



Report on Drugged Driving in Louisiana

LSU



*Quantification of its Impact on Public Health and
Implications for Legislation, Enforcement and
Prosecution*

Highway Safety Research Group



Objectives

- Objective 1: Evaluate laws and policies about drugged driving in Louisiana and other states and identify obstacles to a per se, ZT, law for drugged driving.
- Objective 2: Assess the availability of drugged driving data, collect available data and provide an analysis of the frequency of drugged driving to obtain an improved estimate of drugged driving in Louisiana and elsewhere. Develop specific recommendations for improved data collection on drugged driving.



Report Overview

1. What does prior research say?
2. Secondary data analysis
3. Survey interview analysis
4. Conclusions
5. Recommendations



1. Literature Review



Commonly Detected Drugs & their Effects

- Illicit
 - Cannabis (8.6%), followed by cocaine (3.9%) and methamphetamine (1.3%) most commonly detected illicit drugs in drivers (2007 NRS)
- Prescription
 - About 48% of the population took at least one prescription drug in the past month (CDC, 2010)
- Alcohol
 - Most widely used intoxicant among drivers
 - Many people use drugs and alcohol together [Shinar, 2007]
 - Drivers with positive BACs are more likely to also have drugs in their system than drivers without positive BACs [Voas et al. 2012]



Prevalence

- Estimates of prevalence of drug-impaired driving vary considerably
 - Roadside surveys probably over-estimate whereas arrest rates of DUID relative to alcohol-impaired driving arrests likely underestimate
 - Highly dependent on detection methods
 - Blood vs. Urine, Oral fluid screening
 - Detection does not necessarily indicate impairment
 - Drug detection windows vary considerably



Est. Detection Windows

Alcohol – 1 oz. for 1.5 hours
Amphetamines – 48 hours
Barbiturates – 2-10 days
Benzodiazepines – 2-3 weeks
Cocaine – 2-10 days
Heroin Metabolite – less than 1 day
Morphine – 2-3 days
LSD – 8 hours
Marijuana – casual use, 3-4 days; chronic use, several weeks to 1 month
Methamphetamine – 2-3 days
Methadone – 2-3 days
Phencyclidine (PCP) – 1 week



Crash Risk

1. Experimental verification causally linking the drug to impairment and that the magnitude of impairment is related to the dose and the concentration of the drug in critical parts of the brain;
2. Reliable measurements of the drug in both the general and crash populations;
3. Drug is verifiably associated with crash involvement, that is, that the prevalence of a drug is higher in crash involved drivers than in the general population, or that the drug's prevalence is higher in culpable drivers than non-culpable drivers in crashes.

Shinar, 2007



Crash Risk Odds Estimates

- Based on FARS & 2007 NRS
 - Depressants – 4.8
 - Stimulants – 3.6
 - Narcotics – 3.0
 - Marijuana – 1.8
 - Alcohol (0.08) – 13.6
 - Alcohol & Drugs -- 23.2

Interpret with caution!



Crash Risk

- NHTSA VA Beach Case Control Study
 - “the largest, most carefully controlled of its kind to date”
 - 08 BrAC to .15 BrAC (respectively) had 4-12 times the crash risk than sober drivers
 - Statistically significant before and after controlling for demographic factors (i.e., age, sex, race/ethnicity)
 - THC (1.25 times) and illegal drugs (1.21 times)
 - Not statistically significant after demographics were controlled for
 - In other words, the demographic factors “may have co-varied with drug use and accounted for most of the increased crash risk”



Per Se DUID Laws

- There are two general types of per se drugged driving laws
 - Zero-Tolerance (ZT)
 - Specified limit thresholds (e.g., 5 ng/dL blood)
- 21 states have passed some form of per se law
 - Laws across the states vary considerably in terms of language/phrasing, punishment, available defenses, etc.



Per Se DUID Laws

- Lack of empirical evidence documenting their efficacy in reducing drug-impaired driving (via deterrence), improving road safety, or increasing arrest and prosecution rates
- Recent research finds no statistically significant difference in fatality rates between states with per se DUID laws and states without them (Anderson & Rees 2012)



2. Secondary Data Analysis



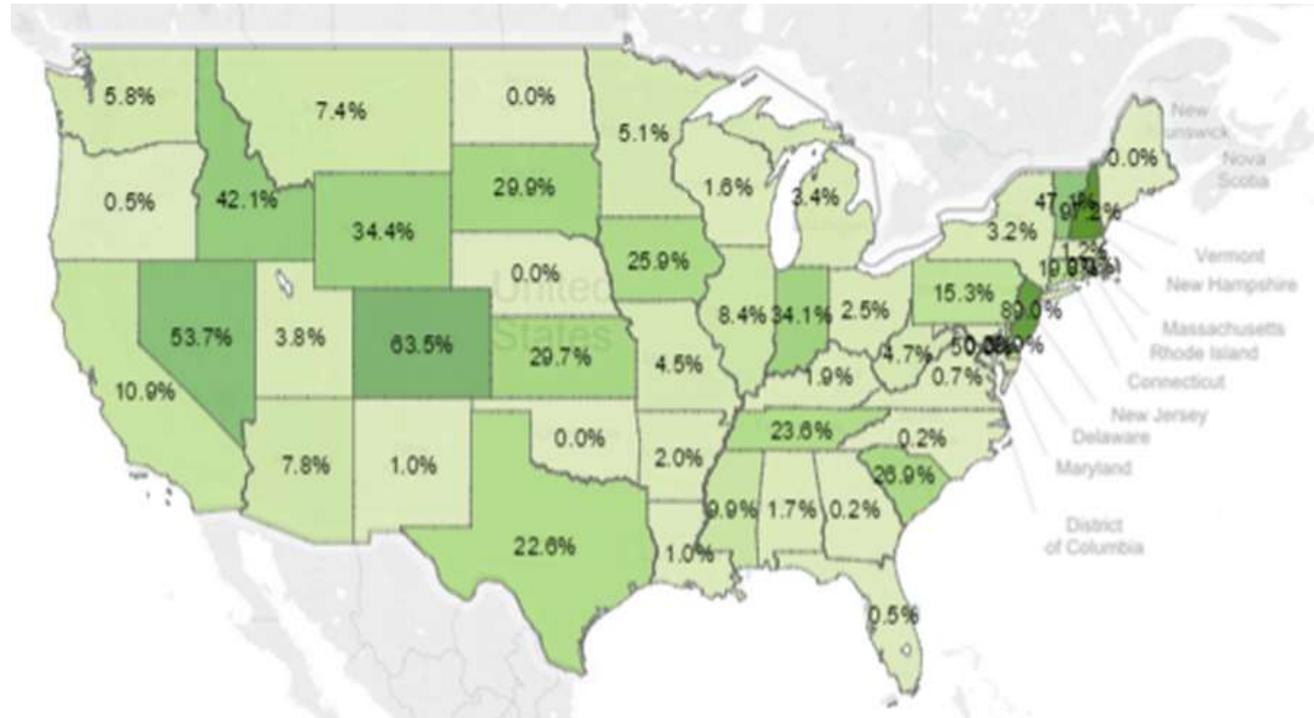
Secondary Data Sources

- FARS (2001-2013)
- LA Crime Lab 2013-2014
- COBRA (alcohol only)
- LA Crash Data (1990-2014)
- Interim LSU Level 1 Trauma Center Data
- My Student Body (2010-2014)

- The study relies on observational data
 - Selection biases must be taken into consideration
 - Findings not generalizable to the broader population



FARS: Drug Testing in States



- In 2013, Louisiana reported 60% of drivers that died at the scene or en-route had a drug test performed, but only 1% of the cases had a blood or urine test as evidential material
- Per se law states test (on average) 10.09% of fatalities dying at the scene or en-route, which is 3.18% lower than states without per se laws



LA State Police Crime Lab

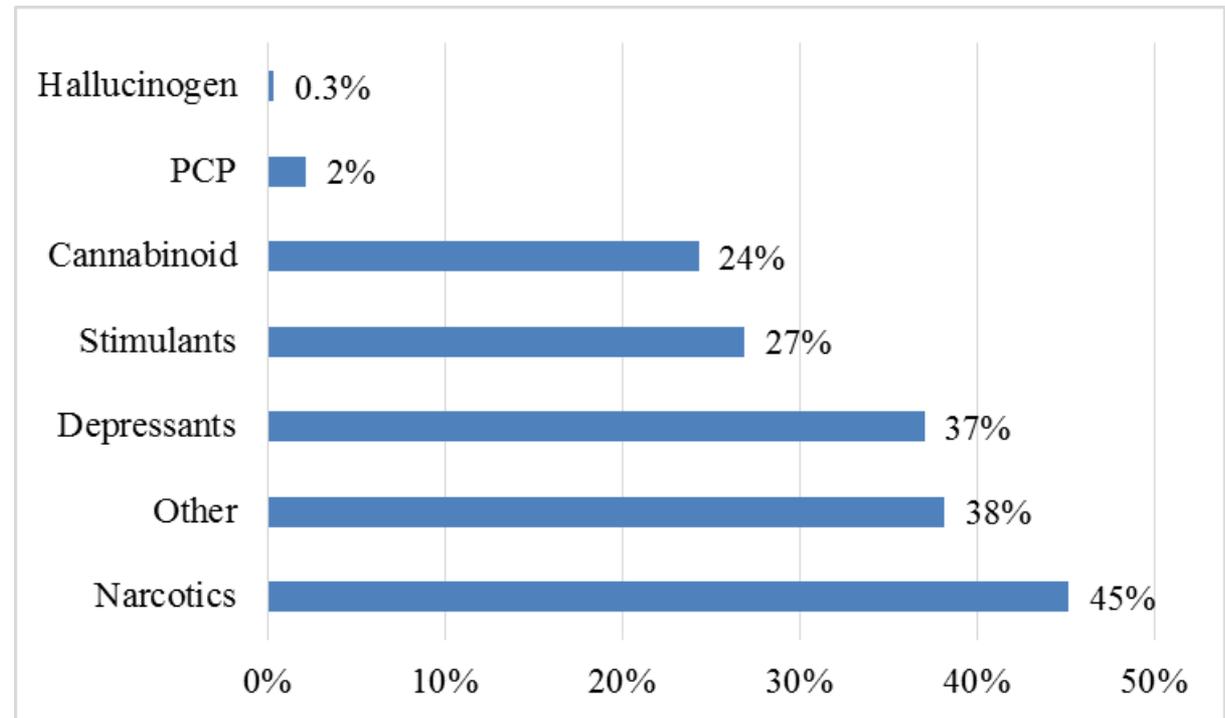
- 2,540 drug test cases for 2,468 distinct drivers (with known license numbers) and 6,565 different drug observations in 2013-2014
 - This does not include alcohol results or cases with negative drug test results or insufficient samples
 - Drivers may be positive for more than one drug category
 - About 67% of drivers had two or more drugs in their system
 - Drivers may have consumed alcohol in addition to drugs
 - Drivers may have been arrested more than once, but are only counted once
 - The Crime Lab does not test specific quantities of drugs



Percent of Drivers Testing Positive for Drugs by Drug Category

Two dashboards display overview summaries of the data

- [Dashboard 1](#)
 - Parish, age, gender, and drug categories
- [Dashboard 2](#)
 - Includes additional map of Louisiana





Crime Lab Drug Detection

- 23.6% are illicit/ street drugs (non-pharmaceutical), which include cannabinoids, about 70% of the stimulants detected, and a relatively small portion of narcotics and other drugs detected.
- The remaining 76.4% of drugs are medications and prescription drugs that are used to treat a wide variety of conditions.

Descriptive Demographics

Drug Category	Median Age	% Male
Cannabinoids	27.4	76.8%
Depressants	39.2	57.0%
Hallucinogens	47.5	87.5%
Narcotics	35.3	65.3%
Other	38.5	61.2%
PCP	33	79.2%
Stimulants	33	66.2%



Crime Lab Data Analysis

- It is not possible to draw any conclusions about the prevalence of drug-impaired driving in Louisiana from these data
 - A handful of parishes represent a significant portion of drug-positive drivers
 - This results however suggest differing levels of enforcement, procedures, and possibly resources
 - Most parishes rely predominantly on urine as evidence
 - Urine tests have higher rates of false positives and are more likely to reflect presence of inactive metabolites



Prior Driving Risk – Comparison Analysis of Drivers

- We merged the following data files together with the Crime Lab data:
 - Driver's license file from OMV (all drivers with valid license in 2013-2014)
 - DWI arrest file from the COBRA system
 - Violation file from the OMV
 - Louisiana crash data file
- The drug-tested drivers (2,468) are only 0.08% of the total number of licensed drivers (3,279,776)
 - Very small subset, many limitations
- Given a driver was drug tested, what is the frequency of prior crashes, prior DWI arrests logged in the COBRA system, or prior speeding violations compared to all other drivers who were not tested?
 - Dashboards were created for each of the drug categories examined, which include: [cannabis](#), [narcotics](#), [stimulants](#), [depressants](#), and [other medications](#).



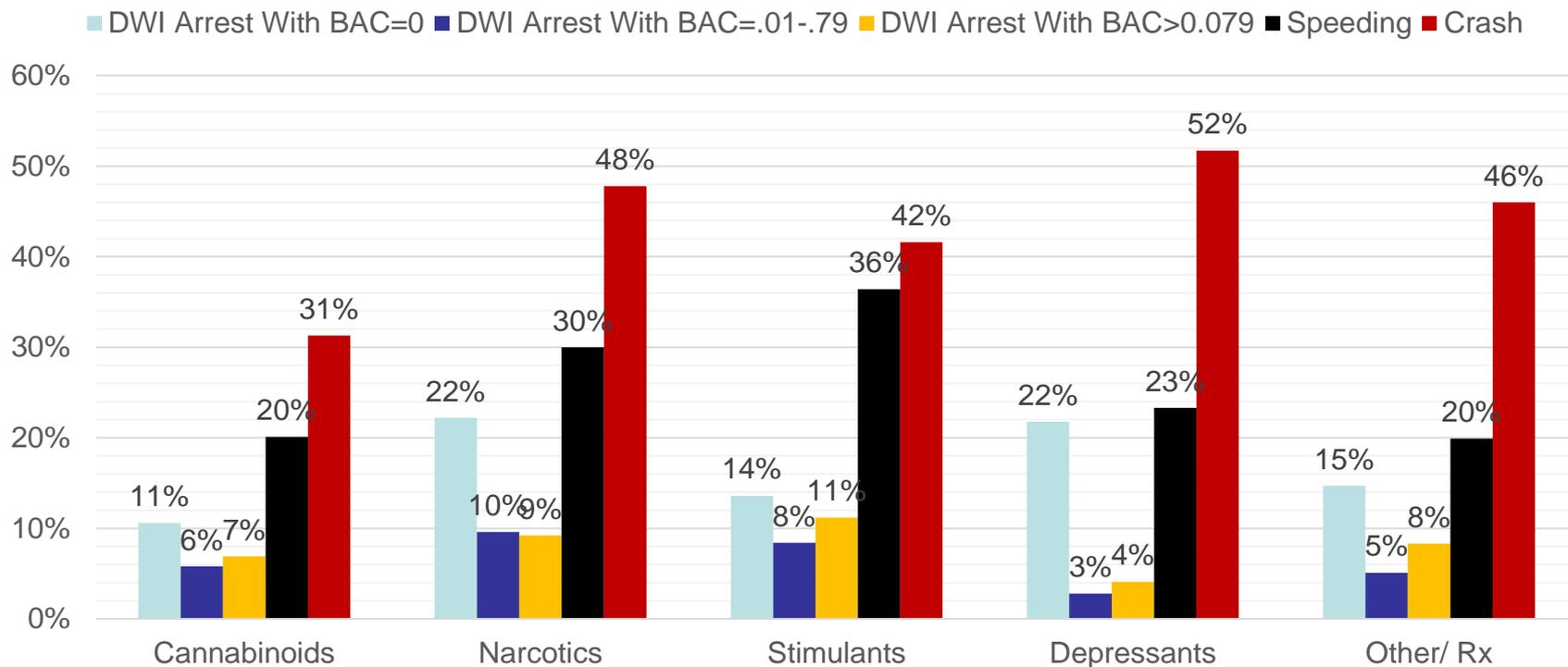
Frequency of prior DWI Arrests, speeding violations, and crashes of drug-positive drivers compared to all other drivers

	Drug Tested & Positive	Cannabinoids (600)	Narcotics (1,115)	Stimulants (663)	Depressants (914)	Other/Rx (943)
DWI Arrest With BAC=0	No	0.7%	0.7%	0.7%	0.7%	0.7%
	Yes	11.3%	22.9%	14.3%	22.5%	15.4%
DWI Arrest With BAC=.01-.79	No	0.5%	0.5%	0.5%	0.5%	0.5%
	Yes	6.3%	10.1%	8.9%	3.3%	5.6%
DWI Arrest With BAC>0.079	No	2.5%	2.5%	2.5%	2.5%	2.5%
	Yes	9.4%	11.7%	13.7%	6.6%	10.8%
Speeding	No	23.7%	23.7%	23.7%	23.7%	23.7%
	Yes	43.8%	53.7%	60.1%	47.0%	43.6%
Crash	No	30.4%	30.4%	30.4%	30.4%	30.4%
	Yes	61.7%	78.2%	72.0%	82.1%	76.4%



Risk Difference (prior DWI Arrests, speeding violations, and crashes) of drug-positive drivers compared to all other drivers

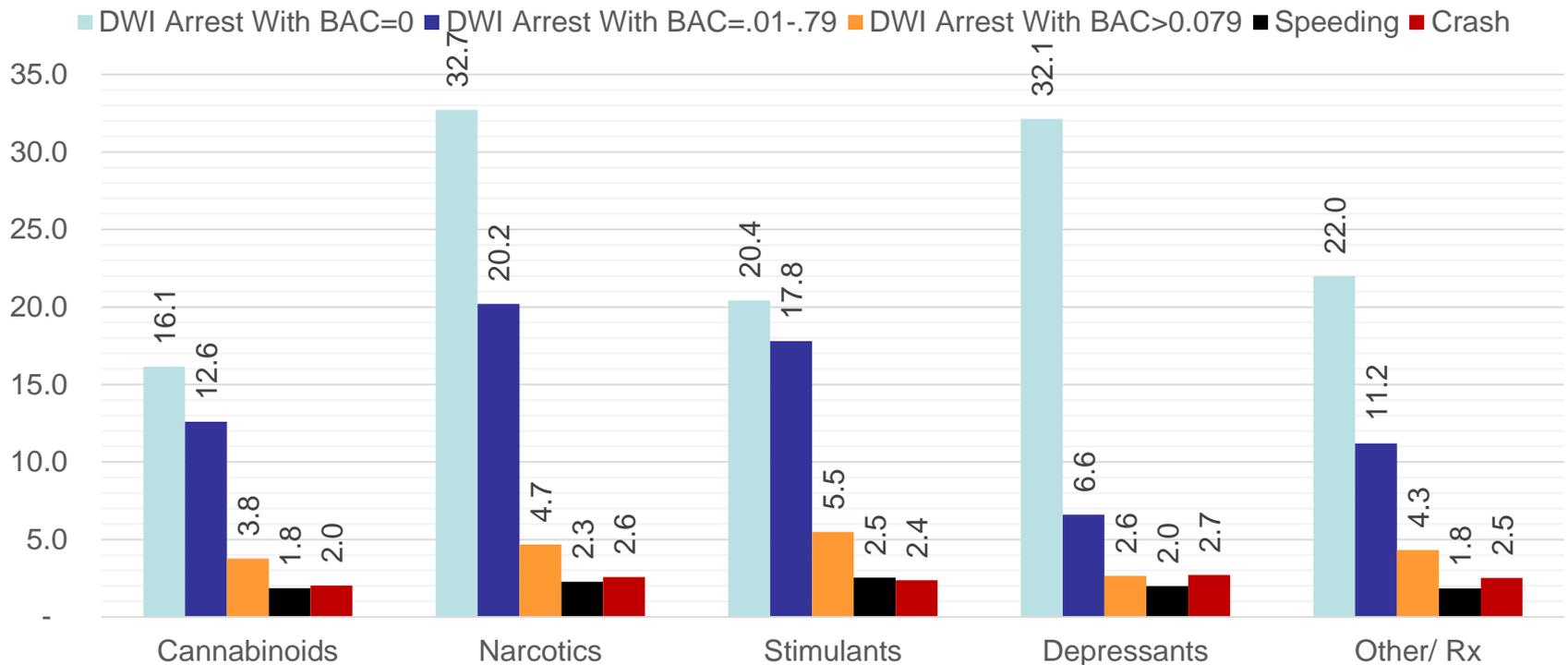
Risk Difference





Risk Ratio of prior (DWI Arrests, speeding violations, and crashes) of drug-positive drivers compared to all other drivers

Risk Ratio





Prior DWI Arrests

- Drug-positive drivers had a higher rate of prior DWI arrests with BAC=0 than all other drivers.
 - Drivers who tested positive for any drug tend to have a higher prior DWI arrest rate with BAC 0.01-0.079 than all other drivers.
- The prior DWI arrest rate with BAC at or above .08 is about 4 to 11 % higher for drug-positive drivers
 - The difference is highest for drivers testing positive for narcotics and stimulants



Prior Speeding Violations & Crash Involvement

Speeding Violations

- Drivers that tested positive for drugs had an average a higher occurrence of prior speeding violations than other drivers.
- The difference was highest for stimulants (36.4 percentage points) and lowest for other drugs and cannabinoids (20 percentage points)

Crash Involvement

- Drivers that tested positive for drugs had higher frequency of being in a prior crash than other drivers.
 - The difference is highest for drivers testing positive for depressants (51.7 percentage points) and lowest for cannabinoids (31.3 percentage points).
- Drug-positive drivers had a higher rate of four or more prior crashes compared to other drivers (.89%).
 - The difference is greatest for drivers testing positive for
 - narcotics (14.36%),
 - other medications (13.85%) and
 - depressants (11.92%).



3. Survey Interviews



Sample Overview

- District Attorneys and Assistant DAs (33)
 - Reported length of experience is 3 months to 32.4 years (M=9.1)
 - Average percentage of drug-only impaired driving cases is about 34% (Min=15%, Max=90%)
- Defense Attorneys (30)
 - Defense attorneys' experience practicing in Louisiana ranged from a minimum of 2.2 years to 39.4 years (M=21.9)
 - Average percentage of drug-only cases is about 19% (Min=1%, Max=95%, n=21).
- Police (52)
 - 73% from city/municipal agencies (38) and the remaining 27% are from parish agencies.
 - 65% make frequent traffic stops as part of daily routine (35% sometimes do)
- Public (840)
 - Sample skews older (Median=47, min=18, max=87), white (75%), female (70%) with heightened concern about impaired driving in general (64% are “very” or “extremely” concerned)



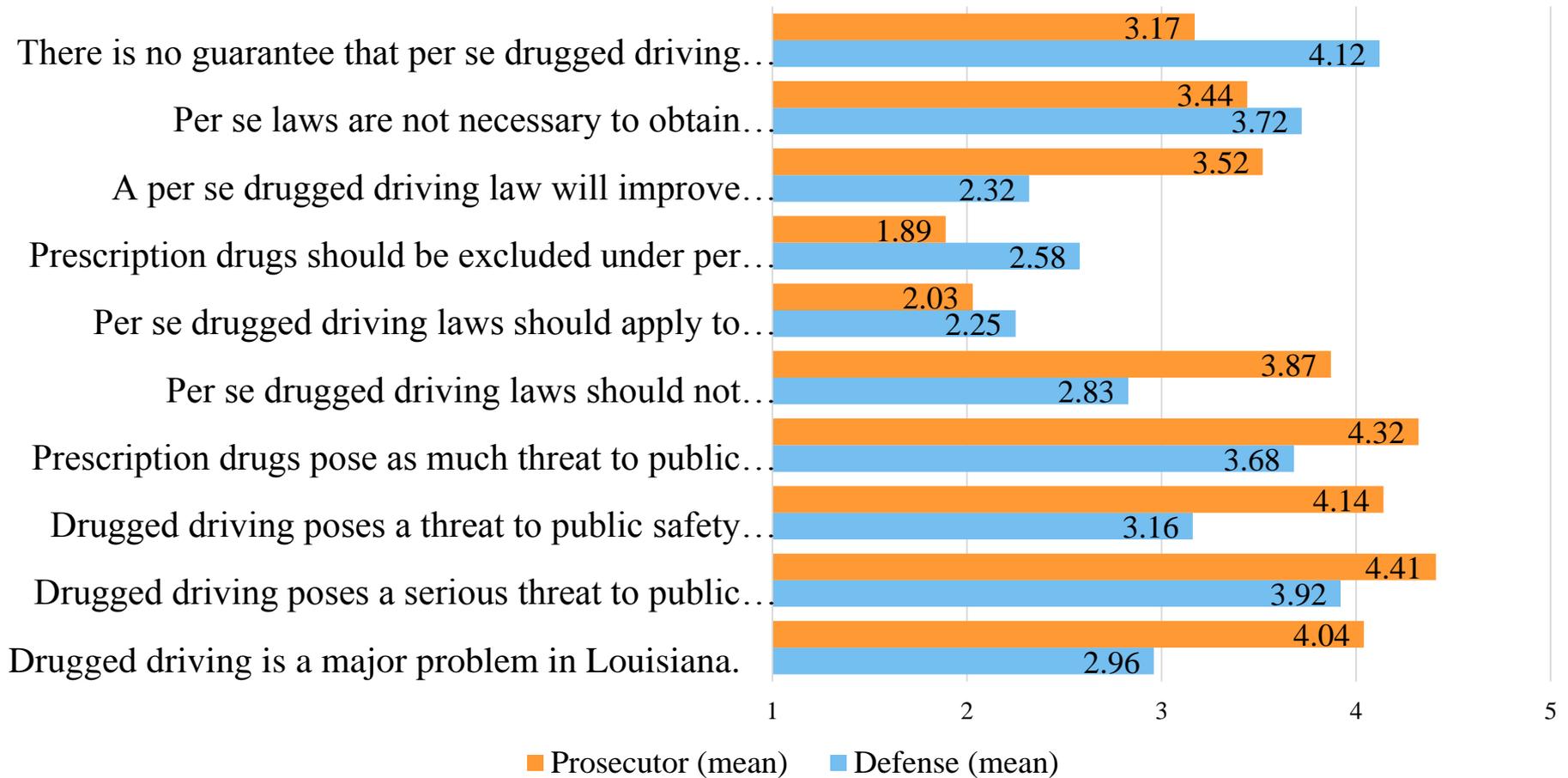
District Attorneys

- Almost half (14) of DAs reported Louisiana's current existing impaired driving laws are adequate to prosecute drugged driving cases "Most of the Time."
- Only a handful believe per se laws are effective in increasing conviction rates.
 - 24% "Neither effective nor ineffective"
 - 35% "Somewhat effective"
- About 20% believe a per se drugged driving law will make "definitely" make it easier to obtain convictions. About 47% said "maybe"
 - DAs were generally less inclined to believe that the laws will keep drugged drivers off the road.



Comparison of Attorney Responses to Likert Scale Statements

Mean Comparison Level of Agreement
(1=Strongly Disagree / 5=Strongly Agree)





Defense Attorneys

- Defense attorneys tended to disagree that prosecutors have a disadvantage under existing law
 - Primary reasons the state fails to meet is burden
 - the defendant was not impaired in the first place or evidence does not prove beyond a reasonable doubt that the defendant was clearly impaired to justify conviction.
 - Police mistakes, unlawful stops, poorly documented or collected evidence, a lack of clear, convincing evidence in general, and no video of the defendant's driving or performance on the SFST are frequently identified
- 76% (19) expressed reservations about per se DUID laws
 - Concerns in general tend to revolve around issues of due process and the potential conviction of drivers who are not actually impaired
 - Few agree that per se laws are effective in improving public safety



Police

- On average, about 69% of the time, drivers have a BAC at or above the per se limit (SD=30.29, Min=4%, Max=100%).
 - The mode is 100% and the median is 80.5%.

Circumstances most likely to lead to test for drugs

	N	Percent
If the driver is clearly impaired at the scene but does not appear to be drunk	43	82.7%
If there is drug paraphernalia in the driver's vehicle or on his or her person	21	40.4%
If the driver was involved in a crash	22	42.3%
If the driver fails to cooperate	11	21.2%
If the driver has had at least one prior impaired driving offense in the past	11	21.2%
If the driver's BAC is below .05	25	48.1%



Police

- Frequency of drugged driving relative to drunk driving
 - About 35% (18) reported about the same
 - About 17% (9) reported it is somewhat more prevalent
 - 5 reported “more”
 - About 17% reported that it was somewhat less prevalent
 - 7 reported “less”
- Officers expressed the greatest difficulties they experience investigating drugged driving cases stem from “lack”
 - Lack of training (as well as a desire for it), a lack of time and/or lack of resources (time, established protocol, testing kits, DRE availability, reasonable proximity to facilities, etc.)
 - Lack of standard procedure



Public

Summary of public concerns about ZT/per se law

	N	% total	Summary characteristics of responses
No concern	383	49%	literally expresses "no concerns" and/or expresses approval for law or explains why they like it
Some concern	95	12%	somewhat concerned about how it will affect others, whether or not it will be effective, whether or not it is necessary, and/or poses questions, hypothetical situations where concerns may arise, uncertain level of approval
Concern(s)	201	26%	clearly expresses concerns about ZT standard in relation to medications and the implications of positive tests, technicalities of the offense, justice/fairness, doubts efficacy and/or necessity, outright disapproval
Critical concern(s)	108	14%	expresses critical concerns with ZT standard in terms of, constitutionality (e.g., overbroad, vague, arbitrary), justification/ state motives and potential for abuse of power, justice/fairness, unintended consequences (general and specific), legal technicalities, questions necessity and/or efficacy, expresses strong disapproval and supplies at least one reason
	787	100%	



Conclusions: Prevalence

- This study cannot draw any firm conclusions about prevalence of drug use or risk of crashes due to drug use
 - Despite data limitations, this study provides an initial baseline of the relative frequency of drug-impaired driving in Louisiana.
- The analysis of the FARS and crime lab data suggests that best practices should be developed for the consistent use of drug testing throughout the state and the nation.
 - There are disparities across the state in both the frequency and quality of drug tests, which also reflect a lack of standardized procedures and resources
 - There are substantial differences in drug testing and evidence type between parishes and an over reliance on urine tests (which are generally not sufficient to establish that the driver is impaired)



Conclusions: Risk & Characterizing Drugged Driving

- The analysis of the Crime Lab data suggests the drivers being *arrested* for drug-impaired driving are generally drivers that pose a higher safety risk.
 - higher prior arrests for DWIs than other drivers as well as higher incidence of prior speeding and crash involvement.
 - In general, a high percentage of drivers that tested positive for drugs had also prior DWI arrests with BAC=0
 - There is also indication that drug-positive drivers had a higher prior DWI arrest rate with BAC between 0.01 and 0.079 than all other drivers.
- Thus the problem of drugged driving should be addressed as a behavioral drug abuse issue rather than a general drug use issue.



Conclusions: ZT/ Per Se Laws

- There is a lack of evidence that ZT drugged driving laws are effective at reducing drug-impaired driving or improving public safety
- The overall lack of training, resources, and testing capacities in Louisiana (and other states) does not provide the infrastructure necessary to enforce a per se law for drugs.
 - Police do not have sufficient resources
 - There are no objective levels at which all people are impaired by drugs
 - It is difficult to objectively measure impairment with chemical tests
 - Some drugs (e.g., stimulants for ADHD, narcotics for chronic pain) may even improve a person's driving