ITSMR Research Note

KEY FINDINGS

In 2020:

- 107 persons were killed in motor vehicle crashes involving young drivers, compared to 108 in 2016.
- 16,089 persons were injured in young driver crashes, down 30% from 2016.
- Persons killed or injured in young driver crashes accounted for 13% of all those killed or injured in crashes.
- Young drivers made up 3% of licensed drivers but 8% of drivers involved in fatal and personal injury crashes.
- The top four contributing factors for young drivers in F & PI crashes were Driver Inattention/ Distraction, Failure to Yield Rightof-Way, (each 16%), Unsafe Speed (14%) and Following Too Closely (13%).
- 47% of the young drivers ticketed received speeding violations, compared to 35% of all drivers ticketed.
- 10 counties accounted for 70% of the persons killed or injured in young driver crashes: Suffolk (14%), Nassau (11%), Queens (9%), Kings and Erie (each 8%), Monroe (6%), Bronx (5%), Westchester (4%) and Onondaga and Orange (each 3%).

From 2016 to 2020:

- 43% of motor vehicle occupants ages 16-20 who died in crashes were unrestrained, compared to 41% of all occupants who died.
- 15% of young male drivers involved in F & PI crashes were speeding, and 2% were impaired. 9% of young female drivers involved in these crashes were speeding, and 1% were impaired.

Conclusions:

- Drivers ages 16-20 continue to be overrepresented in F & PI crashes.
- Young drivers involved in F & PI crashes are more likely to engage in unsafe or illegal behaviors such as inattention or distraction, failure to yield, following too closely, speeding, and not wearing seat belts.

Young Drivers on New York Roadways: 2016-2020

INTRODUCTION

Young drivers are persons 16 to 20 years old operating motor vehicles. In New York State, no one under age 16 can drive. The state's Graduated License Law places restrictions on novice drivers under age 18 who have a junior learner permit or junior driver license.¹ Of the 12.3 million licensed drivers in NYS in 2020, young drivers accounted for 3.5% of the total (438,609).

Motor vehicle crashes were the leading cause of death for 16- to 20-year-olds in the U.S. from 2015 to 2019, according to the National Center for Injury Prevention and Control.² Knowing that young, inexperienced drivers have higher crash rates than other drivers, the Governor's Traffic Safety Committee (GTSC) funded the Institute for Traffic Safety Management and Research (ITSMR) to analyze data collected on motor vehicle crashes involving young drivers and traffic tickets issued to young drivers. This Research Note discusses characteristics of those crashes, the drivers involved and the tickets issued to young drivers for behaviors such as speeding, not using safety restraints, impaired driving, operating cell phones and texting while driving.

Information about young driver crashes and tickets is presented as follows:

- Overview of Crashes
 - Persons Killed or Injured
 - Passengers Involved and Manner of Collision
 - Day of Week and Time of Day
 - Region
 - Driver Characteristics—Gender and Age
 - Crash Contributing Factors
 - Speeding
 - Impaired Driving
- Drivers Ticketed
- Fatalities and Injuries by County

The crash, ticket and driver license data were obtained from the NYS Department of Motor Vehicles' (DMV) Accident Information System (AIS), Traffic Safety Law Enforcement and Disposition (TSLED) and Administrative Adjudication (AA) systems and Driver License File, respectively. Population data are from the U.S. Census Bureau. Much of the data can be viewed through New York's Traffic Safety Statistical Repository (TSSR) at <u>www.itsmr.org/tssr</u>. Unless otherwise indicated, unknown values were removed before calculating percentages.

OVERVIEW OF CRASHES

In 2020 there were 10,704 fatal and personal injury (F & PI) crashes involving young drivers in New York State, a decrease of 32% from 2016 (Table 1). In comparison, F & PI crashes involving all drivers declined at a slower rate, 26%. The sizeable decline in F & PI crashes in 2020 likely reflects, in large part, the effect of COVID-19, with many people working remotely and fewer vehicle miles being traveled.

	Total Crashes	Fatal	Personal Injury	Fatal & PI Crashes
2016	38,938	99	15,582	15,681
2017	38,376	99	15,135	15,234
2018	47,649	81	14,042	14,123
2019	49,378	80	13,782	13,862
2020	36,646	98	10,606	10,704
2016-20 Change	-5.9%	-1.0%	-31.9%	-31.7%

Table 1	Motor Vehicle Crashes Involving Drivers Ages 16-20, by Severity of Crash
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Persons Killed or Injured

In 2020, 107 persons were killed in motor vehicle crashes involving young drivers, a 1% decrease from 2016 (Table 2). Also in 2020, there were 16,089 persons injured in crashes involving young drivers, a decline of 30% from 2016.

Table 2	Persons Killed or Injured in Motor Vehicle Crashes
Involvin	g Drivers Ages 16-20

	Killed	Injured	Total	% of NYS
2016	108	22,979	23,087	13.5%
2017	113	22,485	22,598	13.2%
2018	86	20,553	20,639	12.2%
2019	93	20,516	20,609	12.3%
2020	107	16,089	16,196	12.9%
2016-20 Change	-0.9%	-30.0%	-29.8%	

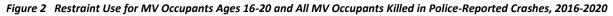
Persons Killed or Injured by Person Type

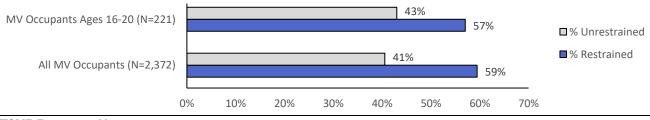
From 2016 to 2020, the percentages of persons killed or injured in crashes involving young drivers by person type remained steady. In 2020, 44% of persons killed or injured in these crashes were occupants of other vehicles. Young drivers made up 34% of the total (Figure 1).

Persons Killed or Injured by Restraint Use

Of the motor vehicle occupants killed or injured in crashes in 2016-2020 whose restraint use is known:

- Forty-three percent of MV occupants ages 16-20 who died were unrestrained, compared to 41% of all occupants who died in fatal crashes (Figure 2).
- Seven percent of occupants ages 16-20 who were injured in crashes were unrestrained, compared to 5% of all occupants injured (Figure 3).





In comparison, New York State saw an increase of less than 1% in the number of persons who were killed in motor vehicle crashes between 2016 and 2020, and a decrease of 27% in the number of persons injured.

Each year from 2016 to 2020, 12%-14% of the persons killed or injured in motor vehicle crashes on New York's roadways died or were hurt in crashes involving young drivers.

Figure 1 Percentage of Persons Killed or Injured in Crashes Involving Drivers Ages 16-20, by Role, 2020 (N=16,196)

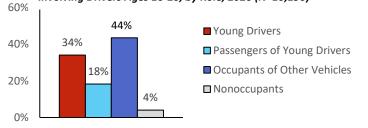
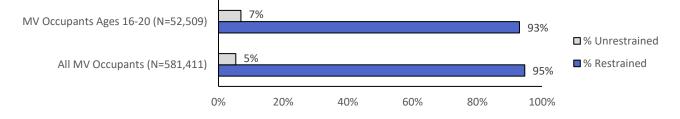
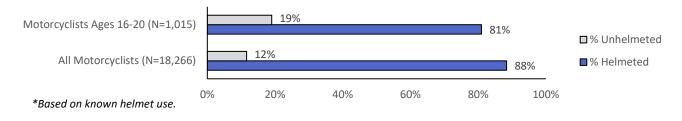


Figure 3 Restraint Use for MV Occupants Ages 16-20 and All MV Occupants Injured in Police-Reported Crashes, 2016-2020



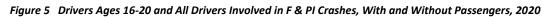
From 2016 to 2020, there were 18,266 motorcyclists killed or injured in police-reported crashes in New York State, including 1,015 who were 16 to 20 years old. A *motorcyclist* is any occupant of a motorcycle, either the rider or the passenger. Figure 4 shows that among motorcyclists who died or sustained injuries in crashes from 2016 to 2020, young motorcyclists were more likely to be riding without a helmet than were all motorcyclists (19% vs. 12%).

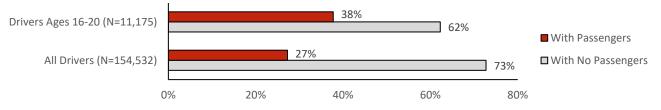
Figure 4 Helmet Use for Motorcyclists Ages 16-20 and All Motorcyclists Killed or Injured in Police-Reported Crashes, 2016-2020*



Passengers Involved and Manner of Collision

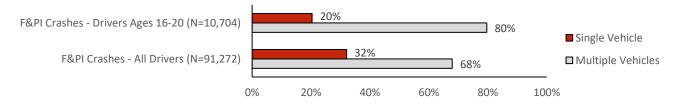
As shown in Figure 5, drivers ages 16-20 who were involved in fatal and personal injury crashes were more likely to be driving with passengers than were all drivers in F & PI crashes (38% vs. 27% in 2020). NYS DMV regulations mandate that drivers holding learner permits or junior driver licenses must have a "qualifying" adult in the vehicle, with the exception of Upstate NY drivers holding junior driver licenses. These drivers may drive unsupervised with certain restrictions.





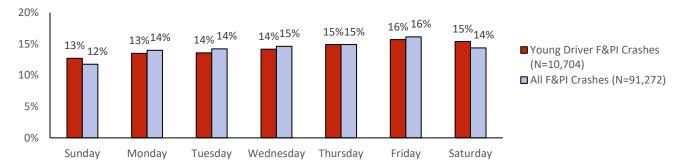
Regarding manner of collision, Figure 6 shows that fatal and personal injury crashes involving drivers ages 16-20 were more likely than F & PI crashes involving all drivers to involve multiple vehicles (80% vs. 68% in 2020).

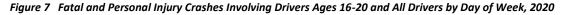
Figure 6 F & PI Crashes Involving Drivers Ages 16-20 and All Drivers, Single vs. Multiple Vehicles, 2020



Day of Week and Time of Day

The distribution of fatal and personal injury crashes involving young drivers by day of week was almost the same as the distribution of fatal and personal injury crashes involving all drivers in 2020 (Figure 7). Young driver crashes were distributed fairly evenly over the weekdays (13%-16%), and 28% of those crashes occurred on weekends.





As shown in Figures 8 and 9, the distribution of young driver fatal and personal injury crashes by time of day in 2020 was similar to the distribution of all fatal and personal injury crashes. The greatest percentage of young driver F & PI crashes happened during the 6-hour time period noon to 6pm (46%). During the same time period, 42% of F & PI crashes involving all drivers occurred.

Figure 8 Fatal & Personal Injury Crashes Involving Drivers Ages 16-20 (N=10,704) by Time of Day, 2020

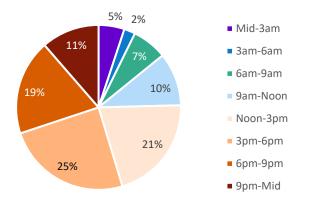
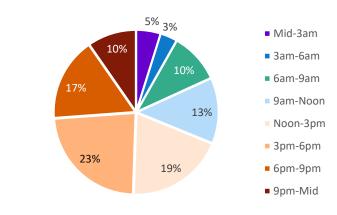


Figure 9 Fatal & Personal Injury Crashes Involving All Drivers (N=91,272) by Time of Day, 2020



Region

Figure 10 divides the population of drivers ages 16-20 into three regions of the state: Upstate, consisting of the 55 counties north of New York City; the NYC region, including the five boroughs Bronx, Kings, New York, Queens and Richmond; and Long Island, which includes the two counties Nassau and Suffolk.

In 2020, young drivers were underrepresented as drivers in fatal and personal injury crashes in the Upstate region (51% of the young drivers in crashes vs. 60% of the young licensed drivers). They were overrepresented in New York City, making up 24% of the young drivers involved in fatal and personal injury crashes, but 17% of the young licensed drivers.

Figure 10 Licensed Drivers Ages 16-20 and Drivers Ages 16-20 Involved in F & PI Crashes, by Region, 2020



Driver Characteristics—Gender and Age

Although New York's licensed drivers are nearly evenly split between men and women (51% and 49%, respectively), male drivers are more likely than female drivers to be involved in fatal and personal injury crashes. In 2020, 60% of the drivers ages 16-20 involved in these crashes were men and 40% were women (Figure 11). Among all drivers involved in F & PI crashes in 2020, men made up a larger proportion, 64%.

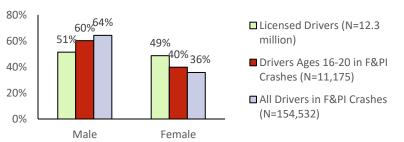
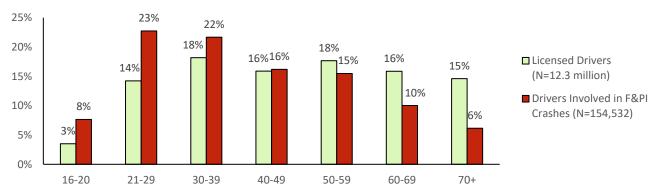


Figure 11 Licensed Drivers and Drivers Involved in F & PI Crashes, by Gender, 2020

The population of drivers was divided into seven age categories for purposes of analysis: 16-20 years, 21-29 years, 30-39 years, 40-49 years, 50-59 years, 60-69 years, and 70 years and over. Drivers ages 16-20 were overrepresented with respect to fatal and personal injury crashes in 2020 (Figure 12). Approximately 3% of licensed drivers in New York were 16-20 years old, compared to 8% of the drivers in fatal and personal injury crashes. Drivers in the next older group, ages 21-29, represented 14% of the licensed drivers in 2020, yet they accounted for 23% of the drivers in F & PI crashes.

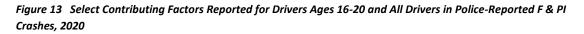


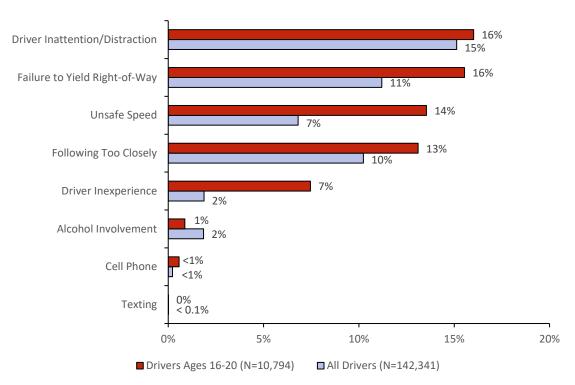


Crash Contributing Factors

Because contributing factors are captured only on police crash report forms, analyses conducted on contributing factors focused on police-reported crashes. Figure 13 illustrates the similarities and differences in percentages of several contributing factors reported for drivers ages 16-20 and for all drivers in police-reported fatal and personal injury crashes in 2020.

- "Driver Inattention/Distraction" and "Failure to Yield Right-of-Way" (each 16%) were the two most frequently reported contributing factors for drivers ages 16-20 in fatal and personal injury crashes. These were also the top two factors for all drivers in F & PI crashes.
- Drivers ages 16-20 in F & PI crashes were twice as likely as drivers of all ages to have "Unsafe Speed" reported as a contributing factor (14% vs. 7%).
- > As expected, "Driver Inexperience" was much more common among young drivers than all drivers (7% vs. 2%).
- "Alcohol Involvement," "Cell Phone" use and "Texting" were each reported in 2% or less of the crashes involving drivers ages 16-20 and all drivers in F & PI crashes.

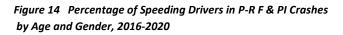


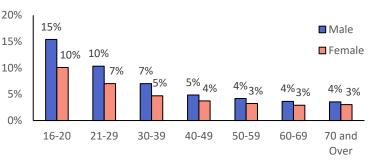


Speeding

In New York State, a crash is considered speed-related if it had "Unsafe Speed" reported as a contributing factor on the police crash report and/or a ticket was issued for speeding. From 2016 to 2020, young drivers, both male and female, were speeding at the time of fatal and personal injury crashes more than the other age groups, as shown in Figure 14.

- Among the 40,421 male drivers ages 16-20 involved in police-reported F & PI crashes from 2016 to 2020, 15% were speeding at the time of the crash.
- Of the 29,929 female drivers ages 16-20 involved in police-reported F & PI crashes during those years, 10% were speeding.
- In general, male drivers involved in F & PI crashes were more likely to speed than females.



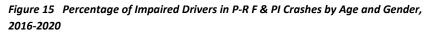


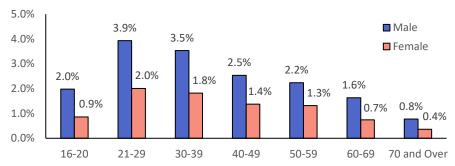
Impaired Driving

Impaired driving crashes are those in which alcohol, drugs or both are involved. Specifically, an impaired driving crash has at least one of these factors:

- 1. "Alcohol Involvement," "Drugs (Illegal)" or "Prescription Medication" was reported as a contributing factor on the police crash report.
- 2. A ticket was issued for an alcohol-impaired or drug-impaired driving violation.
- 3. A positive BAC was reported.
- 4. An individual had a positive drug test result.

Although New York has had a 21year-old minimum-drinking-age law since 1985, there were still some drivers under the age of 21 impaired by alcohol and/or drugs who were involved in fatal and personal injury crashes between 2016 and 2020. Figure 15 shows the percentage of impaired drivers in police-reported F & PI crashes by age and gender. From 2016 to 2020:





- In the 16-20-year-old age group, 801 male drivers and 257 female drivers involved in F & PI crashes were impaired at the time of the crash. These numbers represent 2% of the 40,421 male drivers and 1% of the 29,929 female drivers in that age group who were involved in F & PI crashes.
- As with speeding drivers, male drivers involved in F & PI crashes were more likely than females to be impaired.

DRIVERS TICKETED

TSLED and AA ticket data were analyzed to compare drivers of all ages and drivers ages 16-20 who were issued tickets, and to determine how often young drivers were ticketed for select violations of the NYS Vehicle and Traffic Law compared to all drivers. Note that the AA system does not include tickets issued for impaired driving. All impaired driving tickets are captured in TSLED, with the exception of those issued in New York City.

- From 2016 to 2020, the proportion of drivers ages 16-20 who were issued tickets remained fairly constant at 8%-9% (Table 3).
- The number of drivers of all ages who were ticketed declined 39% between 2016 and 2020, while the number of young drivers ticketed declined 34%.
- In 2020, drivers were more likely to be ticketed for speeding than for other violations (Figure 16); 47% of the

Table 3 All Drivers and Drivers Ages 16-20 Ticketed

	All Drivers	Drivers Ages 16-20	
	Ticketed	Ticketed	%
2016	2,618,396	224,977	8.6%
2017	2,700,538	223,109	8.3%
2018	2,606,965	202,785	7.8%
2019	2,496,145	193,346	7.8%
2020	1,587,591	149,011	9.4%
2016-2020 Change	-39.4%	-33.8%	

drivers ages 16-20 who were ticketed received speeding violations, compared to 35% of all drivers ticketed.

Drivers ages 16-20 were less likely than all drivers to be ticketed for aggressive driving, seat belts, texting and cell phone violations.

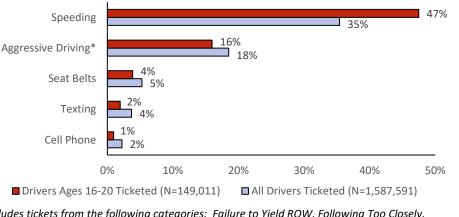


Figure 16 Drivers Ages 16-20 and All Drivers Ticketed for Select Violations, 2020

^{*}includes tickets from the following categories: Failure to Yield ROW, Following Too Closely, Unsafe Lane Change, and Disobeyed Traffic Control Device.

The proportion of drivers ages 16-20 ticketed under the TSLED system in 2020 was 11%. As shown in Figure 17, drivers ages 16-20 were less likely than all drivers to be issued tickets for impaired driving in 2020 (1% vs. 2%).

Figure 17 Drivers Ages 16-20 and All Drivers Ticketed for Impairment, TSLED Only, 2020

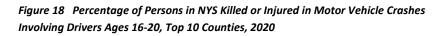


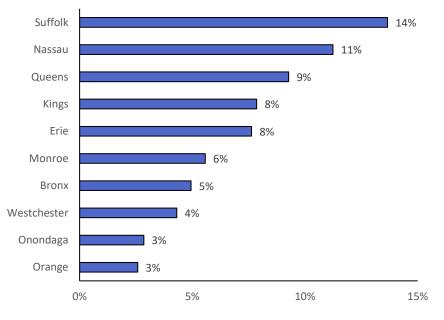
FATALITIES AND INJURIES BY COUNTY

Figure 18 illustrates the percentage of persons in New York State who were killed or injured in motor vehicle crashes involving young drivers in 2020, for the top ten counties. Together these counties accounted for 70% of the persons killed or injured in motor vehicle crashes involving drivers ages 16-20 in the state during that year.

The two Long Island counties, Suffolk and Nassau, made up 25% of the statewide total. Three counties in New York City – Queens, Kings and the Bronx – accounted for 22%. The upstate counties of Erie, Monroe, Westchester, Onondaga and Orange made up 24% of the total.

For New York State and for each of its 62 counties, Table 4 presents the population and the number of persons killed or injured in motor vehicle crashes involving all drivers as well as those involving young drivers in 2020. Also shown in the table are the percentages of persons killed or injured in young driver crashes in each county and in the state as a whole, and the rates of persons killed or injured per 10,000 population.





- In 2020, the number of persons killed or injured in crashes involving young drivers was highest in Suffolk County (2,212), followed by Nassau (1,821), Queens (1,502), Kings (1,272) and Erie (1,235).
- In New York State, 13% of those killed or injured in motor vehicle crashes were killed or injured in crashes that had a driver age 16-20 at the wheel. County percentages were highest in St. Lawrence (26%); Schoharie and Hamilton (both 24%); Tioga, Franklin and Clinton (all 23%).
- Statewide, 8.38 persons were killed or injured in young driver crashes per 10,000 population. Among the counties, Hamilton had the highest rate (18.41), followed by Suffolk (15.00), Nassau (13.48), Erie (13.46) and Schoharie (13.17).

Table 4 Persons Killed or Injured in Motor Vehicle Crashes Involving All Drivers and Young Drivers (Ages 16-20), by County, 2020

		Persons Killed or Injured in Crashes			Persons Killed or Injured per 10,000 Population		
		Involving All Involving Young Drivers			Involving Involving		
	Population	Drivers	#	% Cty Total	% of NYS	All Drivers	Young Drivers
NEW YORK STATE	19,336,776	125,204	16,196	12.9%	100.0%	64.75	8.38
COUNTY			-				
Albany	303,654	2,000	289	14.5%	1.8%	65.86	9.52
Allegany	45,587	186	37	19.9%	0.2%	40.80	8.12
Bronx	1,401,142	11,257	801	7.1%	4.9%	80.34	5.72
Broome	189,420	958	142	14.8%	0.9%	50.58	7.50
Cattaraugus	75,863	351	59	16.8%	0.4%	46.27	7.78
Cayuga	76,029	398	66	16.6%	0.4%	52.35	8.68
Chautauqua	126,032	647	95	14.7%	0.6%	51.34	7.54
Chemung	82,622	389	58	14.9%	0.4%	47.08	7.02
Chenango	46,730	235	31	13.2%	0.2%	50.29	6.63
Clinton	79,778	246	57	23.2%	0.4%	30.84	7.14
Columbia	59,534	369	46	12.5%	0.3%	61.98	7.73
Cortland	47,173	291	42	14.4%	0.3%	61.69	8.90
Delaware	43,938	197	32	16.2%	0.2%	44.84	7.28
Dutchess	293,293	1,732	309	17.8%	1.9%	59.05	10.54
Erie	917,241	7,315	1,235	16.9%	7.6%	79.75	13.46
Essex	36,891	141	14	9.9%	0.1%	38.22	3.79
Franklin	49,965	185	43	23.2%	0.3%	37.03	8.61
Fulton	52,812	234	37	15.8%	0.2%	44.31	7.01
Genesee	56,994	372	62	16.7%	0.4%	65.27	10.88
Greene	47,177	267	34	12.7%	0.2%	56.60	7.21
Hamilton	4,345	33	8	24.2%	0.0%	75.95	18.41
Herkimer	60,945	202	32	15.8%	0.2%	33.14	5.25
Jefferson	108,095	483	94	19.5%	0.6%	44.68	8.70
Kings	2,538,934	17,511	1,272	7.3%	7.9%	68.97	5.01
Lewis	26,187	101	22	21.8%	0.1%	38.57	8.40
Livingston	62,398	247	41	16.6%	0.3%	39.58	6.57
Madison	70,478	273	36	13.2%	0.2%	38.74	5.11
Monroe	740,900	4,553	903	19.8%	5.6%	61.45	12.19
Montgomery	49,170	242	43	17.8%	0.3%	49.22	8.75
Nassau	1,351,334	11,168	1,821	16.3%	11.2%	82.64	13.48
New York	1,611,989	7,427	379	5.1%	2.3%	46.07	2.35
Niagara	208,396	1,277	253	19.8%	1.6%	61.28	12.14
Oneida	227,346	1,178	216	18.3%	1.3%	51.82	9.50
Onondaga	459,214	2,740	461	16.8%	2.8%	59.67	10.04
Ontario	110,091	642	104	16.2%	0.6%	58.32	9.45
Orange	385,234	2,645	418	15.8%	2.6%	68.66	10.85
Orleans	39,978	144	21	14.6%	0.1%	36.02	5.25
Oswego	116,346	526	89	16.9%	0.5%	45.21	7.65
Otsego	58,701	265	45	17.0%	0.3%	45.14	7.67
Putnam	98,532	533	95	17.8%	0.6%	54.09	9.64
Queens	2,225,821	16,178	1,502	9.3%	9.3%	72.68	6.75
Rensselaer	158,108	686	112	16.3%	0.7%	43.39	7.08
Richmond	475,327	2,405	297	12.3%	1.8%	50.60	6.25
Rockland	326,225	2,034	306	15.0%	1.9%	62.35	9.38
Saratoga	230,298	1,044	179	17.1%	1.1%	45.33	7.77
Schenectady	155,358	940	158	16.8%	1.0%	60.51	10.17

		Perso	njured in Crash	es	Persons Killed or Injured per 10,000 Population		
		Involving All	Invo	lving Young Driv	ing Young Drivers		Involving
	Population	Drivers	#	% Cty Total	% of NYS	All Drivers	Young Drivers
Schoharie	31,132	168	41	24.4%	0.3%	53.96	13.17
Schuyler	17,685	128	14	10.9%	0.1%	72.38	7.92
Seneca	33,991	173	34	19.7%	0.2%	50.90	10.00
St. Lawrence	107,185	389	101	26.0%	0.6%	36.29	9.42
Steuben	94,657	432	87	20.1%	0.5%	45.64	9.19
Suffolk	1,474,273	11,912	2,212	18.6%	13.7%	80.80	15.00
Sullivan	75,802	425	70	16.5%	0.4%	56.07	9.23
Tioga	47,904	206	48	23.3%	0.3%	43.00	10.02
Tompkins	101,058	425	45	10.6%	0.3%	42.06	4.45
Ulster	177,716	1,101	188	17.1%	1.2%	61.95	10.58
Warren	63,756	365	73	20.0%	0.5%	57.25	11.45
Washington	60,606	251	51	20.3%	0.3%	41.42	8.42
Wayne	89,339	391	82	21.0%	0.5%	43.77	9.18
Westchester	965,802	5,290	698	13.2%	4.3%	54.77	7.23
Wyoming	39,465	203	43	21.2%	0.3%	51.44	10.90
Yates	24,780	97	13	13.4%	0.1%	39.14	5.25

CONCLUSIONS

New York continues to make progress in reducing the numbers of crashes, fatalities and injuries involving drivers ages 16-20. The number of persons killed in young driver crashes as well as the number of persons killed in all crashes fluctuated but remained essentially unchanged between 2016 and 2020. The number of persons injured in young driver crashes declined 30% in that time period, while the number of persons injured in all crashes declined 27%.

Results presented here also show that drivers ages 16-20 who were involved in fatal and personal injury crashes were more likely to drive with passengers, to have multiple-vehicle collisions, and to be speeding at the time of the crash. In addition, persons in this age group who were involved in fatal and personal injury crashes were more likely to be unrestrained in a vehicle and unhelmeted on a motorcycle. These findings should be useful to the GTSC and to those in the traffic safety community and others throughout New York State who address issues of young driver safety.

¹New York State Vehicle and Traffic Law, Article 19, Licensing of Drivers. Available online through the New York State Legislature, <u>http://public.leginfo.state.ny.us/lawssrch.cgi?NVLWO:</u>, VAT.

²National Center for Injury Prevention and Control, Centers for Disease Control and Prevention. Leading Causes of Death Reports, 1981-2019, available at <u>https://wisqars.cdc.gov/fatal-leading</u>.

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