



Survey Findings: Understanding Safety Beliefs & Behaviors of Drivers of Large Trucks

FMCSA Eastern Service Center

Overview



- 1054 Large Truck Drivers in the Eastern Service Center completed a voluntary online self-report survey
- Captured basic demographic information
- Captured data on beliefs and experiences related to risky behaviors while driving
- Data was compiled, reviewed and compared to observe relationships between driver beliefs and behaviors

Respondent Recruitment



UMassSafe
Sponsored · 🌐

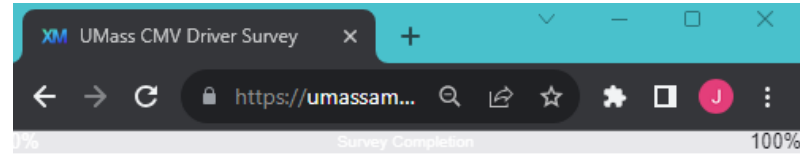
📱👤 We are a research group seeking CDL drivers to share their safety-related experiences & beliefs 🗣️🧠👍👎



bit.ly/umasscmvsurvey
Volunteers Needed for Brief Anonymous Survey [Sign up](#)

👍👎❤️ 53 24 comments 9 shares

👍 Like 💬 Comment ➦ Share



UMassAmherst

English ▾

You are being invited to participate in a < 5 minute survey titled **Understanding Driving Attitudes and Behaviors Among CMV Drivers**. This study is being conducted by the University of Massachusetts Traffic Safety Research Program to examine the experiences and beliefs of professional drivers who operate large/heavy trucks. **This survey is voluntary and anonymous.** You are free to skip any question that you choose.

If you have questions about this project or if you have a research-related problem, you may contact the researcher Benjamin Roney-Yeager at 413-577-1035. If you have any questions concerning your rights as a research subject, you may contact the University of Massachusetts Amherst Human Research Protection Office (HRPO) at (413) 545-3428 or humansubjects@ora.umass.edu.

By clicking "I agree" below you are indicating that you are at least 18 years old, have read this consent form and agree to participate in this research study. You can stop at any time.

[I Agree](#)

[I Do Not Agree](#)



Respondent Requirements

1 of 3 *most frequent driving states* in Eastern Service Center

Commercial Driver's License:
Class A or Class B

At least 50% of their work-for-pay was driving heavy/large commercial trucks

Answer screening question:

How many reflective triangles are required to be in your CMV?

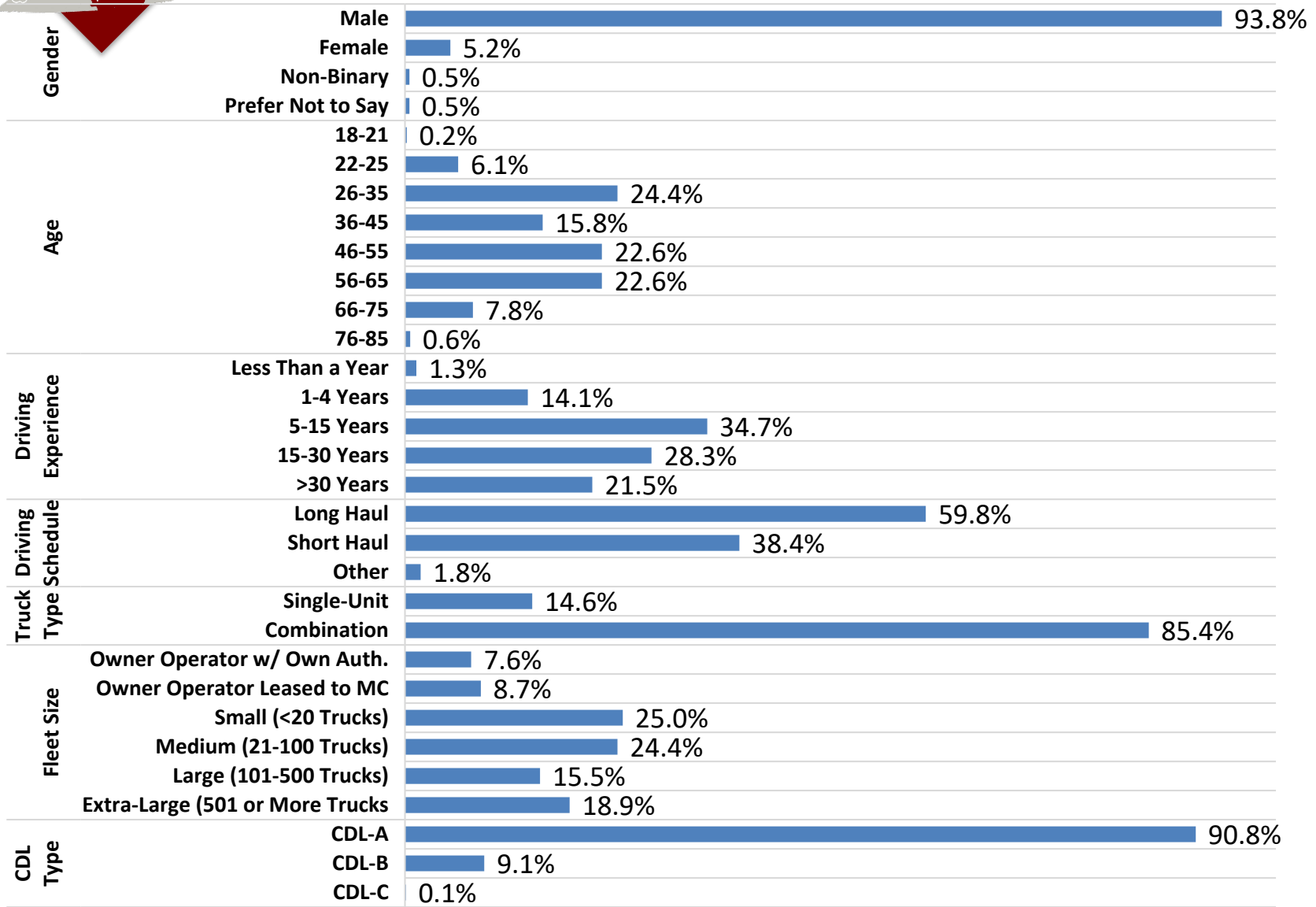
3

Consent:






The screenshot shows a web browser window with the URL <https://umassam...>. The page title is "UMass CMV Driver Survey". The UMass Amherst logo is prominently displayed at the top. Below the logo, there is a language dropdown menu set to "English". The main text of the consent form reads: "You are being invited to participate in a < 5 minute survey titled *Understanding Driving Attitudes and Behaviors Among CMV Drivers*. This study is being conducted by the University of Massachusetts Traffic Safety Research Program to examine the experiences and beliefs of professional drivers who operate large/heavy trucks. **This survey is voluntary and anonymous.** You are free to skip any question that you choose." Below this text, there is a paragraph providing contact information for the researcher Benjamin Roney-Yeager at 413-577-1035 and the HRPO at 413-545-3428, with the email humansubjects@ora.umass.edu. At the bottom, there are two buttons: "I Agree" (highlighted in red) and "I Do Not Agree".

Respondent Demographics

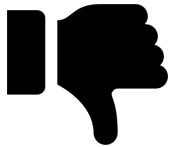
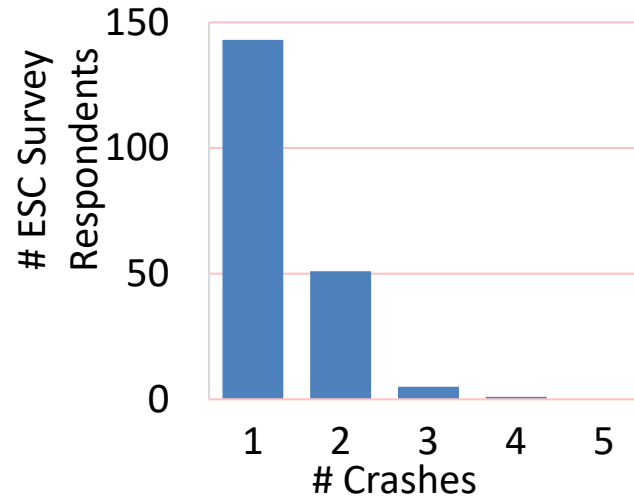
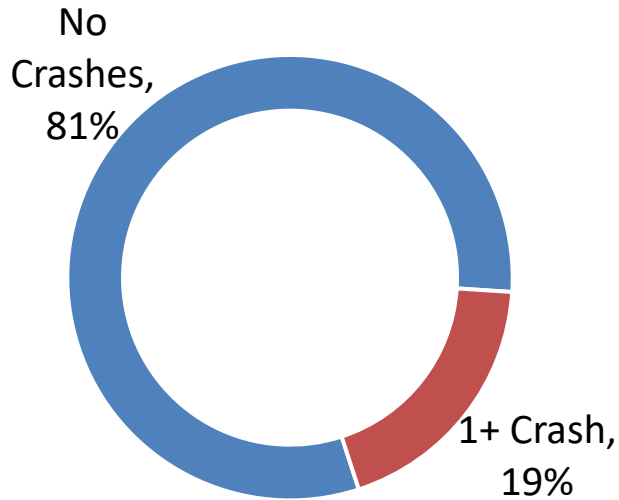


Self-Reported Driving Experiences

		
19.0%	9.4%	59.1%
Involved in at least 1 crash in the past three years	Received at least 1 moving violation in the past 12 months	Received at least 1 roadside safety inspection in the past 12 months



Crash Involvement



<----- Safety-Related Experiences ----->

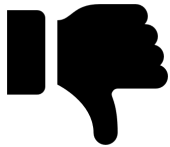
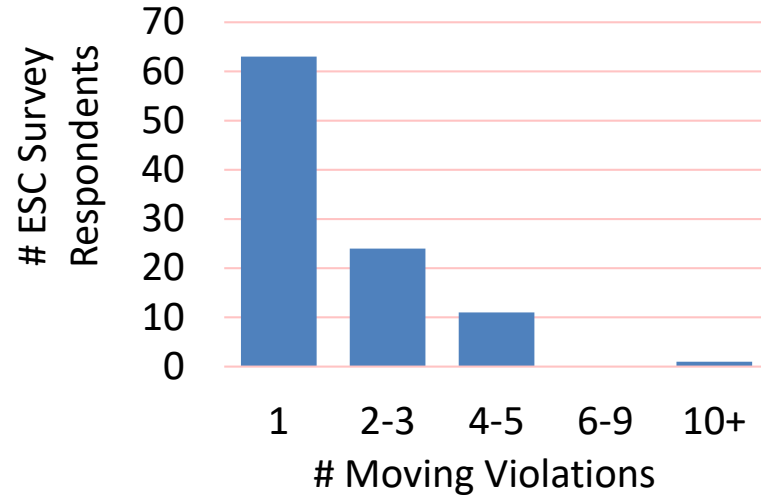
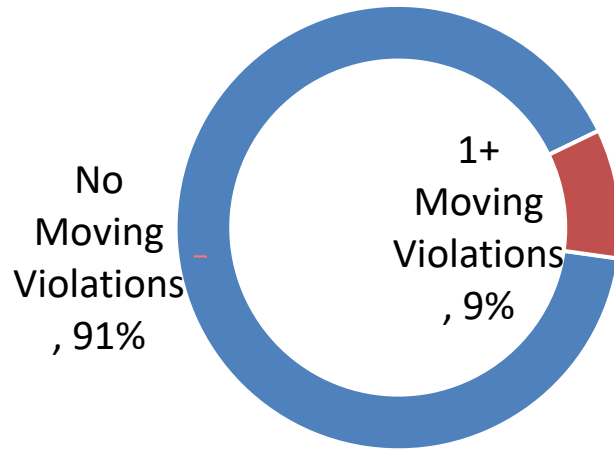


- Drivers **aged 36-45** were more likely to be involved in a crash
- Drivers with **5-15 years of experience** were also more likely to be involved in a crash

- Drivers of **extra-large carriers**, as well as **owner-operators with own authority**, were least likely to report crash involvement



Moving Violations *received in the last 12 months*



<----- Safety-Related Experiences ----->



- Drivers **aged 26-35** were more likely to report receiving a moving violation

- Drivers between **46-65 years old** were least likely to report receiving a moving violation



Drivers who reported at least one moving violation were also more likely to **exceed Hours-of-Service (HOS)**

Self-Reported Driving Behaviors

Text

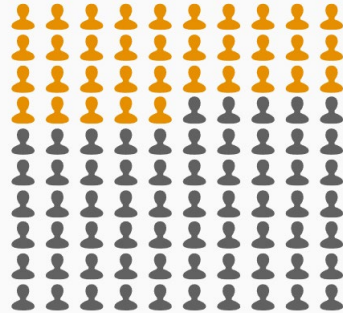


In the last 3 months,

43.6%

of large truck drivers
texted while driving

Hours-of-Service

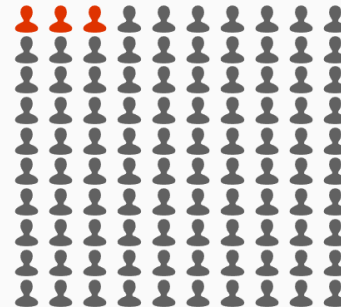


In the last 3 months,

35.4%

exceeded Hours of Service while
driving CMV large trucks

Alcohol



In the last 3 months,

3.1%

of large truck drivers
drove within 4 hours of
consuming alcohol

Cannabis



In the last 3 months,

3.2%

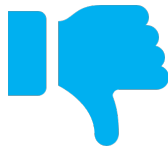
of large truck drivers
drove after consuming cannabis



Texting: Behaviors



In the last 3 months,
43.6%
of large truck drivers
texted while driving



<----- Behaviors ----->

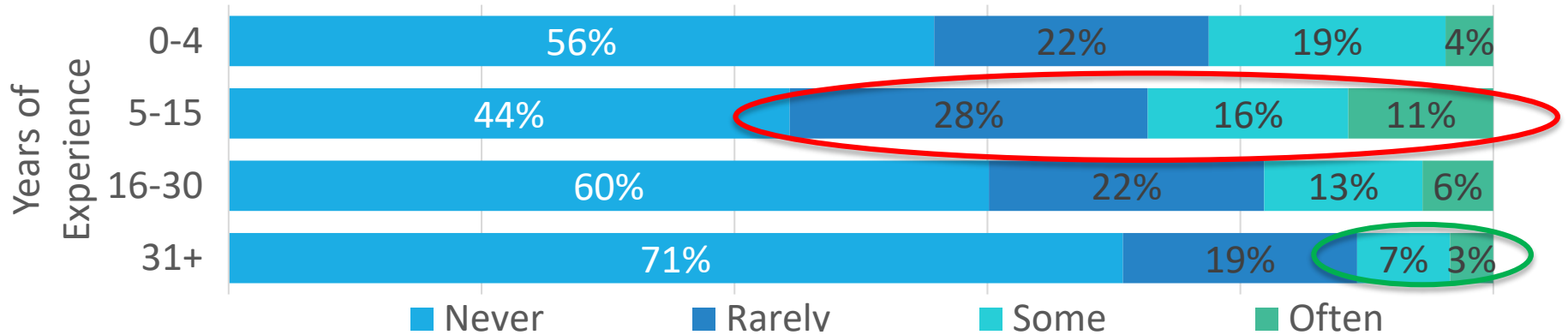


- Those with **5-15 years-of-experience** report texting while driving most often
- Drivers **aged 26-35** report texting while driving less often

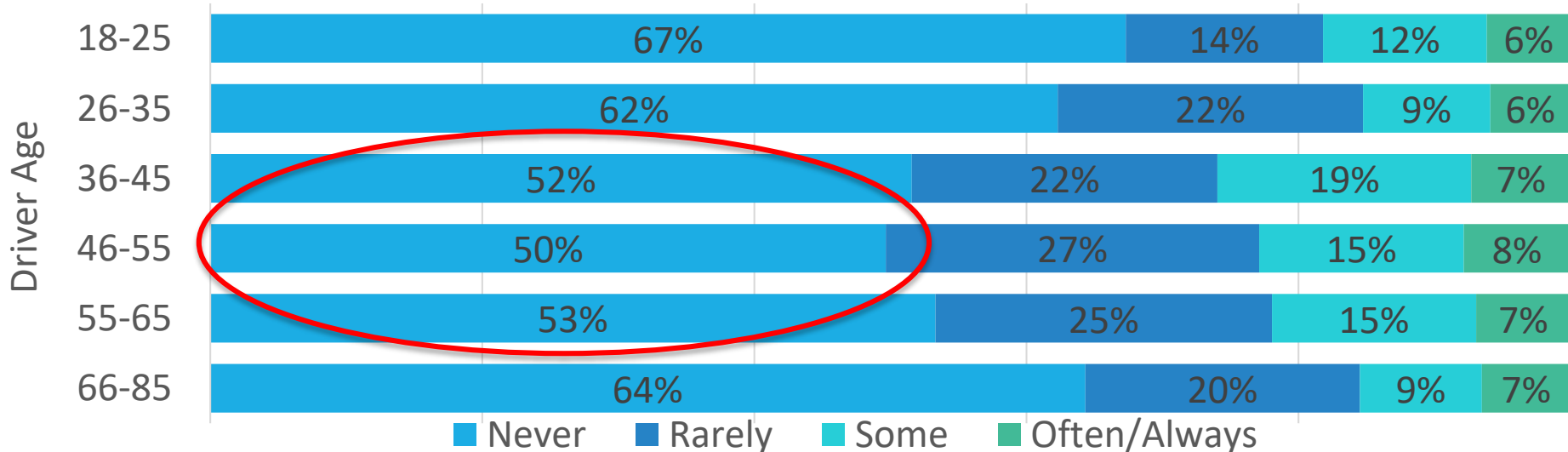


Texting: Years of Experience

Predicted Probabilities of Frequencies of Texting while Driving by Years of Experience



Predicted Probabilities of Frequencies of Texting while Driving by Driver Age





Texting: Beliefs



Crash risk increases when texting while driving

84.5%



I will be stopped by enforcement when texting while driving

68.3%



My supervisor does not care if I text while driving

9%

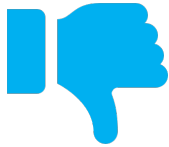
Those who reported having texted while driving, were significantly less likely to agree that...

- crash risk increases,
- police would conduct traffic stop, and
- supervisor would care about

...texting while driving



Texting: Beliefs



<----- Safety-risk Beliefs ----->



Long-haul drivers are less likely to agree they will be stopped by law enforcement for texting while driving



Drivers with more than **30 years' experience** were more likely to agree that crash risk increases when sending a text message

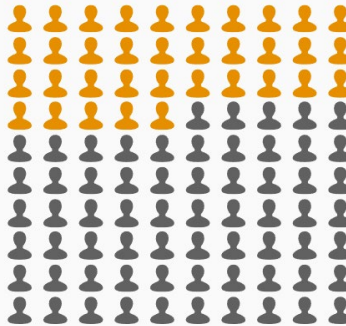
- Drivers from **extra-large fleets** (501 or more trucks) were more likely to agree that crash risk increases when sending a text message
- Those who **agree that crash risk increases** when texting while driving are less likely to report being involved in a crash



Those who **believe they will be stopped by law enforcement** for texting while driving are less likely to have been given a moving violation in the last 12 months



Hours of Service: Behaviors



In the last 3 months,

35.4%

exceeded Hours of Service while driving CMV large trucks



<----- Behaviors ----->

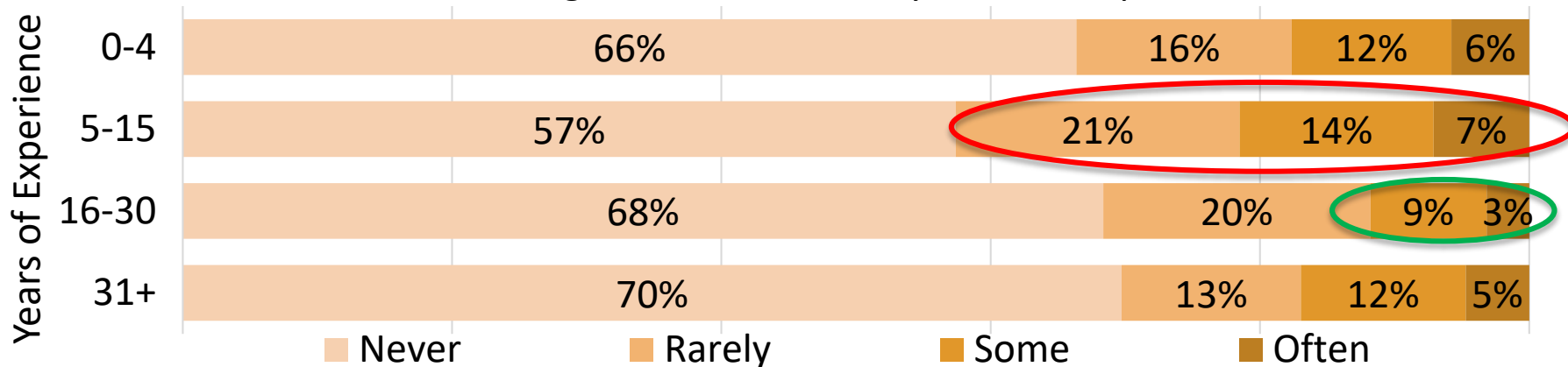


- Those with **5-15 years-of-experience** are more likely to exceed hours of service
- **Long-haul** drivers were more likely to exceed HOS
- Drivers who report exceeding HOS, are also more likely to have received **roadside inspections** and have had **crash-involvement**
- Those with **16-30** and **30+ years-of-experience** are less likely to exceed hours of service
- Drivers of **extra-large fleets** were less likely to exceed hours of service

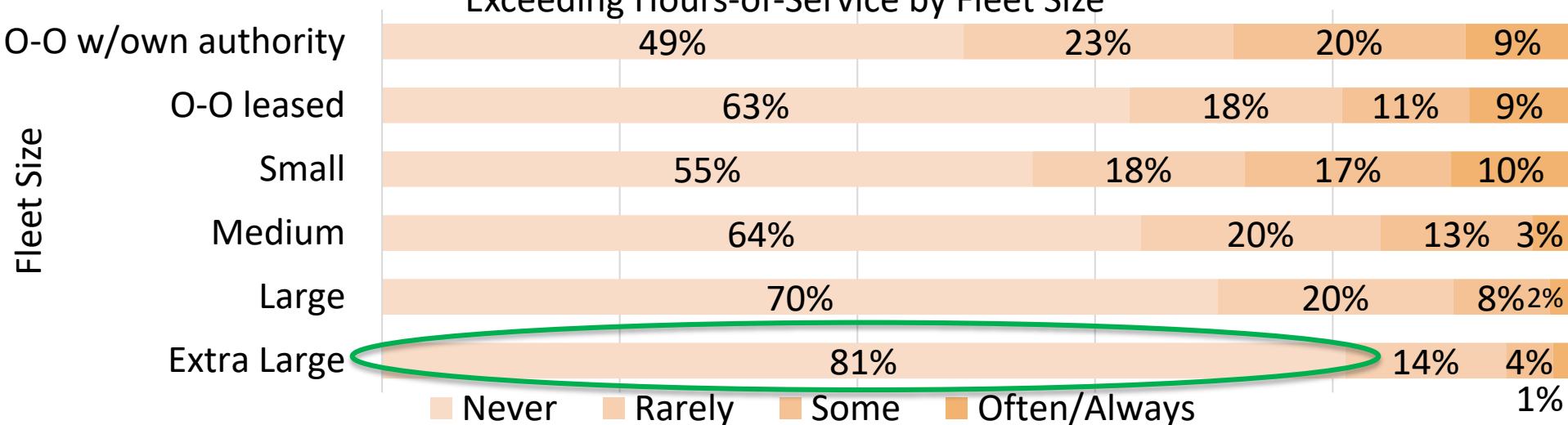


Hours-of-Service: Years of Experience

Predicted Probabilities of Frequencies of Exceeding Hours-of-Service by Years of Experience



Predicted Probabilities of Frequencies of Exceeding Hours-of-Service by Fleet Size





Hours of Service: Beliefs



Crash risk increases when exceeding Hours-of-Service

45.4%



I will be stopped by enforcement when exceeding Hours-of-Service

54%



My supervisor does not care if I drive while exceeding Hours-of-Service

14%

Those who reported exceeding Hours-of-Service were significantly less likely to agree that...

- crash risk increases,
- police would stop,
- supervisor would care

... when exceeding hours of service



Hours of Service: Beliefs



<----- Safety-Risk Beliefs ----->



Drivers **aged 46-55 & 56-65** were less likely to agree that driving while exceeding HOS increases crash risk

- **Owner-operators** and drivers of **small fleets** (less than 20 trucks) disagreed that exceeding HOS will increase their crash risk



Owner-operators with own authority and drivers of **small fleets** were less likely to believe that their supervisor cared about exceeding HOS



Short haul drivers agreed more significantly that crash risk increases while exceeding HOS

- Drivers of **single-unit trucks** were more likely to agree that crash risk increases while exceeding HOS

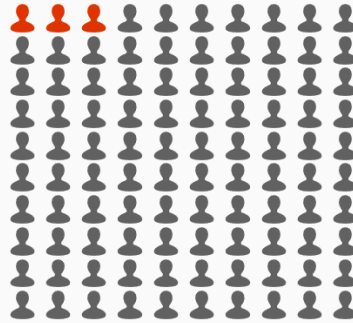


Drivers of **combination trucks** were more likely to believe their supervisor cares about following HOS

- Drivers of **large fleets** were more likely to agree that their supervisor cares about following HOS



Alcohol: Behavior



In the last 3 months,

3.1%

of large truck drivers
drove within 4 hours of
consuming alcohol



<----- Behaviors ----->



- Drivers of **single unit** vehicle types were more likely to consume alcohol within 4 hours of driving
- Drivers with **16-30 years of experience** were least likely to drive after consuming alcohol



Alcohol: Beliefs



Crash risk increases when driving within four hours of consuming alcohol

87.5%



I will be stopped by enforcement when driving within four hours of consuming alcohol

69.7%



My supervisor does not care if I drive within four hours of consuming alcohol

6.1%

Those who reported consuming alcohol before driving were significantly less likely to agree that...

- crash risk increases,
 - supervisor would care
- ... when driving after consuming alcohol



Alcohol: Beliefs



<----- Safety-Risk Beliefs ----->



Drivers **aged 46-55** disagreed that they would be stopped by police for alcohol use

- Those with more than **30 years of experience** disagreed most significantly, that they would be stopped by police for alcohol use



Those with more than **30 years' experience** were also more likely to agree that their supervisor does not care about alcohol use



Drivers of **extra-large fleets** (501 or more trucks) most significantly agreed that driving after consuming alcohol would increase their crash risk



Cannabis: Behaviors



In the last 3 months,

3.2%

of large truck drivers
drove after consuming cannabis



<----- **Behaviors** ----->



- **Long-haul drivers**, those away from home at least 6 nights per month, reported consuming cannabis before driving significantly more often than short haul drivers.



Cannabis: Beliefs



Crash risk increases when driving after consuming cannabis

75%



I will be stopped by enforcement when driving after consuming cannabis

64.2%



My supervisor does not care if I drive after consuming cannabis

5.8%

Those who reported consuming cannabis before driving, were less likely to agree that...

- crash risk increases,
- police would stop, or
- supervisor would care

... when driving after consuming cannabis



Cannabis: Beliefs



----- Safety-Risk Beliefs -----



Owner operators w/ own authority strongly agreed that their supervisor would not care about cannabis use

- Those with **moving violations** or **roadside inspections** were more likely to agree that their supervisor does not care about driving after consuming cannabis



Drivers with more than **30 years of experience** significantly disagreed that law enforcement would stop someone because of driving after consuming cannabis








Drivers with **more than 30 years of experience** were more likely to agree that there is an increased crash risk from driving after consuming cannabis

- Those with **moving violations** were more likely to agree that crash risk increases after consuming cannabis




Those from **extra-large fleets** agreed most significantly that police would stop them for driving after consuming cannabis

Cross-Theme Correlations: Impaired-Behaviors

		Drive after consuming alcohol 		Drive after consuming cannabis 	
		Yes	No	Yes	No
Drive after consuming cannabis 	Yes	1.0%	2.2%		
	No	2.1%	94.7%		
Exceed HOS 	Yes	2.8%	32.5%	2.5%	32.9%
	No	0.3%	64.3%	0.8%	63.9%
Texting 	Yes	2.8%	40.9%	1.9%	41.7%
	No	0.4%	56.0%	1.3%	55.0%

Cross-Theme Correlations: Risk Predictors



Drive after consuming alcohol 

Yes No

Drive after consuming cannabis 

Yes No

Drive after consuming cannabis 

Yes *Drivers that consume alcohol are nearly **15x** (33.3% vs 2.3%) more likely to consume cannabis*

No

Exceed HOS 


Yes *Drivers that consume cannabis are **2x** as likely to exceed HOS (76.5% vs 34%)*

No

Exceed HOS 

Yes *Drivers that consume alcohol are nearly **3x** as likely (90.9% vs 33.6%) to exceed HOS*

No

Texting 

Yes *Drivers that consume alcohol are **2x** as likely (87.9% vs 42.2%) to text while driving*



No

Texting 

Yes *Drivers that consume cannabis are marginally more likely to text while driving (58.8% vs 43.1%)*

No





Cross-Theme Correlations: HOS & Texting

		Exceed HOS 	
		Yes	No
Texting 	Yes	24.7%	19.0%
	No	10.7%	45.6%

Drivers that exceed HOS are 2x as likely to text while driving (69.7% vs 29.4%)



Belief vs Behavior by Region

Region	 HOS	 Texting	 Alcohol	 Cannabis
ME NH VT	42.3%	6.7%	3.9%	11.7%
MA CT RI	37.1%	6.3%	4.6%	9.5%
NY NJ PA	41.7%	6.2%	6.0%	10.7%
MD DE	42.5%	3.6%	1.4%	7.2%
VA WV	46.6%	3.3%	5.5%	8.4%

Region	Drove while exceeding HOS in the past three months	Texted while driving in the past three months	Drove within 4 hours after consuming alcohol in the past three months	Drove after consuming cannabis in the past three months
ME NH VT	25.5%	29.7%	2.9%	3.9%
MA CT RI	25.9%	31.8%	3.1%	3.1%
NY NJ PA	26.6%	30.0%	3.0%	2.9%
MD DE	50.0%	29.0%	2.5%	3.8%
VA WV	50.0%	30.6%	2.5%	2.2%

Belief – % of drivers who disagree that the behavior increases crash risk

Behavior - % of drivers who reported rarely, some, often, or always engage in the behavior

Targeting Trends

Texting



Ages: 36-45 & 46-55

Experience: 5-15 years

Schedule: Long-haul

HOS



Ages: 46-55 & 56-65

Experience: 5-15 years

Fleet: Owner-operators
& Small

Alcohol



Ages: 46-55

Experience: 31+ years

Truck type: Single unit

Cannabis







Schedule: Long-haul

Experience: 5-15 years

Fleet: Owner-operators
w/own authority

Targeting Trends – Positive!

Texting 	HOS 	Alcohol 	Cannabis 
Ages: 26-35		Ages: 26-35	Schedule: Short Haul
Experience: 31+ years	Experience: 16-30 & 31+ years	Experience: 16-30 years	Experience: 31+ years
Fleet: Extra-large	Fleet: Extra-large	Fleet: Extra-large	Fleet: Extra-large

A map of the Eastern United States, including Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, and parts of Tennessee, Kentucky, West Virginia, and Maryland. The map is overlaid on a dark red diamond shape.

Discussion: How to Use Findings

How can we use these findings to increase efficiency & effectiveness?

- What attitudes and behaviors should we focus on?
- What do we know about changing behavior?
- What works? What doesn't?
- What programming would make a difference?
- What stakeholders need to be involved?
- What are the next steps?



Contact us!

Robin Riessman
Director

riessman@ecs.umass.edu

Jenn Gazzillo
Associate Director
gazzillo@ecs.umass.edu

Benjamin Roney-Yeager
Project Coordinator
benyeager@umass.edu