ITSMR Research Note

KEY FINDINGS

In 2017:

- 113 persons were killed in motor vehicle crashes involving young drivers, compared to 139 in 2013.
- 22,485 persons were injured in young driver crashes, down 5% from 2013.
- Persons killed or injured in young driver crashes accounted for 13% of all those killed or injured in crashes.
- Young drivers made up 4% of licensed drivers but 8% of drivers involved in fatal and personal injury crashes.
- The top 4 contributing factors for young drivers in F & PI crashes were Following Too Closely (17%), Driver Inattention/Distraction, Failure to Yield Right-of-Way (each 16%), and Unsafe Speed (13%).
- 26% of the traffic tickets issued to young drivers were for speeding violations, compared to 19% of the tickets issued to all drivers.
- ➤ 10 counties accounted for more than two thirds of the persons killed or injured in young driver crashes: Suffolk (14%), Nassau (12%), Queens (8%), Erie (7%), Kings (6%), Westchester and Monroe (each 5%), Bronx, Onondaga and Orange (each 3%).

From 2013 to 2017:

- 42% of motor vehicle occupants ages 16-20 who died in crashes were unrestrained, compared to 39% of all occupants who died.
- 15% of young male drivers involved in F & PI crashes were speeding, and 3% were impaired. 10% of young female drivers involved in these crashes were speeding, and 1% were impaired.

Conclusions:

- Although crashes, fatalities and injuries involving drivers ages 16-20 have declined in recent years, young drivers continue to be overrepresented in crashes.
- Young drivers involved in F & PI crashes are more likely to engage in unsafe or illegal behavior such as following too closely, inattention or distraction, failure to yield, speeding, and not wearing seat belts.

Young Drivers on New York Roadways: 2013-2017

INTRODUCTION

Young drivers are persons 16 to 20 years old operating motor vehicles. In New York State, no one under age 16 can drive and the state's Graduated License Law places restrictions on novice drivers under age 18 who have a junior learner permit or junior driver license. Of the 12.2 million licensed drivers in NYS in 2017, young drivers accounted for 4% of the total (481,995).

Motor vehicle crashes were the leading cause of death for 16- to 20-year-olds in the U.S. from 2011 to 2016, according to the National Center for Health Statistics. 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 and Manner of Collision
 - Day of Week and Time of Day
 - Region
 - Driver Characteristics—Gender and Age
 - Crash Contributing Factors
 - Speeding
 - Impaired Driving
- Traffic Tickets
- 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 www.itsmr.org/tssr. Unless otherwise indicated, unknown values were removed before calculating percentages.

OVERVIEW OF CRASHES

In 2017 there were 15,234 fatal and personal injury crashes involving young drivers in New York State, a decrease of 6% from 2013 (Table 1).

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

	Total Crashes	Fatal	Personal Injury	Fatal & PI Crashes
2013	40,275	120	16,052	16,172
2014	37,975	91	14,787	14,878
2015	38,121	97	14,633	14,730
2016	38,938	99	15,582	15,681
2017	38,376	99	15,135	15,234
2013-2017 Change	-4.7%	-17.5%	-5.7%	-5.8%

Persons Killed or Injured

In 2017, 113 persons were killed in motor vehicle crashes involving young drivers, a 19% decrease from 2013 (Table 2). Also in 2017, there were 22,485 persons injured in crashes involving young drivers, a decline of 5% from 2013.

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

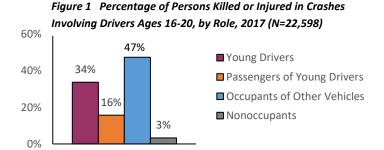
	Killed	Injured	Total	% of NYS
2013	139	23,593	23,732	13.9%
2014	110	21,640	21,750	13.5%
2015	107	21,805	21,912	13.7%
2016	108	22,979	23,087	13.5%
2017	113	22,485	22,598	13.2%
2013-17 Change	-18.7%	-4.7%	-4.8%	

In comparison, New York State as a whole saw a 16% decline in the number of persons who were killed in motor vehicle crashes between 2013 and 2017, and a small increase of 0.3% in the number of persons injured.

Each year from 2013 to 2017, 13%-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.

Persons Killed or Injured by Person Type

From 2013 to 2017, the percentages of persons killed or injured in crashes involving young drivers by person type remained steady. In 2017, the largest proportion of persons killed or injured in these crashes was occupants of other vehicles (47%), followed by young drivers (34%) (Figure 1).



Persons Killed or Injured by Restraint Use

Of the motor vehicle occupants killed or injured in crashes in 2013-2017 whose restraint use is known:

- Forty-two percent of MV occupants ages 16-20 who died were unrestrained, compared to 39% of all occupants who died in fatal crashes (Figure 2).
- Eight percent of occupants ages 16-20 who were injured in crashes were unrestrained, compared to 6% of all occupants injured (Figure 3).

Figure 2 Restraint Use for MV Occupants Ages 16-20 and All MV Occupants Killed in Police-Reported Crashes, 2013-2017

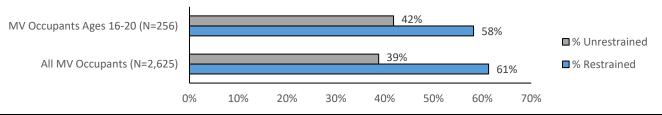
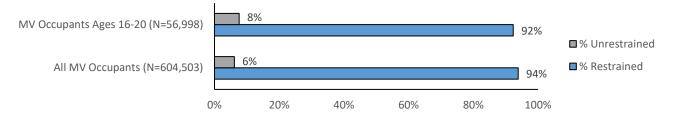
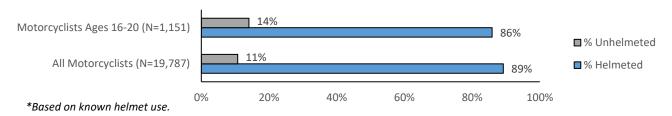


Figure 3 Restraint Use for MV Occupants Ages 16-20 and All MV Occupants Injured in Police-Reported Crashes, 2013-2017



From 2013 to 2017, there were 19,787 motorcyclists killed or injured in police-reported crashes in New York State, including 1,151 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 2013 to 2017, young motorcyclists were somewhat more likely to be riding without a helmet than all motorcyclists (14% vs. 11%).

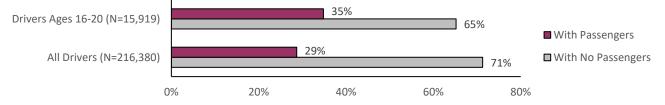
Figure 4 Helmet Use for Motorcyclists Ages 16-20 and All Motorcyclists Killed or Injured in Police-Reported Crashes, 2013-2017*



Passengers Involved and Manner of Collision

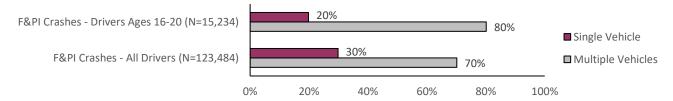
As shown in Figure 5, drivers ages 16-20 who were involved in fatal and personal injury crashes were more likely to be driving with passengers than were all drivers in F & PI crashes (35% vs. 29% in 2017). NYS DMV regulations mandate that drivers holding learner permits or junior driver licenses must 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.

Figure 5 Drivers Ages 16-20 and All Drivers Involved in F & PI Crashes, With and Without Passengers, 2017



Regarding manner of collision, Figure 6 shows that fatal and personal injury crashes involving drivers ages 16-20 were more likely than all F & PI crashes to involve multiple vehicles (80% vs. 70% in 2017).

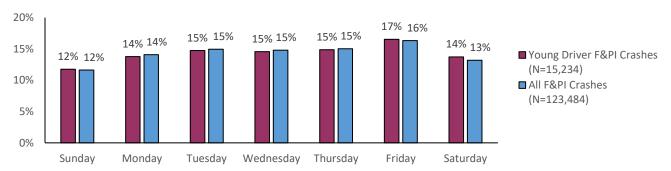
Figure 6 F & PI Crashes Involving Drivers Ages 16-20 and All Drivers, Single vs. Multiple Vehicles, 2017



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 2017 (Figure 7). Young driver crashes were distributed fairly evenly over the weekdays (14%-17%), and about one quarter of those crashes occurred on weekends.

Figure 7 Fatal and Personal Injury Crashes Involving Drivers Ages 16-20 and All Drivers by Day of Week, 2017



As shown in Figures 8 and 9, the distribution of young driver fatal and personal injury crashes by time of day in 2017 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=15,234) by Time of Day, 2017

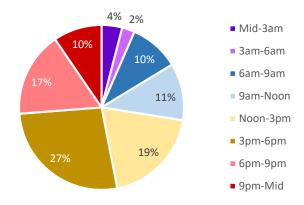
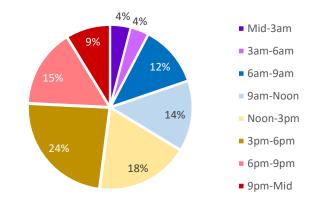


Figure 9 Fatal & Personal Injury Crashes Involving All Drivers (N=123,484) by Time of Day, 2017



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 2017, young drivers were underrepresented as drivers in fatal and personal injury crashes in the Upstate region (54% of the young drivers in crashes vs. 60% of the young licensed drivers). They were overrepresented in both New York City and Long Island, making up 19% and 27%, respectively, of the young drivers involved in fatal and personal injury crashes, but 17% and 23%, respectively, of the young licensed drivers.

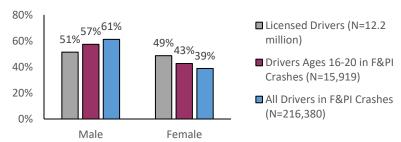
Figure 10 Licensed Drivers Ages 16-20 and Drivers Ages 16-20 Involved in F & PI Crashes, by Region, 2017



Driver Characteristics—Gender and Age

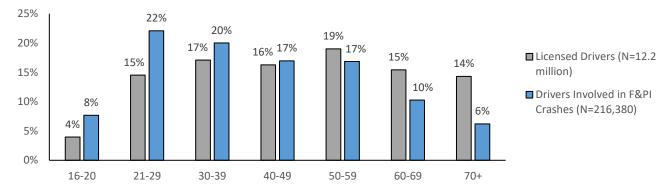
Although New York's licensed drivers are nearly evenly split between men and women (51% and 49%, respectively), male drivers are more likely than female drivers to be involved in fatal and personal injury crashes. In 2017, 57% of the drivers ages 16-20 involved in these crashes were men and 43% were women (Figure 11). Among all drivers involved in F & PI crashes in 2017, men made up a larger proportion, 61%.

Figure 11 Licensed Drivers and Drivers Involved in F & PI Crashes, by Gender, 2017



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 2017 (Figure 12). Four percent 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 15% of the licensed drivers in 2017, yet they accounted for 22% of the drivers in F & PI crashes.

Figure 12 Licensed Drivers and Drivers Involved in Fatal & Personal Injury Crashes, by Age Group, 2017



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 all drivers in police-reported fatal and personal injury crashes in 2017.

- Following Too Closely" (17%), "Driver Inattention/Distraction" and "Failure to Yield Right-of-Way" (each 16%) were the three most frequently reported contributing factors for drivers ages 16-20 in fatal and personal injury crashes. These were also the top three factors for all drivers in F & PI crashes.
- Privers ages 16-20 in F & PI crashes were more than twice as likely as all drivers to have "Unsafe Speed" reported as a contributing factor (13% vs. 6%).
- 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.

17% Following Too Closely 13% 16% Driver Inattention/Distraction 16% Failure to Yield Right-of-Way 13% **Unsafe Speed** 6% 7% Driver Inexperience 2% Alcohol Involvement 2% <1% Cell Phone <1% < 0.1% **Texting** < 0.1%

5%

■ Drivers Ages 16-20 (N=15,341)

Figure 13 Select Contributing Factors Reported for Drivers Ages 16-20 and All Drivers in Police-Reported F & PI Crashes, 2017

Speeding

In New York State, a crash is considered speed-related if it had "Unsafe Speed" reported as a contributing factor on the police accident report and/or a ticket was issued for speeding. From 2013 to 2017, 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.

10%

■ All Drivers (N=199,435)

Among the 45,539 male drivers ages 16-20 involved in F & PI crashes from 2013 to 2017, 15% were speeding at the time of the crash.

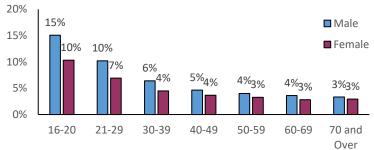
0%

- Of the 34,751 female drivers ages 16-20 involved in F & PI crashes during those years, 10% were speeding.
- In general, male drivers were more likely to speed than females in these crashes.

Figure 14 Percentage of Speeding Drivers in F & PI Crashes by Age and Gender, 2013-2017

15%

20%



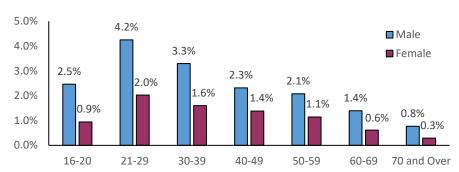
Impaired Driving

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 21-year-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 2013 and 2017. Figure 15 shows the percentage of impaired drivers in F & PI crashes by age and gender. From 2013 to 2017:

Figure 15 Percentage of Impaired Drivers in F & PI Crashes by Age and Gender, 2013-2017



- In the 16-20-year-old age group, 1,120 male drivers and 328 female drivers involved in F & PI crashes were impaired at the time of the crash. These numbers represent 3% of the 45,539 male drivers and 1% of the 34,751 female drivers in that age group who were involved in F & PI crashes.
- As with speeding drivers in F & PI crashes, males were more likely than females to be impaired in these crashes.

TRAFFIC TICKETS

TSLED and AA ticket data were analyzed to compare tickets issued to all drivers and those issued to drivers ages 16-20, and to determine how often tickets for select violations of the NYS Vehicle and Traffic Law were issued to young drivers 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 2013 to 2017, the proportion of tickets issued to drivers ages 16-20 remained steady at slightly over 8% (Table 3).
- The number of tickets issued to all drivers increased 4% between 2013 and 2017, while the number of tickets issued to young drivers increased less than 1%.

Table 3 Traffic Tickets Issued to All Drivers and to Drivers Ages 16-20

	Tickets Issued Tickets Issued		%
	to All Drivers	Drivers Ages 16-20	
2013	3,575,667	301,626	8.4%
2014	3,584,382	290,058	8.1%
2015	3,505,545	292,600	8.3%
2016	3,576,620	306,808	8.6%
2017	3,724,952	302,649	8.1%
2013-2017 Change	4.2%	0.3%	

- In 2017, the largest proportion of tickets issued to drivers was for speeding (Figure 16); 26% of the tickets issued to drivers ages 16-20 were for speeding violations, compared to 19% of the tickets issued to all drivers.
- Drivers ages 16-20 were less likely than all drivers to be ticketed for cell phone and texting violations (3% vs. 6%).

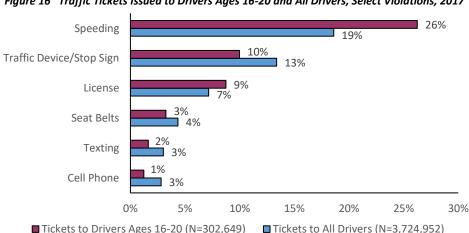


Figure 16 Traffic Tickets Issued to Drivers Ages 16-20 and All Drivers, Select Violations, 2017

Drivers ages 16-20 were less likely than all drivers to be issued tickets for impaired driving under TSLED in 2017 (1% vs. 3%), where the proportion of tickets issued to young drivers was 10% (Figure 17).

Figure 17 Impaired Driving Tickets Issued to Drivers Ages 16-20 and All Drivers, TSLED Only, 2017



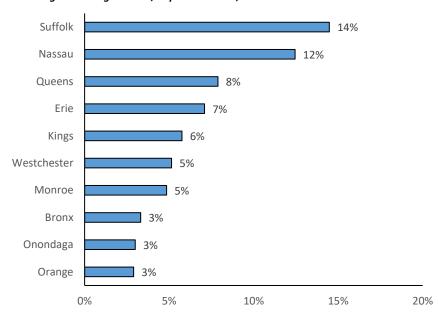
FATALITIES AND INJURIES BY COUNTY

Figure 18 illustrates the percentage of persons in New York State who were killed or injured in motor vehicle crashes involving young drivers in 2017, for the top ten counties. Together these counties accounted for more than two thirds 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 26% of the statewide total. Three counties in New York City – Queens, Kings and the Bronx – accounted for 17%. The upstate counties of Erie, Westchester, Monroe, Onondaga and Orange made up 23% 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 2017. 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.

Figure 18 Percentage of Persons in NYS Killed or Injured in Motor Vehicle Crashes Involving Drivers Ages 16-20, Top 10 Counties, 2017



- In 2017, the number of persons killed or injured in crashes involving young drivers was highest in Suffolk County (3,271), followed by Nassau (2,814), Queens (1,782), Erie (1,603) and Kings (1,302).
- 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 Genesee (28%); Lewis (25%); Wayne, Herkimer and Allegany (all 24%).
- > Statewide, 11.38 persons were killed or injured in young driver crashes per 10,000 population. Among the counties, Genesee had the highest rate (26.23), followed by Suffolk (21.91), Nassau (20.55), Dutchess (19.35) and Warren (17.36).

Table 4 Persons Killed or Injured in Motor Vehicle Crashes Involving All Drivers and Young Drivers (Ages 16-20), by County, 2017

		Perso	ns Killed or Ir	njured in Crash	es		d or Injured per Population
		Involving All					Involving
	Population	Drivers	#	% Cty Total	% of NYS	Involving All Drivers	Young Drivers
NEW YORK STATE	19,849,399	170,752	22,598	13.2%	100.0%	86.02	11.38
COUNTY	13,0 13,033	170,732	22,330	13.275	100.070	00.02	11.50
Albany	309,612	3,102	527	17.0%	2.3%	100.19	17.02
Allegany	46,894	281	66	23.5%	0.3%	59.92	14.07
Bronx	1,471,160	13,626	750	5.5%	3.3%	92.62	5.10
Broome	193,639	1,249	231	18.5%	1.0%	64.50	11.93
Cattaraugus	77,348	509	112	22.0%	0.5%	65.81	14.48
Cayuga	77,603	521	105	20.2%	0.5%	67.14	13.53
Chautauqua	129,046	912	161	17.7%	0.7%	70.67	12.48
Chemung	85,557	523	101	19.9%	0.7%	61.13	12.16
Chenango	47,863	297	57	19.2%	0.3%	62.05	11.91
	80,980		92		0.5%	56.43	11.36
Clinton Columbia	60,604	457 500	75	20.1% 15.0%	0.4%	82.50	12.38
Cortland	47,786	343	46	13.4%	0.3%	82.50 71.78	9.63
Delaware	47,786	313	64	20.4%	0.2%	69.55	14.22
Dutchess		2,489	572	23.0%	2.5%	84.21	19.35
	295,568					99.81	
Erie	925,528	9,238	1,603	17.4%	7.1%		17.32
Essex	37,956	223	29	13.0%	0.1%	58.75	7.64
Franklin	51,116	282	49	17.4%	0.2%	55.17	9.59
Fulton	53,877	341	56	16.4%	0.2%	63.29	10.39
Genesee	57,956	542	152	28.0%	0.7%	93.52	26.23
Greene	47,470	309	50	16.2%	0.2%	65.09	10.53
Hamilton	4,485	30	2	6.7%	<0.1%	66.89	4.46
Herkimer	62,240	354	84	23.7%	0.4%	56.88	13.50
Jefferson	114,187	628	137	21.8%	0.6%	55.00	12.00
Kings	2,648,771	21,867	1,302	6.0%	5.8%	82.56	4.92
Lewis	26,551	142	36	25.4%	0.2%	53.48	13.56
Livingston	63,799	398	84	21.1%	0.4%	62.38	13.17
Madison	70,965	461	86	18.7%	0.4%	64.96	12.12
Monroe	747,642	5,942	1,095	18.4%	4.8%	79.48	14.65
Montgomery	49,258	353	60	17.0%	0.3%	71.66	12.18
Nassau	1,369,514	16,587	2,814	17.0%	12.5%	121.12	20.55
New York	1,664,727	10,659	324	3.0%	1.4%	64.03	1.95
Niagara	211,328	1,555	322	20.7%	1.4%	73.58	15.24
Oneida	231,332	1,577	326	20.7%	1.4%	68.17	14.09
Onondaga	465,398	3,964	676	17.1%	3.0%	85.17	14.53
Ontario	109,899	741	118	15.9%	0.5%	67.43	10.74
Orange	382,226	3,654	655	17.9%	2.9%	95.60	17.14
Orleans	40,983	189	28	14.8%	0.1%	46.12	6.83
Oswego	118,478	713	145	20.3%	0.6%	60.18	12.24
Otsego	60,094	305	62	20.3%	0.3%	50.75	10.32
Putnam	99,323	868	152	17.5%	0.7%	87.39	15.30
Queens	2,358,582	21,732	1,782	8.2%	7.9%	92.14	7.56
Rensselaer	159,722	1,062	203	19.1%	0.9%	66.49	12.71
Richmond	479,458	3,776	515	13.6%	2.3%	78.76	10.74
Rockland	328,868	3,040	519	17.1%	2.3%	92.44	15.78
Saratoga	229,869	1,549	308	19.9%	1.4%	67.39	13.40
Schenectady	155,565	1,100	184	16.7%	0.8%	70.71	11.83

		Persons Killed or Injured in Crashes			Persons Killed or Injured per 10,000 Population		
		Involving All	Invo	Involving Young Drivers		Involving	Involving
	Population	Drivers	#	% Cty Total	% of NYS	All Drivers	Young Drivers
Schoharie	31,420	195	35	17.9%	0.2%	62.06	11.14
Schuyler	18,000	141	18	12.8%	0.1%	78.33	10.00
Seneca	34,498	262	42	16.0%	0.2%	75.95	12.17
St. Lawrence	109,623	597	120	20.1%	0.5%	54.46	10.95
Steuben	96,281	562	94	16.7%	0.4%	58.37	9.76
Suffolk	1,492,953	16,911	3,271	19.3%	14.5%	113.27	21.91
Sullivan	75,485	618	110	17.8%	0.5%	81.87	14.57
Tioga	48,578	268	60	22.4%	0.3%	55.17	12.35
Tompkins	104,802	539	102	18.9%	0.5%	51.43	9.73
Ulster	179,417	1,631	271	16.6%	1.2%	90.91	15.10
Warren	64,532	546	112	20.5%	0.5%	84.61	17.36
Washington	61,620	393	72	18.3%	0.3%	63.78	11,68
Wayne	90,670	532	130	24.4%	0.6%	58.67	14.34
Westchester	980,244	7,824	1,163	14.9%	5.1%	79.82	11.86
Wyoming	40,493	265	55	20.8%	0.2%	65.44	13.58
Yates	24,955	127	16	12.6%	0.1%	50.89	6.41
Unknown		38	7				

CONCLUSIONS

New York continues to make good progress in reducing the numbers of crashes, fatalities and injuries involving drivers ages 16-20. The number of persons killed in young driver crashes declined more sharply than the number of persons killed in all crashes between 2013 and 2017 (19% and 16%, respectively). The number of persons injured in young driver crashes declined 5% in that time period, while the number of persons injured in all crashes increased slightly (0.3%).

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.

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

²National Center for Injury Prevention and Control, Centers for Disease Control and Prevention. 2016. Leading Causes of Death Reports, 1981-2016, available at https://webappa.cdc.gov/sasweb/ncipc/leadcause.html.