

ITSMR Research Note

KEY FINDINGS

DRIVERS TICKETED FOR DRUG-IMPAIRED DRIVING: 2016-2018

- The number of drivers ticketed for drug-impaired driving decreased 7% between 2016 and 2018.
- 32% of the drug-impaired driving arrests in 2018 occurred on weekends; 46% occurred at night (9pm - 6am).
- 26%-28% of the drivers ticketed for drug-impaired driving each year were women.
- The largest proportion of drivers ticketed for drug-impaired driving each year 2016-2018 were in the 21-29 year age group (33%-37%).
- 21% and 16%, respectively, of the drug-impaired drivers in 2018 were also ticketed for alcohol-impaired driving and speeding.

DRIVERS EVALUATED BY A DRE: 2016-2018

- The number of evaluations conducted increased from 1,733 in 2016 to 2,427 in 2018, representing an increase of 40%.
- 33% of the evaluations were conducted on weekends; 46% were conducted 9pm - 6am.
- 29% of the drivers evaluated in 2018 were women, up from 25% in 2016.
- The largest proportion of drivers evaluated each year 2016-2018 were in the 21-29 year age group (33%-38%).
- 40%-43% of the drivers evaluated each year were identified by the DRE as having cannabis in their system.
- 38% of the DRE opinions exactly matched the tox results in 2018 and 54% partially matched.

CONCLUSIONS

- The decline seen in the number of drivers arrested for drug-impaired driving between 2016 and 2018 merits continued observation to determine if, in fact, drug-impaired driving arrests are on a steady downward trend.
- The findings related to both the drivers arrested for drug-impaired driving and the drivers evaluated by a DRE for possible drug-impaired driving, together with the recent increase in drug-related motor vehicle fatalities, should provide useful information to NY's traffic safety community for developing effective enforcement and public awareness strategies to address the problem of drug-impaired driving among motorists in New York State.

DRUG-IMPAIRED DRIVING ON NEW YORK ROADWAYS Drivers Ticketed & DRE Evaluations

INTRODUCTION

According to the National Highway Traffic Safety Administration (NHTSA), reported drug use among fatally injured drivers who were tested rose from 25% in 2007 to 42% in 2016.¹ NHTSA also found that the proportion of those fatally injured drivers who tested positive for cannabis use more than doubled, increasing from 8% in 2007 to 18% in 2016. The increased use of both prescription drugs and illegal drugs in recent years combined with the legalization of recreational marijuana use in some states has heightened the need for more innovative efforts to address the serious problem of drugs and driving.

Recent analyses conducted by the Institute for Traffic Safety Management and Research (ITSMR) showed that the number of fatalities in drug-related motor vehicle crashes rose from 241 in 2016 to 293 in 2018, a cause for concern. To provide more information on the issue of drugs and driving to New York's traffic safety community and the state's Advisory Council on Impaired Driving, the NYS Governor's Traffic Safety Committee (GTSC) recently funded ITSMR to conduct a study on drivers ticketed on New York's roadways for drug-impaired driving and drivers who were evaluated by a Drug Recognition Expert (DRE) for drug-impaired driving during the three-year period 2016-2018. Summarizing the results of that study, this *Research Note* presents the following information:

➤ *Drivers Ticketed for Drug-Impaired Driving*

- Overview
- Characteristics of arrest events
- Characteristics of drivers ticketed
- Drivers ticketed for other VTL violations

➤ *Drivers Evaluated by a DRE*

- Overview
- Characteristics of evaluation events
- Characteristics of drivers evaluated
- DRE Opinions on class of drugs involved
- Results of toxicology testing

The two primary data sources for the study were the NYS Department of Motor Vehicles' Traffic Safety Law Enforcement and Disposition (TSLED) system and the NYS DRE database maintained by ITSMR. The tickets issued in New York City for VTL Section 1192 violations are captured by a system maintained by the NYPD. Since the NYPD system does not have the same detailed data available as TSLED, the ticket analyses for this study were restricted to the data available from TSLED. As such, it is important to note that TSLED captures data on approximately 80% of the VTL 1192 tickets issued annually across the state.

DRIVERS TICKETED FOR DRUG-IMPAIRED DRIVING: 2016 - 2018

Overview

With its focus on the three-year period, 2016-2018, the study defined a drug-impaired driving arrest as one in which the driver was charged with a violation of VTL Section 1192.4 (DWAI Drugs) or 1192.4a (DWAI Drugs & Alcohol). As shown in Table 1, the number of drivers ticketed and the number of tickets issued for drug-impaired driving decreased between 2016 and 2018. The number of drivers ticketed for drug-impaired driving fell by 7% and the number of tickets issued decreased by 6% between 2016 and 2018.

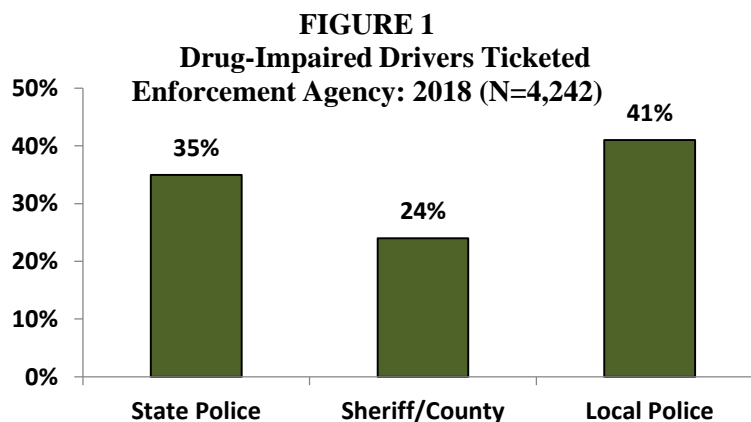
TABLE 1 Drivers Ticketed and Tickets Issued for Drug-Impaired Driving				
	2016	2017	2018	Change 2016-2018
Drug-Impaired Driving				
Drivers Ticketed	4,573	4,504	4,242	-7.2%
Tickets Issued	4,855	4,812	4,568	-5.9%

Characteristics of the Arrest Event

Analyses examined various characteristics associated with drug-impaired driving arrests that occurred during the three years 2016-2018, including the issuing enforcement agency, month of year, day of week and time of day. Because the analyses of the 2016-2018 data for these four variables showed only small variations from year to year, only the data for 2018 are presented.

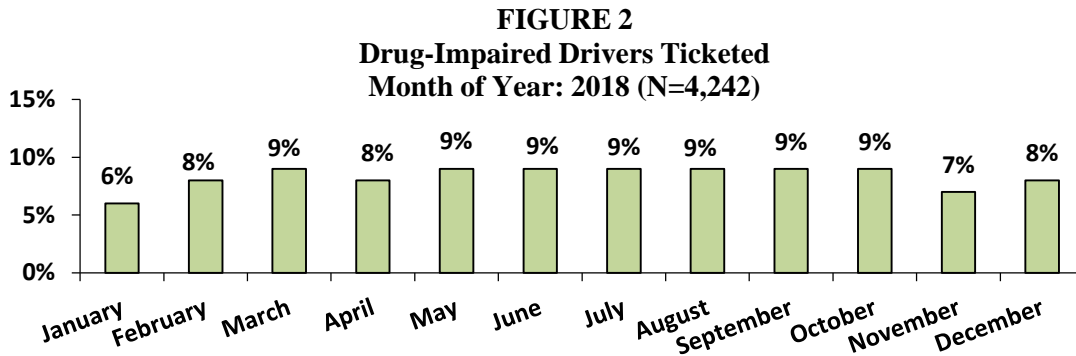
Enforcement Agency

Local police agencies (excluding the NYPD) arrested the largest proportion of drivers, followed by the State Police. As seen in Figure 1, 41% of the drivers arrested for drug-impaired driving were arrested by local police agencies and 35% were arrested by the State Police. One-quarter (24%) were arrested by the Sheriff or County enforcement agency.



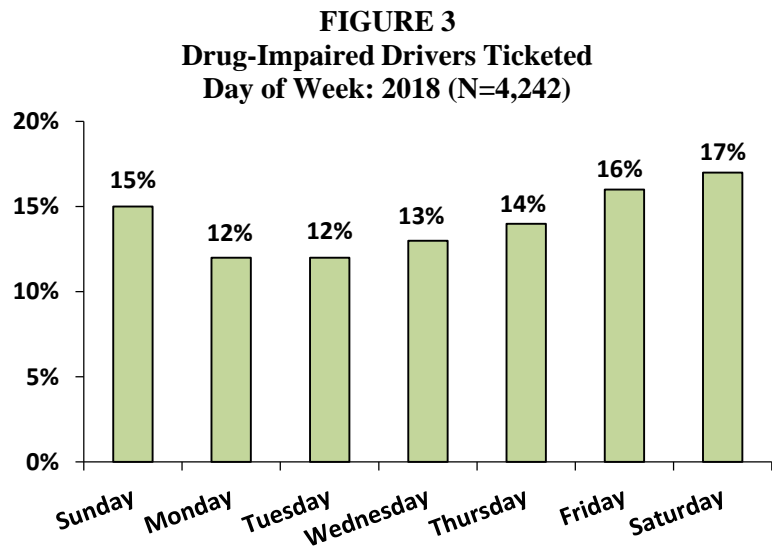
Month of Year

As shown in Figure 2, the proportion of drivers ticketed monthly for drug-impaired driving was distributed fairly evenly over the months, with the lowest proportion of drivers being ticketed in January (6%).



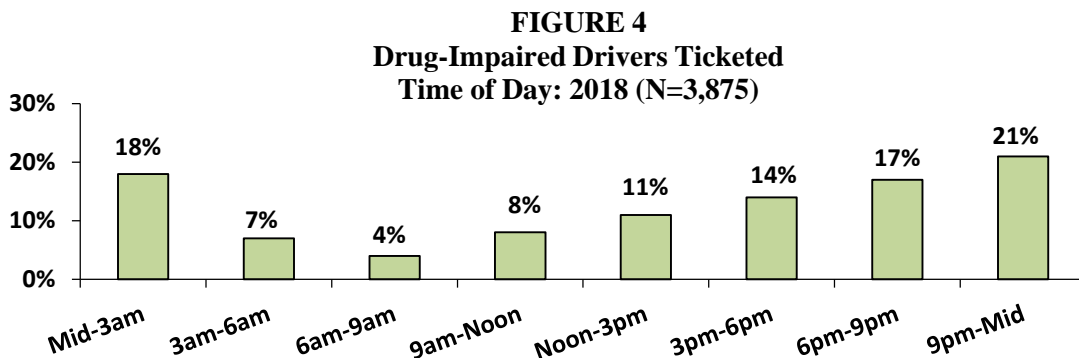
Day of Week

Small variations in the data occurred by day of week. Figure 3 shows that the largest proportion of drivers were arrested on Saturday (17%), followed by Friday (16%) and Sunday (15%). The smallest proportions were arrested on Monday (12%) and Tuesday (12%).



Time of Day

Figure 4 indicates that nearly one-half (46%) of the arrests for drug-impaired driving occurred at night (9pm-6am). One-third (33%) occurred during the day (9am-6pm).



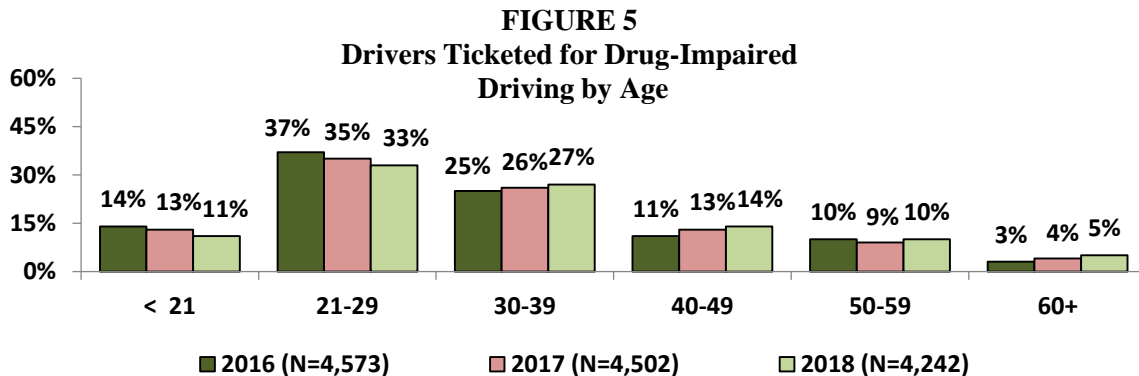
Characteristics of Drivers Ticketed for Drug-Impaired Driving

Driver Gender

The proportion of drivers ticketed for drug-impaired driving who were women increased slightly from 26% in 2016 to 28% in 2018.

Driver Age

The analyses by driver age shows some variation over the three years 2016 - 2018. As shown in Figure 5, the largest proportion of drivers ticketed for drug-impaired driving each year were in the 21-29 age group, followed by drivers ages 30-39. Figure 5 also shows that the proportion of drug-impaired drivers under age 30 dropped from 51% in 2016 to 44% in 2018, while the proportion ages 30-49 rose from 36% to 41%.



Drivers Ticketed for Other VTL Violations

Using 2018 data, analyses were conducted to examine the extent to which drivers ticketed for drug-impaired driving were also ticketed for other VTL violations during the same traffic stop. The results show that 21% of the drivers were also ticketed for an alcohol-impaired driving offense and 16% were ticketed for a speeding violation (Table 2).

TABLE 2 Drug-Impaired Drivers Ticketed for Other Selected VTL Violations: 2018 (N=4,242)	
VTL Violation	%
Alcohol Involvement	21%
Speeding	16%
Seat Belts	3%
Cell Phones	1%

DRIVERS EVALUATED BY A DRUG RECOGNITION EXPERT (DRE): 2016 - 2018

Overview

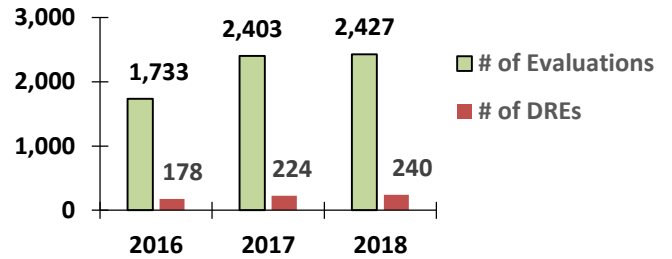
New York is one of the 46 states participating in the International Drug Evaluation & Classification (DEC) Program which operates under the guidance and direction of the International Association of Chiefs of Police (IACP) and is supported by the National Highway Traffic Safety Administration (NHTSA). New York has been participating in the DEC program since 1987. Under the DEC program, Drug Recognition Expert (DRE) police officers are trained to observe the signs of drug and/or alcohol impairment. DRE officers participate in training that has been approved by the National Highway Traffic Safety Administration (NHTSA) and the International Association of Chiefs of Police (IACP). After successfully completing the training, DRE officers are certified for two years and are expected to meet certain requirements to be considered for re-certification at the end of this period.

The evaluations conducted by the DREs of suspected drug-impaired drivers involve the capture of a large variety of data on a standard data collection form developed by the IACP. Because of the intense nature of

capturing a large volume of data on a one-page form, the GTSC contracted with ITSMR in 2013 to build a computer application that would allow the state’s DRE officers to capture the data on a tablet for transmission directly into a database maintained by ITSMR. This change has enabled New York to develop a database that contains a wealth of information pertaining to the drivers evaluated for suspected drug-impaired driving.

Based on data obtained from New York’s DRE database, both the number of DREs and the number of evaluations conducted annually by DREs were on an upward trend between 2016 and 2018. As shown in Figure 6, the number of evaluations increased from 1,733 in 2016 to 2,427 in 2018, representing an increase of 40%, correlating to a 35% increase in the number of DREs conducting those evaluations (from 178 in 2016 to 240 in 2018).

FIGURE 6
NYS DRE Evaluations Conducted
2016 - 2018



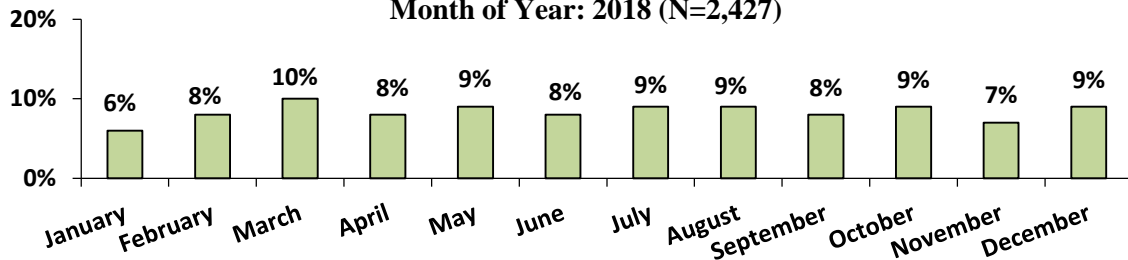
Characteristics of the Evaluation Event

Since the 2016-2018 data by month, day of week and time of day showed only small annual variations, only the data for 2018 are presented.

Month of Year

The DRE evaluations were distributed fairly evenly over the 12 months, January-December (Figure 7).

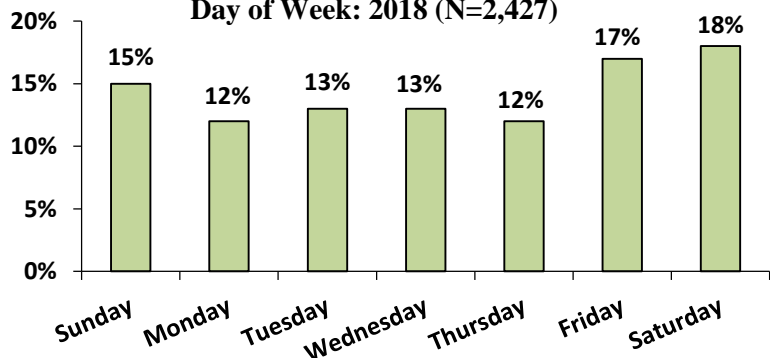
FIGURE 7
Evaluations Conducted
Month of Year: 2018 (N=2,427)



Day of Week

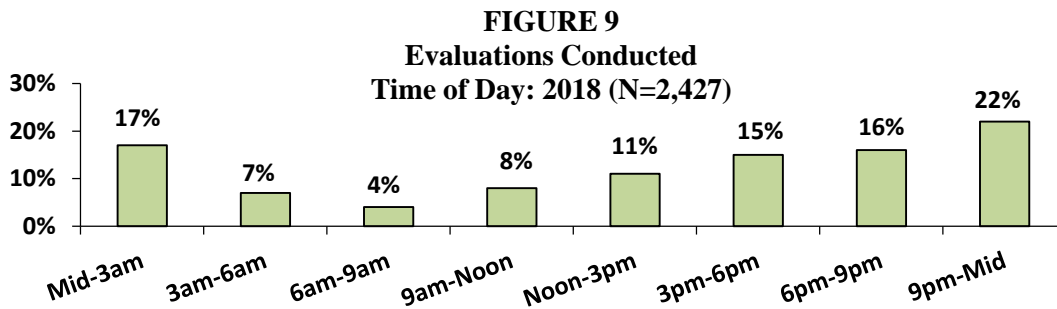
As shown in Figure 8, the largest proportion of drivers were evaluated on Saturday (18%), followed by Friday (17%) and Sunday (15%). The smallest proportions were evaluated on Monday through Thursday.

FIGURE 8
Evaluations Conducted
Day of Week: 2018 (N=2,427)



Time of Day

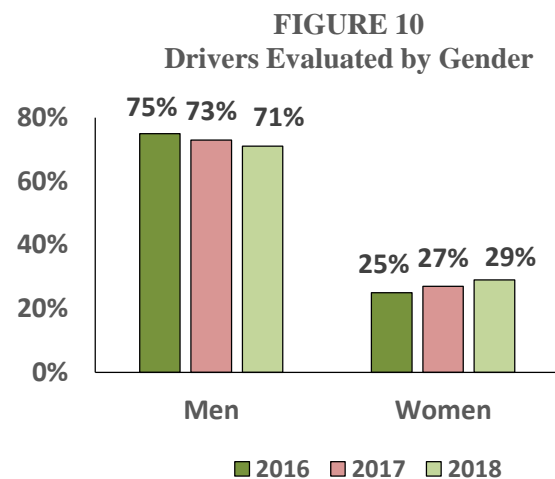
Figure 9 shows that nearly one-half (46%) of the arrests for drug-impaired driving occurred at night (9pm-6am). One-third (34%) occurred during the day (9am-6pm).



Characteristics of Drivers Evaluated

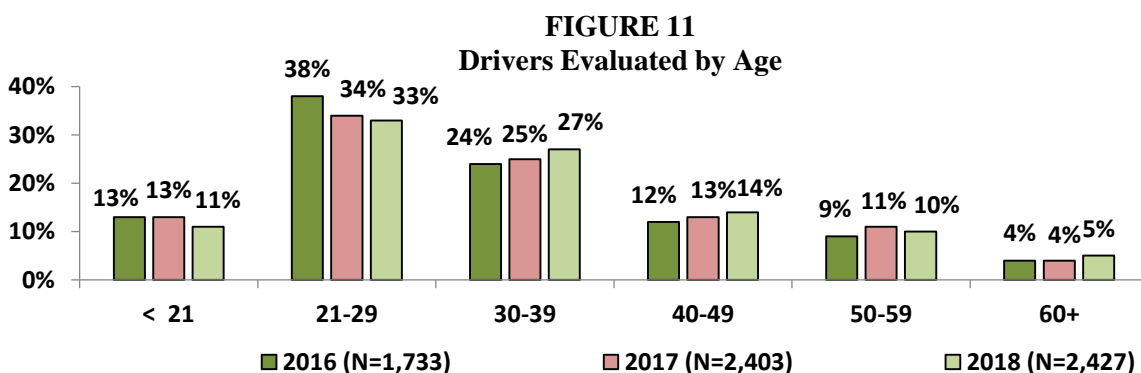
Driver Gender

The analyses by age show that the proportion of drivers evaluated who were women has increased each year between 2016 and 2018. As seen in Figure 10, 29% of the drivers evaluated in 2018 were women, up from 25% in 2016.



Driver Age

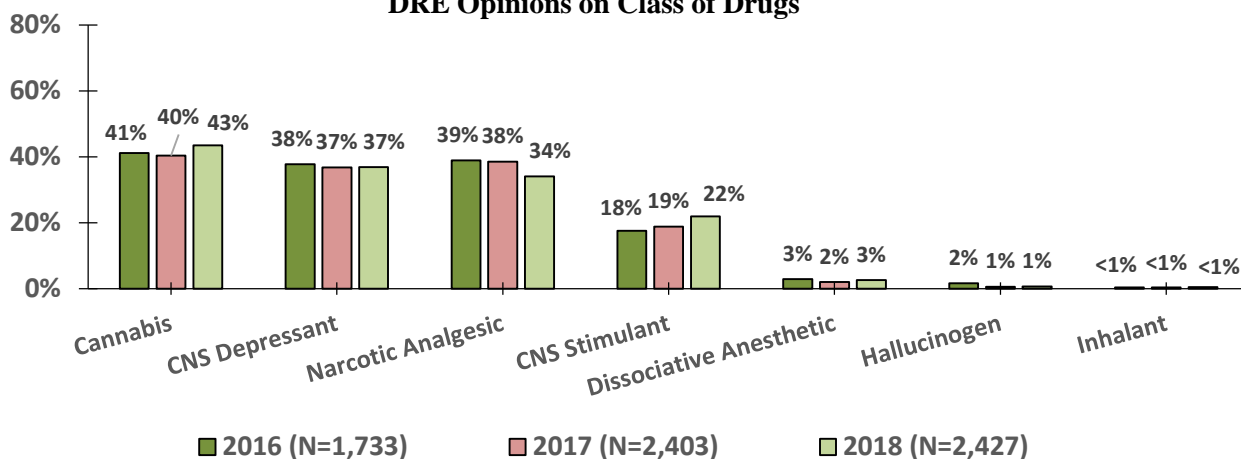
The analyses by driver age shows some variation between 2016 and 2018. As shown in Figure 11, the largest proportion of drivers evaluated for possible drug-impaired driving each year, 2016-2018, were in the 21-29 age group. Figure 11 shows that the proportion of drivers evaluated who were under age 30 dropped from 51% in 2016 to 44% in 2018, while the proportion ages 30-49 rose from 36% to 41%.



DRE Opinions on Class of Drugs Involved

Following the IACP guidelines, DREs use the information they collect during the evaluation process to identify the class or classes of drugs they think the driver has in their system. There are seven classes of drugs: depressant, stimulant, dissociative anesthetic, hallucinogen, inhalant, narcotic analgesic and cannabis. As indicated in Figure 12, in each of the three years, 2016-2018, cannabis was the most commonly called drug by the DREs (40%-43%). Between 2016 and 2018, the proportions of drivers evaluated that the DREs thought had a CNS depressant in their system remained constant at 37%-38%. While the proportion believed to have a narcotic analgesic in their system decreased from 39% to 34%, the proportion believed to have a CNS stimulant in their system increased from 18% to 22%.

FIGURE 12
DRE Opinions on Class of Drugs



Results of Toxicology Testing Drugs Found

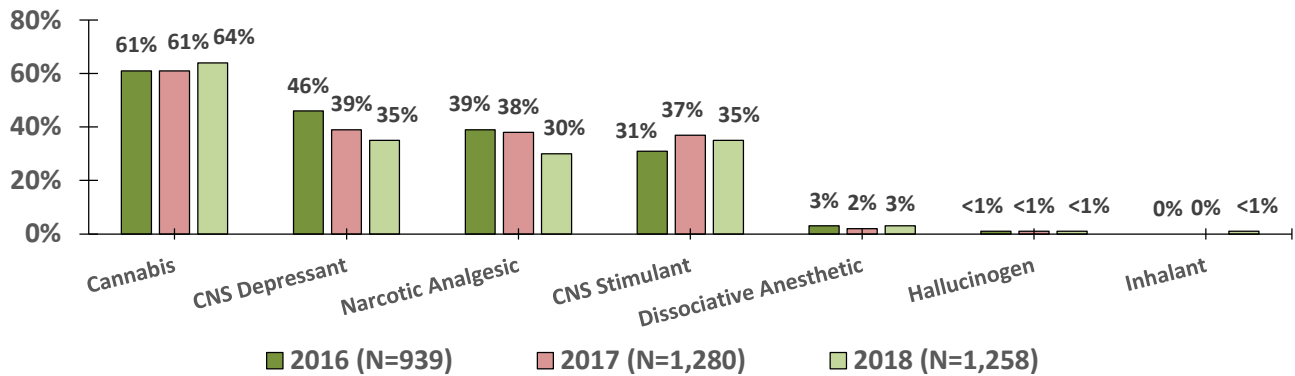
Each driver evaluated is asked to submit a chemical test for testing by one of the state's seven forensic labs. The labs are responsible for sending the test results back to the DRE for input into the DRE database. For the drivers evaluated each year, 2016-2018, Table 3 indicates the number and proportion of drivers evaluated who submitted to a chemical test and the results of those tests. As Table 3 shows, in each of the three years 2016-2018, approximately eight out of ten drivers submitted to a chem test, with the results for six out of ten drivers being available for inclusion in this study. Of the chem tests conducted, drugs were found in 91%-93% of the drivers tested in each of the three years, indicating that DREs are doing a good job of detecting drugs.

Table 3 further indicates the labs found that approximately three-quarters of the drivers with drugs in their system each year tested positive for multiple drugs.

TABLE 3 Drivers Evaluated and Tested						
Drivers Evaluated	2016 (N=1,733)		2017 (N=2,403)		2018 (N=2,427)	
Chem Tests - No	332	19%	462	19%	425	17%
Chem Tests - Pending	381	22%	568	24%	627	26%
Chem Tests - Conducted	1,020	59%	1,373	57%	1,375	57%
Chem Tests Conducted	1,020		1,373		1,375	
Drugs not found	81	8%	93	7%	117	9%
Drugs found	939	92%	1,280	93%	1,258	91%
<i>Single drug</i>	250	27%	326	25%	321	26%
<i>Multiple drugs</i>	689	73%	954	75%	937	74%

As shown in Figure 13, of the drivers that tested positive for drugs, the most common drug found each year 2016-2018 was cannabis. Between 2016 and 2018, the proportion of drivers found with cannabis in their system rose from 61% to 64%, while the proportion of drivers found with a CNS depressant in their system dropped from 46% to 35%. The proportion of drivers found with a narcotic analgesic in their system also decreased, dropping from 39% in 2016 to 30% in 2018.

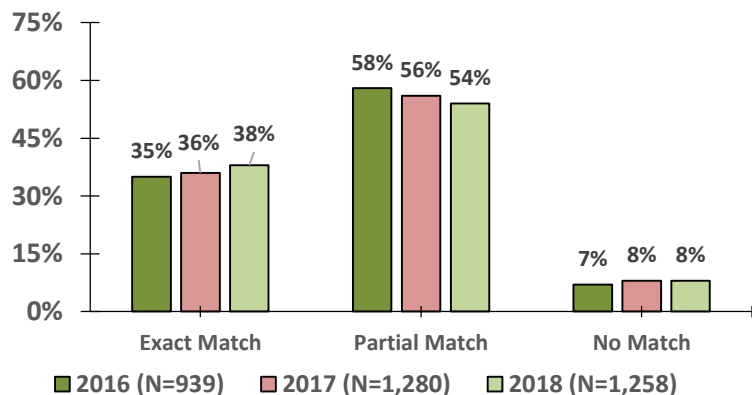
**FIGURE 13
Drugs Found**



Toxicology Results vs. DRE Opinions

The final set of analyses conducted examined the extent to which the DRE opinions matched the results of the toxicology. As shown in Figure 14, 35%-38% of the toxicology results matched the DRE opinion each year and 54%-58% partially matched the DRE opinion. No match was found in 7%-8% of the cases.

**FIGURE 14
Comparison of Toxicology Results
with DRE Opinions**



SUMMARY AND CONCLUSIONS

Key findings from the analyses are summarized in Table 4 below. While the number of drivers arrested for drug-impaired driving dropped 7% between 2016 and 2018, the number of DRE evaluations conducted rose by 40%, with the number of DREs conducting those evaluations increasing by 35%. As Table 4 shows, the characteristics associated with the arrest events and the DRE evaluations are quite similar, as are the characteristics of the drivers involved.

Although Table 4 also shows that the most common class of drugs according to the DREs' opinions and the findings from the toxicology testing was cannabis in 2018, the results of the toxicology tests found a much greater proportion of the drivers having cannabis in their system at the time of arrest than indicated by the DRE opinions (64% vs. 43%). Table 4 further indicates that in 2018 the DRE's opinion exactly matched the toxicology report in 38% of the cases, partially matched in 54% of the cases and did not match at all in 8% of

the cases. It is important to note that the comparison of the opinions of the DREs with the results of the toxicology reports should be interpreted with caution because it is possible that a DRE may not suspect impairment by a drug because its effect on behavior may have dissipated by the time the evaluation was conducted, yet it may still show up in the blood specimen tested. It is also possible that it has something to do with the lab test, such as the level at which the specimen is tested for a particular drug.

The decline seen in the number of drivers arrested for drug-impaired driving between 2016 and 2018 merits continued observation to determine if, in fact, drug-impaired driving arrests are on a steady downward trend. The findings related to both the drivers arrested for drug-impaired driving and the drivers evaluated by a DRE for possible drug-impaired driving, together with the recent increase in drug-related motor vehicle fatalities, should provide useful information to NY's traffic safety community, especially the state's Advisory Council on Impaired Driving and the NYS Governor's Traffic Safety Committee (GTSC), for developing effective enforcement and public awareness strategies to address the problem of drug-impaired driving among motorists in New York State.

TABLE 4 Drug-Impaired Drivers		
	Drug-Impaired Driving Arrests	DRE Evaluations of Possible Drug-Impaired Drivers
Number of Drivers	-7% (2016 vs. 2018)	+ 40% (2016 vs. 2018)
Characteristics of Events: 2018		
Weekends: Saturday & Sunday	32%	33%
Nighttime: 9pm–3am	39%	39%
Characteristics of Drivers: 2018		
Women	28%	29%
Ages 21-29	33%	33%
DRE Opinion on Class of Drugs: 2018		
Most common	-----	Cannabis (43%)
Toxicology Results on Class of Drugs: 2018		
Most common	-----	Cannabis (64%)
DRE Opinion vs. Toxicology Results: 2018		
Exact match	-----	38%
Partial match	-----	54%
No match	-----	8%

¹ https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/13839-drugged_facts_flyer_101918_v8_002.pdf.

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