

DOT HS 813 477

June 2023

School-Transportation-Related Crashes

In this fact sheet 10 years of data from 2012 to 2021 are presented as follows.

- <u>Overview</u>
- <u>All-Age Fatalities</u>
 - Person Type
 - <u>School Bus</u>
 <u>Occupants and</u>
 <u>Pedestrians</u>
- <u>School-Age Fatalities</u>
 - Location
 - Time of Day
 - <u>Vehicle Maneuver</u> and Pedestrians

A school-transportation-related crash is a motor vehicle traffic crash that directly or indirectly involves a school transportation vehicle that is either a school bus body type or a non-school-bus functioning as a school bus, transporting children to and from school or school-related activities. For the purposes of this fact sheet, school-age children are defined as 18 and younger. Although ages 5 to 18 are typically considered school-age, the data show there are some school transportation occupant fatalities under age 5.

Key Findings

- From 2012 to 2021 there were 998 fatal school-transportation-related crashes, and 1,110 people of all ages were killed in those crashes—an average of 111 fatalities per year.
- There were 113 occupants killed in school transportation vehicles; 52 were drivers, and 61 were passengers from 2012 to 2021. Most (70%) of the people killed in school-transportation-related crashes were occupants of other vehicles involved in the crashes.
- There were 1.6 times more fatalities among pedestrians (183) than occupants of school transportation vehicles (113) in school-transportation-related crashes from 2012 to 2021.
- From 2012 to 2021 among all school bus occupants killed, 16 percent were 5 to 10 years old, and 63 percent were 19 and older. Among all pedestrians killed in school-transportation-related crashes, 22 percent were 5 to 10 years old, and 57 percent were 19 and older.
- Impacts to the fronts of school transportation vehicles were involved in the most occupant fatalities from 2012 to 2021.
- From 2012 to 2021 there were 206 school-age children who died in school-transportation-related crashes; 42 were occupants of school transportation vehicles, 80 were occupants of other vehicles, 78 were pedestrians, 5 were pedalcyclists, and 1 was an "other" nonoccupant.
- Over half (53%) of the school-age pedestrians killed in schooltransportation-related crashes from 2012 to 2021 were 5 to 10 years old.
- More school-age pedestrians were killed from 6 a.m. to 6:59 a.m. than any other hours of the day from 2012 to 2021.
- From 2012 to 2021 of all school-age pedestrians killed in schooltransportation-related crashes, almost one-fifth (19%) were struck by school transportation vehicles that were going straight.

This fact sheet contains information on fatal motor vehicle traffic crashes based on data from the Fatality Analysis Reporting System (FARS). Refer to the end of this publication for more information on FARS.

Due to a vehicle classification change, the 2020 and later-year vehicle type classifications are not comparable to 2019 and earlier-year vehicle type classifications. This change affects any analysis with a vehicle component to it. Refer to the end of this publication for more information on Product Information Catalog and Vehicle Listing (vPIC).

A motor vehicle traffic crash is defined as an incident that involved one or more motor vehicles in-transport that originated on or had a harmful event (injury or damage) on a public trafficway, such as a road or highway. Crashes that occurred on private property not regularly used by the public for transport, including some parts of parking lots and driveways, are excluded. The terms "motor vehicle traffic crash" and "traffic crash" are used interchangeably in this document.

Overview

In 2020 schools were disrupted because of the COVID-19 pandemic. Most schools switched to virtual learning for a large proportion of 2020. This resulted in school-transportation-related fatalities decreasing by 51 percent, from 111 in 2019 to 54 in 2020. As schools began reopening in 2021 school-transportation-related fatalities increased from 54 in 2020 to 108 in 2021.

From 2012 to 2021 there were 335,959 fatal motor vehicle traffic crashes. Of those crashes, 998 (0.3%) were classified as school-transportation-related. Less than half (48%) of school-transportation-related crashes from 2012 to 2021 occurred in rural areas.

In the 10-year period from 2012 to 2021 there have been 1,110 people killed in school-transportation-related crashes—an average of 111 fatalities per year. Nineteen percent (206) of these fatalities were of school-age (18 and younger).

Occupants of school transportation vehicles accounted for 10 percent of these fatalities, and nonoccupants (pedestrians, pedalcyclists, and other nonoccupants) accounted for 20 percent of these fatalities. Most (70%) of the people who died in these crashes were occupants of other vehicles involved (Table 1).

All-Age Fatalities

Person Type

Table 1 shows fatalities by person type in school-transportation-related crashes from 2012 to 2021. During this time 1,110 people were killed in school-transportation-related crashes; 775 (70%) were occupants of other vehicles.

Among the 113 occupants of school transportation vehicles killed, 52 were drivers, and 61 were passengers. Among the 183 pedestrians killed in school-transportation-related crashes, 128 were struck by school transportation vehicles, and 55 were struck by other vehicles.

Table 1. Fatalities (All Ages) in School-Transportation-Related Traffic Crashes, by Year and	
Person Type, 2012 to 2021	

	Occ	upants of Sch	nool	P	edestrians				
		portation Veh		Struck by School	Struck by Other		Other	Occupants of Other	
Year	Drivers	Passengers	Total	Vehicle*	Vehicle	Total	Nonoccupants**	Vehicles	Total
2012	6	8	14	18	9	27	3	88	132
2013	5	6	11	16	6	22	5	93	131
2014	4	7	11	21	7	28	4	77	120
2015	8	5	13	11	0	11	4	87	115
2016	5	9	14	15	5	20	6	85	125
2017	8	4	12	3	7	10	3	72	97
2018	4	10	14	12	11	23	2	78	117
2019	5	5	10	12	3	15	6	80	111
2020	1	2	3	4	2	6	4	41	54
2021	6	5	11	16	5	21	2	74	108
Ten-Year Total	52	61	113	128	55	183	39	775	1,110
Percentage of Total	5%	5%	10%	12%	5%	16%	4%	70%	100%
Ten-Year Average	5	6	11	13	6	18	4	78	111

Source: FARS 2012–2020 Final File, 2021 Annual Report File (ARF)

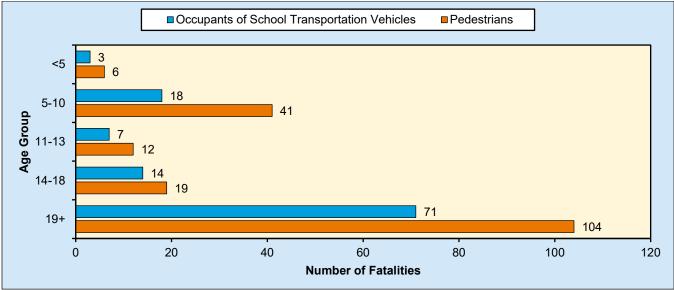
*Includes school bus body type and non-school bus body type functioning as a school bus.

**Includes bicyclists, other cyclists, and people on personal conveyances such as skateboards, scooters, wheelchairs, etc.

School Bus Occupants and Pedestrians

There were 1.6 times more fatalities among pedestrians (183) than among occupants of school transportation vehicles (113), as shown in Table 1. Figure 1 presents the total number of school transportation vehicle occupant and pedestrian fatalities in school-transportation-related crashes by age group from 2012 to 2021. Among all school bus occupants killed, 18 (16%) were 5 to 10 years old, 14 (12%) were 14 to 18 years old, and 71 (63%) were 19 and older. Among all pedestrians killed in school-transportation-related crashes, 41 (22%) were 5 to 10 years old, 19 (10%) were 14 to 18 years old, and 104 (57%) were 19 and older.





Source: FARS 2012-2020 Final File, 2021 ARF

Notes: Excludes people with unknown age. Occupant fatalities include both occupants of school buses and occupants of non-school buses functioning as school buses.

Table 2 shows the number of school transportation vehicle occupant fatalities in school-transportation-related crashes by rollover status or initial impact point on the school transportation vehicle from 2012 to 2021. There were 89 vehicles used as school buses in crashes in which at least one occupant in the vehicle died. Impacts to the fronts of school transportation vehicles were the most frequent initial impact point for vehicles used as school buses, and the fronts of those vehicles were involved in the most fatalities.

	Large School Buses			d Vehicles hool Buses		les Used as Buses	Total		
Rollover/Initial Impact Point	Fatal Vehicles	Occupant Fatalities	Fatal Vehicles	Occupant Fatalities	Fatal Vehicles	Occupant Fatalities	Fatal Vehicles	Occupant Fatalities	
Rollover	16	29	4	5	1	1	21	35	
Front	27	34	5	5	6	6	38	45	
Right Side	3	4	1	1	1	2	5	7	
Left Side	3	3	3	3	1	1	7	7	
Rear	5	5	1	1	0	0	6	6	
Other/Unknown*	12	13	0	0	0	0	12	13	
Total	66	88	14	15	9	10	89	113	

 Table 2. School Transportation Vehicles With an Occupant Fatality and Number of Occupant

 Fatalities in Those Vehicles, by Rollover/Initial Impact Point and Vehicle Type, 2012–2021

Source: FARS 2012–2020 Final File, 2021 ARF

*Includes non-collision, top, and undercarriage.

Notes: Fatal vehicles are vehicles with at least one occupant fatality. Rollover status and initial impact point data are mutually exclusive. Large school buses are over 10,000 lbs, and van-based vehicles used as school buses are 10,000 lbs or less.

Table 3 provides information on school-transportation-related crashes involving fatalities of occupants of school transportation vehicles. In the 36 single-vehicle crashes, 46 occupants—18 drivers and 28 passengers—were killed. In the 53 multiple-vehicle crashes, 67 occupants—34 drivers and 33 passengers—died in the school transportation vehicles. In those single-vehicle crashes, the most prevalent first harmful events were as follows: collision with a fixed object (22 crashes), a person falling/jumping from the vehicle (5 crashes), rollover/overturn (4 crashes), railway vehicle (2), and 3 other types of crashes (i.e., fire/explosion, live animal, and thrown or falling object).

Table 3. School-Transportation-Related Traffic Crashes Involving School Bus Occupant
Fatalities (All Ages), by Year, Vehicle Type Occupied, and Crash Type, 2012–2021

	Large	School E	Sus Body	v Types	-	ased and sed as Sc			Total				
	Single	-Vehicle	Multiple	-Vehicle	Single	-Vehicle	Multiple	-Vehicle	Single	Single-Vehicle		Multiple-Vehicle	
Year	Crashes	Fatalities	Crashes	Fatalities	Crashes	Fatalities	Crashes	Fatalities	Crashes	Fatalities	Crashes	Fatalities	
2012	3	5	5	7	1	1	1	1	4	6	6	8	
2013	5	6	3	3	0	0	1	2	5	6	4	5	
2014	2	2	3	8	0	0	1	1	2	2	4	9	
2015	2	3	5	6	1	1	3	3	3	4	8	9	
2016	2	7	3	3	0	0	4	4	2	7	7	7	
2017	6	7	2	2	0	0	3	3	6	7	5	5	
2018	4	4	5	6	1	1	2	3	5	5	7	9	
2019	4	4	5	5	0	0	1	1	4	4	6	6	
2020	0	0	1	2	1	1	0	0	1	1	1	2	
2021	3	3	3	5	1	1	2	2	4	4	5	7	
Ten-Year Total	31	41	35	47	5	5	18	20	36	46	53	67	
Ten-Year Average	3	4	4	5	1	1	2	2	4	5	5	7	

Source: FARS 2012-2020 Final File, 2021 ARF

Notes: Large school buses are over 10,000 lbs, and van-based vehicles used as school buses are 10,000 lbs or less. Excludes occupants of other vehicles in school-transportation-related crashes.

School-Age Fatalities

From 2012 to 2021 there were 206 school-age children 18 and younger who died in school-transportation-related crashes; 42 were occupants of school transportation vehicles, 80 were occupants of other vehicles, 78 were pedestrians, 5 were pedalcyclists, and 1 was an "other" nonoccupant (Table 4).

Over half (53%) of the school-age pedestrians killed in school-transportation-related crashes from 2012 to 2021 were 5 to 10 years old, and 24 percent were 14 to 18 years old.

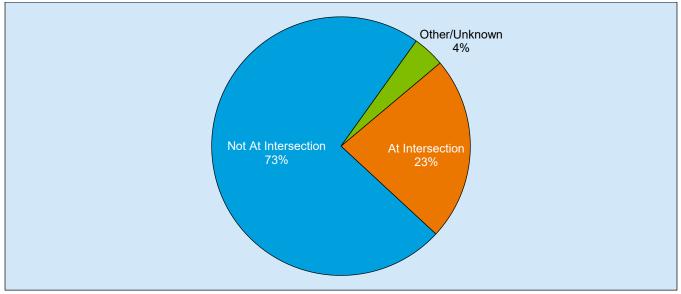
Location

As shown in Figure 2, nearly three-fourths (73%) of school-age pedestrians killed in school-transportation-related crashes between 2012 and 2021 were not at intersections.

Time of Day

Table 4 provides school-age (18 and younger) fatalities in school-transportation-related crashes by time of day. Among the 206 school-age fatalities from 2012 to 2021, more school-age pedestrians were killed from 6 to 6:59 a.m. and 3 to 3:59 p.m. than any other hours of the day, whereas occupants of large school buses were most frequently killed from 3 to 3:59 p.m. There were nearly twice as many fatalities among occupants of other vehicles (80) than occupants of school transportation vehicles (42).

Figure 2. School-Age (18 and Younger) Pedestrians Killed in School-Transportation-Related Traffic Crashes, by Location, 2012–2021



Source: FARS 2012-2020 Final File, 2021 ARF

Table 4. School-Age (18 and Younger) Fatalities in School-Transportation-Related Traffic Crashes, by Time of Day and Person Type, 2012–2021

	Occupants of Vehicles Used as School Buses						
Time of Day	Large School Buses	Van-Based Vehicles Used as School Buses	Occupants of Other Vehicles	Pedestrians	Pedalcyclists	Other Nonoccupants	Total*
Midnight–5:59 a.m.	0	1	0	2	0	0	3
6–6:59 a.m.	3	0	7	21	0	0	31
7–7:59 a.m.	5	1	16	14	0	0	36
8–8:59 a.m.	1	0	3	2	0	0	6
9–9:59 a.m.	1	0	4	1	0	0	6
10–10:59 a.m.	1	0	3	0	0	0	4
11–11:59 a.m.	0	1	3	1	0	0	5
Noon-12:59 p.m.	0	0	1	1	0	0	2
1–1:59 p.m.	0	0	5	1	0	0	6
2–2:59 p.m.	3	0	4	3	1	1	12
3–3:59 p.m.	15	0	16	20	4	0	55
4–4:59 p.m.	8	0	13	10	0	0	31
5–11:59 p.m.	2	0	5	2	0	0	9
Total	39	3	80	78	5	1	206

Source: FARS 2012–2020 Final File, 2021 ARF

*Includes other nonoccupants such as people on personal conveyances (for example skateboards, scooters, or wheelchairs). Note: Large school buses are over 10,000 lbs, and van-based vehicles used as school buses are 10,000 lbs or less.

Vehicle Maneuver and Pedestrians

Table 5 presents the number of school-age pedestrians killed in school-transportation-related crashes by vehicle maneuver and vehicle type. From 2012 to 2021 almost half (49%) of the school-age pedestrians killed in crashes were struck by school buses or vehicles functioning as school buses, while more than half (51%) were struck by

vehicles of other body types. Of school-age pedestrians killed in school-transportation-related crashes, almost one-fifth (19%) were struck by school buses or vehicles functioning as school buses that were going straight.

Vehicle Maneuver	School Bus Body Type	Vehicle Used as School Bus	Other Body Type	Total
Going Straight	14	1	34	49
Slowing in Road	1	0	0	1
Accelerating in Road	1	0	1	2
Starting in Road	9	0	1	10
Passing or Overtaking Another Vehicle	0	0	1	1
Turning Right	7	0	1	8
Turning Left	4	0	0	4
Negotiating a Curve	1	0	1	2
Other/Unknown	0	0	1	1
Total	37	1	40	78

Table 5. School-Age (18 and Younger) Pedestrians Killed in School-Transportation-Related Traffic Crashes, by Vehicle Maneuver and Striking Vehicle Type, 2012–2021

Source: FARS 2012–2020 Final File, 2021 ARF

Fatality Analysis Reporting System

FARS contains data on every fatal motor vehicle traffic crash within the 50 States, the District of Columbia, and Puerto Rico. To be included in FARS, a traffic crash must involve a motor vehicle traveling on a trafficway customarily open to the public, and must result in the death of a vehicle occupant or a nonoccupant within 30 days of the crash. The Annual Report File (ARF) is the FARS data file associated with the most recent available year, which is subject to change when it is finalized the following year to the final version known as the Final File. The additional time between the ARF and the Final File provides the opportunity for submission of important variable data requiring outside sources, which may lead to changes in the final counts. More information on FARS can be found at <u>www.nhtsa.gov/crash-data-systems/fatality-analysis-reporting-system</u>.

The updated final counts for the previous data year will be reflected with the release of the recent year's ARF. For example, along with the release of the 2021 ARF, the 2020 Final File was released to replace the 2020 ARF. The final fatality count in motor vehicle traffic crashes for 2020 was 39,007 which was updated from 38,824 in the 2020 ARF. The number of school-transportation-related fatalities from the 2020 Final File was 54, which was unchanged from the 2020 ARF.

Product Information Catalog and Vehicle Listing (vPIC) Vehicle Classification

Historically, vehicle type classifications (e.g., passenger cars, light trucks, large trucks, motorcycles, buses) from FARS used for analysis and data reporting were based on analyst-coded vehicle body type. NHTSA did not have manufacturer authoritative data to assist in vehicle body type coding. NCSA has developed a Product Information Catalog and Vehicle Listing (vPIC) dataset that is being used to decode VINs (Vehicle Identification Numbers) and extract vehicle information. Details of vehicles (make, model, body class, etc.) involved in crashes are obtained from vPIC via VIN-linkage. The VIN-derived information from vPIC uses the manufacturer's classification of body class, which allows for more accurate vehicle type analysis.

The vPIC-based analysis data are available beginning with 2020 FARS data file. Starting with the release of 2021 FARS data, all vehicle-related analysis for 2020 and later years will be based on vPIC vehicle classification. As a result, the 2020 and later-year vehicle type classifications are not comparable to 2019 and earlier-year vehicle type classifications. This change affects any analysis with a vehicle component to it. More information on vPIC can be found at https://vpic.nhtsa.dot.gov/.

The suggested APA format citation for this document is:

National Center for Statistics and Analysis. (2023, June). *School-transportation-related crashes: 2012–2021 data* (Traffic Safety Facts. Report No. DOT HS 813 477). National Highway Traffic Safety Administration.

For More Information:

Motor vehicle traffic crash data are available from the National Center for Statistics and Analysis (NCSA), NSA-230. NCSA can be contacted at <u>NCSARequests@dot.gov</u> or 800-934-8517. NCSA programs can be found at <u>www.nhtsa.gov/data</u>. To report a motor vehicle safety-related problem or to inquire about safety information, contact the Vehicle Safety Hotline at 888-327-4236 or <u>www.nhtsa.gov/report-a-safety-problem</u>.

The following data tools and resources can be found at <u>https://cdan.nhtsa.gov/</u>.

- Fatal Motor Vehicle Traffic Crash Data Visualizations
- Motor Vehicle Traffic Crash Databook
- Fatality and Injury Reporting System Tool (FIRST)
- State Traffic Safety Information (STSI)
- Traffic Safety Facts Annual Report Tables
- FARS Data Tables (FARS Encyclopedia)
- Crash Viewer
- Product Information Catalog and Vehicle Listing (vPIC)
- FARS, NASS GES, CRSS, NASS Crashworthiness Data System (CDS), and Crash Investigation Sampling System (CISS) data can be downloaded for further analysis.

Other fact sheets available from NCSA:

- Alcohol-Impaired Driving
- Bicyclists and Other Cyclists
- Children
- Large Trucks
- Motorcycles
- Occupant Protection in Passenger Vehicles
- Older Population
- Passenger Vehicles
- Pedestrians
- Rural/Urban Comparison of Motor Vehicle Traffic Fatalities
- Speeding
- State Alcohol-Impaired-Driving Estimates
- State Traffic Data
- Summary of Motor Vehicle Traffic Crashes
- Young Drivers

Detailed data on motor vehicle traffic crashes are published annually in *Traffic Safety Facts: A Compilation of Motor Vehicle Traffic Crash Data*. The fact sheets and Traffic Safety Facts annual report can be found at https://crashstats.nhtsa.dot.gov/.



U.S. Department of Transportation

National Highway Traffic Safety Administration