motorized and nonmotorized wheelchairs, and scooters for those with disabilities. Table 15 presents the distribution of people fatally injured on personal conveyances as a percentage of total traffic fatalities in 2015-2020. Before 2020, FARS did not contain information about the type of personal conveyances used by those fatally injured in traffic crashes.

### Table 15. Total Traffic Fatalities and PersonalConveyance Fatalities, 2016–2020

Vear	Total Traffic	Personal Conveyance				
loui	Fatalities	Number	Percent			
2016	1,556	2	0.1%			
2017	1,540	6	0.4%			
2018	1,504	4	0.3%			
2019	1,491	11	0.7%			
2020	1,664	**	**			

Note: Personal conveyance fatalities for 2020 was unavailable at the reporting time. Source: FARS 2020

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#### **Data Definitions and Considerations:**

This fact sheet defines a pedestrian as any person on foot, walking, running, jogging, hiking, sitting, or lying down who is involved in a motor vehicle traffic crash. These exclude people on personal conveyances like roller skates, inline skates, skateboards, baby strollers, scooters, toy wagons, motorized skateboards, motorized toy cars, Segway-style devices, motorized and non-motorized wheelchairs, and scooters for those with disabilities. Bicyclists and other cyclists include riders of two-wheel, non-motorized vehicles, tricycles, and unicycles powered solely by pedals.

A traffic crash is defined as an incident that involved one or more motor vehicles where at least one vehicle was in transport, and the crash originated on a public trafficway, such as a road or highway. Crashes that occurred on private property, including parking lots and driveways, are excluded. However, in some cases where pedestrian and bicyclist injuries are discussed, traffic and non-traffic (i.e., occurring on any place other than a traffic way – trail, driveway, parking lot, or sidewalk) incidences are included in the aggregate reporting. Fatal crashes are defined as crashes that involve a motor vehicle traveling on a trafficway customarily open to the public and that result in the death of a motorist or a non-motorist within 30 days of the crash.

Serious injuries are those suspected serious injuries reported by law enforcement and used when any injury, other than fatal injury, prevents the injured person from walking, driving, or normally continuing the activities the person was capable of before the injury occurred.

"At Intersection" is used when a person is on a roadway either (1) in the intersection, (2) in the area between a crosswalk and the perimeter of the intersection, or (3) in a crosswalk (marked or unmarked) adjacent to an intersection. "Intersection-Related" is used when a person is within the trafficway 50 feet out from the perimeter of an intersection area or if the crash is related to the flow of traffic through an intersection. "Not at Intersection" is when the person is more than 50 feet out from the perimeter of an intersection. "Not at Intersection, and the crash is not identified as related to the movement of vehicles through an intersection. "Non-Trafficway Locations" are crashes that occur outside the boundaries of the trafficway (i.e., driveways or parking lots).

The National Center for Health Statistics (NCHS), the Federal agency responsible for use of the International Statistical Classification of Diseases and Related Health Problems, 10th revision (ICD-10) in the United States, has developed a clinical modification (CM) of the classification for morbidity (EMS, trauma, hospital, and ER data) purposes. ICD-10 Codes used were–Pedestrian traffic - V02-V04 (.1,.9), V09.2, Pedestrian non-traffic - V02-V04 (.0),V01,V05,V06,V09 (.0,.1,.3,.9),Pedal cyclist traffic - V12-V14 (.3-.9) V19 (.4-.6), Pedal cyclist non-traffic - V19(.4-.6),V10-V11,V12-V14(.0-.2),V15-V18,V19(.0-.3,.8,.9).

Contributing circumstances capture the precrash elements or improper actions of persons (pedestrians, bicyclists, other cyclists, and motorists) that may have caused the crash. There is at least one record per person involved in a fatal crash (FARS Data) and some missing records for persons involved in motor vehicle traffic crashes (Crash Data).

The Fatality Analytics Reporting System (FARS) and crash data expanded the safety equipment field to include new attributes related to non-motorist safety equipment (e.g., reflective equipment/clothing, protective pad, lighting, and other safety equipment). These new attributes were added after 2017 and may impact the trending and interpreting of safety equipment use over time. Additionally, FARS data allow the entry of multiple safety equipment being used in a single fatal crash event.

Blood Alcohol Concentration (BAC) values are imputed to address the problem of missing blood alcohol test results in FARS data system. A multiple imputation methodology is employed to generate specific values of BAC for persons involved in fatal crashes.

Rural counties are counties that have a population of less than 50,000 according to the United States decennial census of 2010 or any future such census (OCGA Section 31-6-2). This is different than roadway classifications, where urban road systems can be located in urban clusters (or metropolitan areas) of at least 2,500 persons within the rural counties

#### **Additional Information:**

- The shorter Fact Sheet for non-motorists can be found on the Georgia Department of Transportation (GDOT) website: <u>http://www.dot.ga.gov/DS/SafetyOperation/SBS</u>
- Other fact sheets and traffic safety topics are available on the Governor's Office of Highway Safety website: <u>https://www.qahighwaysafety.org/highway-safety/shsp/</u>

#### **References:**

Georgia Crash Outcomes Data Evaluation System. (2022, July). Examining Social Vulnerability and the Association with Pedestrian Crashes: 2016-2020 data. (Georgia Traffic Safety Facts). Atlanta, GA: Governor's Office of Highway Safety.

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