

October 18, 2018

The Cannabis Conversation

Comprehensive Report

FINAL



COLORADO
Department of
Transportation



Thank you to our partners.

"I feel like I was able to contribute a little bit to an issue that is pretty important to our state. It's exciting because many other states will look to Colorado as an example regarding [cannabis-impaired driving], so this could have a big effect. I think it's great that cannabis users were involved, and it seems like you really listened to what we had to say... I felt like my opinion was valued here."

- In-the-Moment study participant

Table of Contents

5	Executive Summary
19	In-the-Moment Study
32	Participant Introduction
39	Driving Under the Influence
47	Influences
52	4/20 Journal
56	Reactions to Campaign Materials
76	Conclusion
80	The Cannabis Conversation Survey
94	Who We Heard From
106	Norms and Beliefs Among Users and Non-Users
119	Cannabis Behavior and Patterns of Use
126	Driving Under the Influence
146	Non-Users

Please see the separate Appendix document for the survey questions and In-the-Moment study activities, and campaign materials.

01

Executive Summary

The Cannabis Conversation

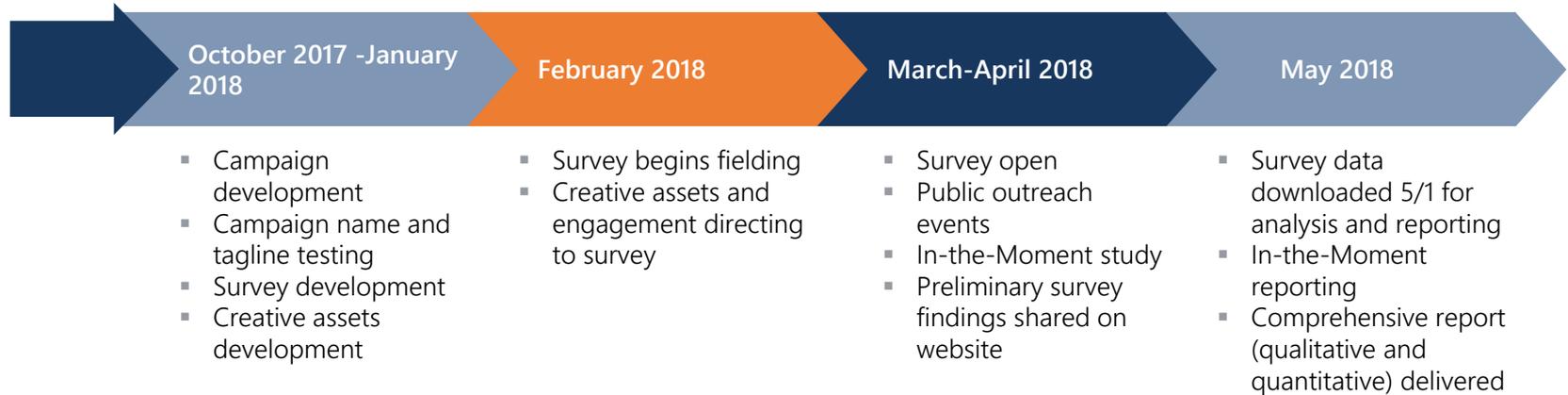
aims to engage Coloradans in a dialogue about drugged driving.

Purpose

- Colorado continues to see marijuana-involved traffic incidents that result in serious consequences. Ongoing education and outreach campaigns in recent years have successfully raised awareness for this issue, but studies show behavior is not changing and motorists are continuing to drive after consuming cannabis.
- In early 2018, the Colorado Department of Transportation (CDOT) launched The Cannabis Conversation, a statewide campaign to learn more about Coloradans' opinions about driving under the influence of marijuana.
- Through The Cannabis Conversation campaign, CDOT and partners hoped to learn:
 - Why some people drive under the influence of marijuana
 - What the public perceives as the dangers of driving while marijuana impaired
 - What would convince people not to drive high
 - Norms and opinions around driving high from multiple perspectives
- To meet these objectives, PRR designed and conducted two studies, one quantitative and one qualitative, ultimately engaging over 15,000 Coloradans from across the state.

Project Overview

FY 2018



FY 2019

Additional follow up research to be conducted in FY 2019.

Methodology

Survey

The Cannabis Conversation survey began fielding February 7, 2018. This report covers data collected through April 2018. The survey was available in both English and Spanish.

12,635 people took the survey as of April 30, 2018. Of them: 8,488 reported they had used marijuana within the last year. 4,147 respondents had not used marijuana within the last year or had never used marijuana.

The survey included questions about cannabis consumption behavior and patterns of use, norms and beliefs regarding marijuana and driving under the influence, and demographic questions.

This is not a representative, statistically valid sample of Colorado. The recruitment included purposive sampling (the survey was advertised and sent to target audiences) and snowball sampling (participants were encouraged to share the survey with others).

The survey reporting is on pages 80 – 153.

For detailed survey methodology, see pages 82 – 83.



In-the-Moment

Using Focus Vision’s Revelation software and mobile app (In-the-Moment), PRR conducted an in-depth qualitative study with 64 cannabis users. In-the-Moment participants were recruited from survey respondents interested in an additional paid research opportunity.

The In-the-Moment study fielded from March 30 – April 30, 2018. Participants were assigned eight activities over the four-week period for a total of 450+ activities completed throughout the study. Activities covered the following topics: cannabis use, driving habits under the influence, norms and beliefs regarding cannabis and driving impaired, and campaign materials testing.

Moreover, the In-the-Moment software allows researchers to engage directly with the participants, enabling follow up questions and conversations.

This is not a representative, statistically valid sample of Colorado. The recruitment included purposive sampling (we invited In-the-Moment participants from the Cannabis Conversation survey respondents). PRR invited participants who had driven under the influence of cannabis within the past year.

The In-the-Moment reporting is on pages 19 – 79.

For detailed In-the-Moment methodology, see page 23.



Approach to Terminology

- As part of CDOT's Cannabis Conversation campaign, this project seeks to engage both marijuana users and non-users in a dialogue about driving under the influence of cannabis. As such, the researchers were intentionally careful about the language used both in survey questions and when describing the results.
- "Cannabis" and "marijuana" are used interchangeably throughout this report. However, respondents also used terms such as "weed," "pot," and "MMJ." In the survey, most questions used the term "marijuana," as previous message testing had indicated it was a less formal term. However, some In-the-Moment respondents said they preferred the term "cannabis." Researchers used "cannabis" in follow-up conversations with these participants.
- Researchers often used the phrase "driving while under the influence" instead of "driving while high," because many users told us they don't necessarily feel "high" when they use marijuana. When reporting survey results, we include the question text so that terms used for each question are clearly stated.
- Researchers intentionally designed the survey to increase responses rates for sensitive and unlawful activity (e.g., driving high). For these sensitive yes/no questions, we combined certain categories in the analysis. For example, when asked whether they had ever driven under the influence with unaware passengers, 6% of respondents said "it's complicated" instead of "yes" or "no." For this report, "it's complicated" responses were combined with "yes."

Colorado's Drugged Driving Laws

Under Colorado law, drivers with five nanograms of active tetrahydrocannabinol (THC) in their blood can be prosecuted for driving under the influence (DUI). However, because there is no roadside device to detect THC, law enforcement officers—many trained as drug recognition experts—base arrests on observed impairment. Even people who used marijuana for medicinal purposes can be arrested for DUI.

Consuming any amount of marijuana before driving puts users at risk for DUI, which can cost more than \$13,500, in addition to jail time and loss of license.

Many Colorado law enforcement officers are trained to detect drug impairment. On average, more than 60 people are arrested each day in Colorado for DUI, including drugs, alcohol or a combination of both.

Key Terms

Use Frequency:

- **Users** are respondents who have consumed cannabis at least once in the past year.
- **Daily users** are respondents who consume cannabis 5 – 7 days per week.
- **Regular users** are respondents who consume at least monthly, but less than 5 – 7 days per week.
- **Infrequent users** are respondents who have consumed cannabis less than monthly.
- **Non-users** are respondents who have not consumed cannabis in the past year or who have never consumed cannabis.



Type of User:

- **Medical users** are respondents who have consumed medical cannabis. Unless otherwise noted, it may also include people who consume recreationally.
- **Recreational users** are respondents who have consumed recreational cannabis. Unless otherwise noted, it may also include people who consume medically.



Demographics:

- **Formal education** refers to the highest grade or level of school completed by the respondent. For analysis, formal education was combined into three groups: respondents with a high school diploma or less; people who have some college, trade school, or an Associate's Degree; and respondents with a Bachelor's Degree or more.
- **Latinx** are respondents who identify as having Latino, Spanish, or Hispanic origins.
- **People of color** are respondents who identify as Latinx or people who identify as being any race except White. This includes people who identify as both White and a different race(s).
- **Regions** are the geographic area residents live in based on the most up-to-date CDOT Engineering Region Map. Regions are used by CDOT to enhance customer service. [See page 99.](#)



Overall Key Findings and Recommendations: Safety Opinions

Key Finding #1

The more often people consumed cannabis, the less dangerous they considered driving under the influence of marijuana to be. Additionally, the more often they consumed cannabis, the safer they felt to drive.

- The more often respondents consumed cannabis, the more they talked about individual differences in consumption or tolerance as a mitigating factor in someone's ability to safely drive under the influence.
- About half of daily users we surveyed considered driving high to be safe.
- People who consume cannabis often rely on a gut-check to determine safety. In general, they are not persuaded by government messaging that discourages driving under the influence. Instead, they look to personal tolerance and past experience driving high.
- Respondents who consume cannabis less often or who do not use cannabis were more likely to say that driving high was unsafe.

Recommendations

Future campaigns targeting frequent users should focus on how driving under the influence of cannabis is unsafe.

- Currently, respondents reacted poorly to simply being told that driving high is unsafe because they do not believe it is unsafe. Yet many indicated that if they thought driving under the influence of marijuana was as unsafe as driving drunk, they would not do it.
- Target different audience segments with tailored messaging. Alternatively, focus on creating messaging that is effective for daily users. The daily users are the most skeptical of messages about not driving under the influence of cannabis.
- To reach people who often drive under the influence, focus efforts on discouraging people from relying strictly on their own assessment of their sobriety or past experiences driving high (e.g., providing a self-test of reaction time), waiting where they are longer before driving, or encouraging alternative modes of travel (e.g., promoting transit or ridesharing).

Overall Key Findings and Recommendations: Negative Reactions to Government

Key Finding #2

Most users are critical of laws, policies, and enforcement about driving under the influence of cannabis.

- Users were more skeptical than non-users were about legal consequences and the ability of police to enforce DUI laws regarding cannabis.
- Overall, there are polarized opinions about how to approach enforcing laws about cannabis.
 - Marijuana supporters see government policies as out-of-touch.
 - Government messaging campaigns are already reaching users who do not consume often.
 - Some respondents, typically users, discussed how other driving behaviors (e.g., drunk driving, cell phone use) were higher priority issues that deserve more attention than driving under the influence of cannabis.

Recommendations

Messages about the legality of cannabis and DUI enforcement are polarizing and largely ineffective at convincing users to not drive under the influence.

- Focusing on the illegality of driving high or threats of legal enforcement may be well received by opponents of cannabis, but not by many users.
- Avoid focusing on the role of government or law enforcement in reducing driving under the influence of cannabis.
- Instead, provide general guidelines in a non-judgmental tone about how someone would determine their impairment and what the legal and financial consequences of DUI are.

Overall Key Findings and Recommendations: Information and Credibility

Key Finding #3

Respondents generally wanted information that was credible, nuanced, and direct.

- Respondents wanted to hear about independent research on drugged driving, even when they said they were skeptical about how much influence anything or anyone had on their own behavior.
- They asked for empirical research specifically (e.g. large-scale institutional studies, preferably experiments).
- They wanted better research on detection methods, accurate ways to measure their own impairment, dosage-based guidelines for legal limits, and specific guidelines on how long to wait before driving.
- Some participants wanted to use driving simulators to be able to see the effects of driving high first-hand.
- Respondents wanted direct and credible information about the consequences of DUI. They responded favorably to messages blending tangible consequences and personal experiences. They did not like questions or messages that they felt overstated the dangers of DUI.

Recommendations

Invest in or advocate for empirical research on driving under the influence.

- Cite independent research whenever possible to reach a broad audience.
- Share information from independent studies to fill in gaps in existing knowledge.
- Choose messengers that are credible to users (e.g., dispensaries).
- Although law enforcement is a deterrent for some, police are not viewed as credible messengers by most users.
- Blend research with personal experiences when describing the safety, legal, and financial consequences of DUI.
- Avoid using scare tactics and focus on how users can be part of the solution.

Overall Key Findings and Recommendations:

Cannabis is Normalized for Daily Users

Key Finding #4

The more often respondents consumed cannabis, the more daily activities they did while under the influence of cannabis, including driving.

- The most common activities that respondents do while they are high, regardless of how often they use cannabis, are: relax, watch movies or TV, play or listen to music, hang out with people/socialize, rest/recuperate, sleep, and eat.
- People who drove under the influence typically used cannabis more often than other respondents.
- 81% of daily users drove under the influence of cannabis.
- Some respondents said they were always under the influence and considered being high to be their normal state.
- People who consumed less often tended to view getting high as a private activity or one that they primarily did with friends. These respondents typically said they wait at least two hours to drive after consuming.

Recommendations

Continue to show a wide range of people who use cannabis. Don't stereotype.

- Advertisements that focus on relaxation and low-key entertaining/fun activities should resonate with a wide variety of users.
- Advertisements that show users going about their daily lives (e.g., laundry, socializing, reading) may resonate with people who consume often.
- Don't rely on 4/20 for reaching heavy users, for many it is just a normal day. 4/20 may be a better event for reaching newer, less-experienced users who are already more likely to be open to CDOT's messages.
- Infrequent users may be easier to persuade to wait before driving, since they're already receptive to the idea of waiting out their high or letting someone sober drive.

Overall Key Findings and Recommendations: Preventing Driving while High

Key Finding #5

There are a variety of deterrents and options to help prevent people from driving while high.

- Financial consequences, legal consequences, and safety concerns were all deterrents, but participants questioned how realistic these outcomes were.
- For people who use cannabis less than daily, waiting until they are no longer high is a more popular alternative than planning ahead or driving themselves.
- About two-thirds of regular users and three-quarters of infrequent users said that they consume less marijuana when they know that they will need to drive.
- While many users have normalized driving high, most still consider whether they are safe to drive before getting behind the wheel.
 - The top considerations are travel conditions, feeling alert enough, and how recently they consumed marijuana.
 - Only 17% of daily and 7% regular and infrequent said they don't consider anything before driving.

Recommendations

Create and test new prevention messages to see what is most effective.

- Legitimize the consequences that respondents want to avoid, but currently think are unlikely.
- Create more messages about waiting longer after using cannabis before driving. For many people, waiting is more of a viable option than planning ahead.
- Consider messaging about how planning ahead can include consuming less when you know you will need to drive soon.
- Test messages that can influence or interrupt the thought process when users are determining whether they are safe to drive.

Overall Key Findings and Recommendations: Effective Messaging

Key Finding #6

While cannabis users are diverse and use cannabis in different ways, there are some distinct differences and commonalities across respondents who use.

- There were often distinctions between the beliefs and behavior of recreational-only users vs. respondents who use medicinally (regardless of whether they also use recreationally).
- Only a quarter of daily users only consume recreationally, while 60% of infrequent users only consume recreationally.
- The most common ways that users consume cannabis are (in order): smoking, edibles, vaping, and dabbing.
- Most users purchase from dispensaries.
- Yet 30% of infrequent users typically acquire marijuana as a gift from a friend and typically use marijuana at a friend's home.
- The qualitative participants provided a lot of feedback about the tone of effective messaging.

Recommendations

Be knowledgeable and talk to cannabis users like a friend.

- Use the trends of behavior to portray reality in messages and images.
- Messages focused on recreational-only vs. medical users will appeal to different groups of users.
- Budtenders and dispensaries are great messengers.
- Friends who provide gift product to their friends can also be an important influencer.
- Avoid anything that feels like a scare tactic or propaganda (e.g., damaged vehicles).
- Avoid anything that feels condescending.
- Speak to the audience like a friend, not a controlling parent.
- Lyft ads were well received and promotional/discount codes for alternative transportation are generally effective with users who consume less often.

Overall Key Findings and Recommendations: Cannabis & Alcohol Use and Messaging

Key Finding #7

Respondents considered combining cannabis, alcohol, and driving to be a bad idea. People considered drinking and driving to be worse than driving under the influence of cannabis.

- Most user-respondents do not typically drink alcohol when they use marijuana.
- However, infrequent and regular users were more likely than daily cannabis users to consume marijuana and alcohol at the same time.
- Respondents overwhelmingly considered drinking and driving to be more dangerous than combining alcohol and marijuana. However, about a third of infrequent users said that both are equally dangerous.
- Users wrote about how they consider alcohol to be the main determinant of impaired driving, not marijuana. Even where someone consumed both, users considered alcohol to be the cause of car crashes.

Recommendations

Keep users engaged by talking strictly about driving under the influence of cannabis and backing up claims with evidence.

- Do not equate driving drunk with driving under the influence of marijuana.
- Instead, provide messaging that isolates the direct effects of cannabis, if possible.
- Elevate independent research that shows the increased risk of driving under the influence of both cannabis and alcohol, and other polydrug use.

Overall Key Findings and Recommendations:

Passive Passengers

Key Finding #8

Passengers are another possible messenger, if they are empowered to speak up.

- People who drive under the influence often expect passengers to intervene if they feel unsafe, but passengers generally do not speak up even when they are uncomfortable.
- More than half of respondents who had used marijuana previously, but not within the past year, said that they had been a passenger with a driver who was under the influence of marijuana.
- Respondents who had been a passenger with a driver who was under the influence said that they had felt worried, annoyance, or anger.
- About a third of non-users had previously declined a ride from someone who was under the influence of marijuana. In those instances, they typically got a ride from someone sober, drove themselves, or drove the vehicle of the person who was under the influence.
- Most who declined a ride from a high driver said it was a disruption.

Recommendations

Start a conversation with people that builds awareness and helps passengers insist on a safe ride home.

- There is an opportunity to validate people's concerns about drivers who are under the influence of cannabis.
- Provide people with concrete facts about the risks of being a passenger when the driver is under the influence of marijuana.
- Provide people with a way to decline a ride from friends or family and discourage them from driving high.
- Encourage everyone, drivers and passengers alike, to plan ahead for a safe ride home if the driver plans to consume cannabis.

02

In-the-Moment Qualitative Research

Study conducted March 30-April 30, 2018

In-the-Moment Limitations



Findings for the qualitative responses were not intended to be generalizable to the entire Colorado population, so the results should not be used that way.

Due to recruitment methods, this is NOT a representative or statistically valid sample of Coloradans. Generalizing to the entire population of Colorado was not a goal for this study, and using these data to do so would be inappropriate.

- The recruitment included purposive sampling (the survey was advertised and sent to target audiences) and snowball sampling (participants were encouraged to share the survey with others). These audiences were invited to complete the Cannabis Conversation survey, and a smaller audience who reported driving under the influence of cannabis was selected to participate in the paid qualitative research.
- Not everyone who lives in Colorado had an equal chance of being selected for this study. Instead, people who were already familiar with the Colorado Department of Transportation (CDOT) were more likely to learn about this study and participate.

The target In-the-Moment participants were people who drive high, as well as people who CDOT could effectively reach with specific outreach methods (e.g., public meetings, advertisements). Generalizing these data to the group of people who both drive under the influence of cannabis and that CDOT can effectively reach with these outreach methods would be a justifiable use of these data.

Qualitative research methods like this In-the-Moment study are helpful for developing a relationship with participants over time. A strength of these methods is to reveal unexpected issues or collect detailed feedback about the ways participants think about certain behavior (e.g., driving high). In-the-Moment is best suited for analyzing deep reflections from a specific group of people.

- In-the-Moment research is not helpful for hearing from thousands of people about a topic.
- This method was not designed to allow for purely anonymous participation because participants needed to provide some information to be paid for their time.
- The longer time commitment of this method may limit the group to those with the capacity to participate. Although most weekly activities were short, the fact that there were new activities each week affects who may have the time, energy, and desire to participate. The prorated compensation was designed to address this additional work for participants.

In-the-Moment

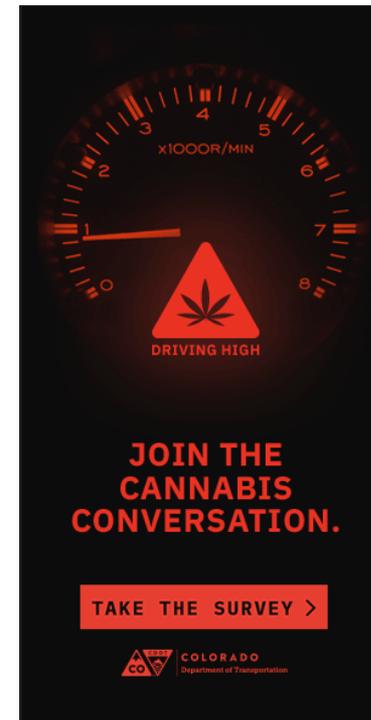
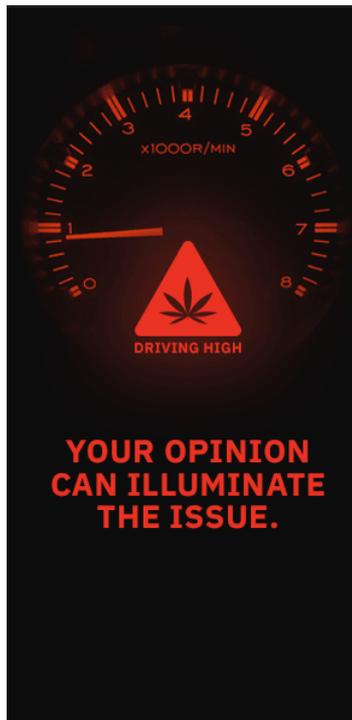
facilitates direct interaction with study participants.

Purpose

- PRR conducted a qualitative study using Focus Vision’s Revelation software (In-the-Moment), to glean deeper insight into why people drive high and what might motivate them to stop.
- Through the qualitative study, CDOT and partners hoped to learn:
 - How people talk about cannabis and driving high—specifically, the language they use
 - Whether and how people plan to avoid driving high
 - People’s thought-processes (or lack of) before driving high
 - Reactions to a variety of past and current campaign materials
 - How users feel about 4/20, what they do on this day, and how they get around
 - Who are trusted messengers to cannabis users
- Conducting a qualitative study allowed for more in-depth responses than the quantitative Cannabis Conversation survey. Rather than checking a box, for instance, participants responded in sentences and paragraphs, resulting in much richer data. The Revelation software also allows researchers to read responses in real-time and respond directly to participants with follow-up questions.
- A qualitative approach was ideal for answering questions about how people perceive and understand the world because it allowed participants to share open-ended, nuanced, in-depth responses. This approach was ideal given that cannabis consumption can be a sensitive and stigmatized topic. The software allowed researchers to build a trusting relationship with participants of the month-long study by messaging them directly.

Recruitment

- PRR recruited participants from a pool of 1,400 survey respondents who indicated interest in participating in a paid research opportunity.
- Our goal was to hear directly from Coloradans who drive under the influence of cannabis, so the qualifying criteria were: live in Colorado, use marijuana at least once a month, and drove after using marijuana at least once in the past year.
- PRR selected a sample of 203 people to be invited to the In-the-Moment study. Researchers purposively selected participants to ensure a diverse and somewhat representative group of Coloradans based on demographics, including: region, age, gender, race, household income level.
- Ultimately, 64 participants joined the study and completed at least one activity.
- While most participants did not work in the cannabis industry, five worked in the industry at the time of the study and another five worked in the industry prior to participating in the study.



In-the-Moment Methodology



Using Focus Vision's Revelation software and mobile app, PRR conducted an in-depth qualitative study with 64 cannabis users. PRR specifically reached out to those who drive under the influence of cannabis.

- The In-the-Moment study fielded from March 30 to April 30, 2018. Researchers assigned eight activities to the participants over the four-week period covering topics from their cannabis use, driving habits, norms and beliefs regarding cannabis and driving, and campaign materials testing. Overall, participants completed over 450 activities throughout the study.
- The In-the-Moment software also allows the researchers to engage directly with the participants, enabling follow-up questions and conversations.
- Participants received compensation for their involvement. Payment was prorated based on the number of activities they completed, up to \$100 total.

Spanish language participation—

- The study was available in both Spanish and English. PRR invited all 19 Spanish-speaking survey respondents who qualified for the study to participate.
- Two Spanish-speaking participants joined the study, although one asked to be switched to the English segment. Therefore, one person completed the study in Spanish. A Spanish-speaking PRR researcher read and responded to that participant's activities.
- The Spanish-speaking participant received the same questions as the English-speaking participants, except for questions about campaign materials since many of CDOT's materials were only created in English. Instead of completing three activities testing campaign materials, this participant completed one activity with Spanish-specific advertisements.

Analysis: How to Read Findings in This Report

Here are some guidelines for how to interpret the words and sections on the pages.

The title generally summarizes a key finding.

Dispensaries give people information about new cannabis products, recommendations, and sometimes free products.

Here we summarize key participant insights.

Although many participants said that no one influences their consumption, some people shared they get recommendations from dispensaries.

- Some participants said they get recommendations from budtenders at dispensaries.
- Participants who work in the cannabis industry shared stories about how other industry professionals (e.g. suppliers) explain cannabis products to them. A few participants also discussed how they tell their own customers not to drive under the influence of cannabis, citing state law.
- Participants discussed both purchases and promotional products at dispensaries. People described dispensaries as a source for credible information about new products to try.

"Some of the people I am around may influence my use in the way of if they are a rec user as well then we may smoke more together, talking to people at the dispensary and spending more time there may cause me to smoke more too."

-White female, 25-34, daily user

"When I go to my dispensary I usually ask if there is anything new and interesting to try out. They usually are able to describe the effects and recommend dosing. The staff is always asking what I like and offering advise on what to try. And most of the time they are spot on."

-White male, 35-44, regular user

These boxes show direct quotes from In-the-Moment participants.

Connections link what we heard from In-the-Moment participants and survey respondents.



Connections

In-the-Moment participants' opinions about the role of dispensaries reflected the survey results. In the survey, most respondents purchased cannabis from dispensaries.

"My family, friends in social settings , I watch some Youtubers, who are stoners. Dispensaries have little influence but the budtenders help with recommendations depending on my medical needs. Like a body high and clear mind."

-White male, 35-44, regular user

Key Findings and Recommendations from In-the-Moment

Key Finding #1

Most participants drove under the influence regularly and did not see it as dangerous.

- Most participants claimed that consuming cannabis had little effect on their driving abilities, citing a high level of personal tolerance.
- They often distinguished between “experienced” or “frequent” users, who they believed can safely drive high, and “newer” or “younger” users unfamiliar with how cannabis affects them.
- Very few participants had an involved decision-making process before driving high.
- To assess whether they could drive safely, participants reported evaluating their reaction time, clarity of thought, and personal tolerance.
- Some people considered driving conditions and the places they were driving, while others took patterns of consumption (e.g., what and when they consumed) into account.

Recommendations

- Be mindful in campaign materials that people react poorly to being told they are unsafe. Many will either ignore the message, thinking it does not apply to them, or resent what they see as CDOT’s inaccurate portrayal of marijuana users.
- Provide clear messages, backed up by evidence, about what constitutes impaired driving.
- Demonstrate that marijuana similarly affects people of different tolerances and usage habits.
- Target specific audience segments with tailored messaging. Approach medical users, experienced users, and inexperienced users differently.
- Provide guidance on how to tell if you are impaired. Participants asked for guidelines, telltale signs of impairment, and even tests they could give themselves to know if they are too impaired to drive.
- Many people drove high simply because they use their car as their primary means of transportation. Spread awareness about alternatives to driving (e.g., bus, rail, and ridesharing).

Key Findings and Recommendations from In-the-Moment

Key Finding #2

Participants were generally skeptical about information presented in campaign materials.

- The majority of participants did not trust the current legal limit for operating a vehicle (5ng of active THC in your bloodstream).
- Most participants said this limit is arbitrary, overly stringent, and not based on sufficient evidence.
- A common complaint was that THC stays in a person's system much longer than alcohol, meaning that regular marijuana users and medical users may exceed the limit even before consuming.
- Again and again participants challenged the accuracy of information presented to them, insisting the conclusions were not based on facts and did not line up with their own research into the topic.

Recommendations

- Explain, and support with evidence, the 5ng limit. Address what it looks like in practice and why the cutoff is 5ng.
- Keep in mind that most people want and/or expect empirical evidence (e.g. large scale institutional studies, preferably experiments) for all claims.
- Make it clear that CDOT takes medical users' circumstances into consideration and understands the concerns of experienced users more broadly. This is a great opportunity to create a conversation, something that marijuana users are open and excited about having.

Key Findings and Recommendations from In-the-Moment

Key Finding #3

4/20 was just a normal day for most participants.

- Most participants did not view 4/20 as a holiday. However, several did celebrate the occasion by attending an event at the Civic Center.
- Participants drove on 4/20 as they normally would, with some explicitly mentioning that they drove “sober.”
- Some were concerned that more inexperienced marijuana consumers would be on the roads than usual, while others were less concerned about this possibility.
- Many participants gave inexperienced users the benefit of the doubt, assuming they would not be driving high on 4/20.

Recommendations

- Do not hype 4/20 too much. It may be a convenient focal point for outreach regarding marijuana, but most people do not see it as anything more than that.
- Keep in mind that outreach on 4/20 may be more effective for newer, less experienced users. Regular, more frequent users are less likely to engage with what they see as messaging for “newbies.” They will not be any more accessible on 4/20 than they would be on any other day.

Key Findings and Recommendations from In-the-Moment

Key Finding #4

Participants preferred a nuanced framing for cannabis, particularly an acknowledgement that cannabis affects people in different ways.

- They responded well to outreach efforts that felt respectful, collaborative, and honest. They appreciated campaigns that demonstrated an effort to engage users in a meaningful, solutions-oriented conversation about health and safety.
- Participants resented any presentation that felt hyperbolic or resembled a scare-tactic. For example, participants interpreted presenting information about alcohol and cannabis simultaneously as a scare-tactic and typically responded unfavorably.
- Most people rejected comparing marijuana to alcohol, with many immediately dismissing messages that so much as alluded to treating them similarly.
- Participants generally preferred receiving messages from “real” people and trusted messengers (e.g. dispensaries, budtenders, other users), not actors.

Recommendations

- Avoid comparing marijuana to alcohol.
- Frame the discussion in a nuanced way, considering the various effects of cannabis and leaning into the different factors involved (e.g. mode of consumption, personal tolerance, frequency of consumption, etc.).
- Focus on solutions-based discussions—users often want to be part of the solution.
- Avoid using scare-tactics—users feel like these tactics reduce their experience of using cannabis to stereotypes and hyperbole. CDOT could come across as disrespectful and/or out of touch.
- Pay attention to balancing shock vs fear. It is one thing to grab attention, it is another thing to frighten.
- Be mindful that tone matters—be a friend, not a parent.
- Disseminate information through trusted messengers (e.g. dispensaries, budtenders, other users).

Key Findings and Recommendations from In-the-Moment

Key Finding #5

Participants responded best to materials that were simple, engaging, and straightforward.

- In general, they liked campaign materials with simple, visually-engaging designs and an upbeat tone.
- Sometimes these ads were humorous, but participants also appreciated “realistic” portrayals of the risks and consequences of impaired driving.
- They tended to prefer ads that stuck to the facts (usually about financial and legal consequences of a DUI) rather than ads making a bold statement with graphic imagery. However, a substantial contingent of participants found depictions of wrecked cars very impactful.

Recommendations

- Keep messages simple and keep them positive. Ground them in scientific research, but personalize them with real-life stories.
- Outreach should feel authentic and information needs to be credible. Draw upon stories from people affected by impaired driving (either as the driver or a victim of a THC-related incident). However, be mindful that these images/stories can be triggering for people who have experienced trauma related to car crashes, etc.
- Ensure evidence speaks to marijuana’s effects exclusively. Stats that could be attributed with alcohol, other drugs, or even just fatigue are often dismissed outright.
- Embed reminders in users’ daily lives. Participants appreciated information on rolling papers, at their local dispensaries, or through free giveaways/swag.
- Continue and expand on the Lyft partnership – participants responded well to those concepts.

Key Findings and Recommendations from In-the-Moment

Key Finding #6

The legal and financial consequences of a DUI were the most effective deterrents to driving under the influence.

- There is no deterrent that can dissuade any and every user, but the fear of getting caught driving under the influence and dealing with law enforcement factored into many participants' decision about driving high.
- Participants worried about hefty legal fees, time spent in court, and blotches on their record.
- Secondary concerns included risks to personal safety or the safety of others and potential damage to personal property (i.e. their vehicle).
- Threats and "preaching" were counter-productive, making many participants feel defensive and leading them to dig their heels in deeper.

Recommendations

- Build awareness of legal and financial consequences using a matter-of-fact tone and approach.
- Educate the public about penalties—many users were unfamiliar with the penalties and only learned about them through this study.
- Avoid using law enforcement in campaign materials because they are not trusted sources of information about marijuana. Use trusted messengers (like dispensaries, budtenders, other users, etc.).
- Keep in mind that tone matters: talk like a friend, not a parent.
- Use a multi-pronged approach that leverages several possible deterrents. Messaging must be varied and multi-faceted to reach diverse audience segments.

Key Findings and Recommendations from In-the-Moment

Key Finding #7

Terminology matters.

- Many participants used the term “cannabis,” but “cannabis” and “marijuana” were generally interchangeable.
- Many participants did not consider themselves “high,” rather they said they feel “relaxed,” or even “properly medicated.”
- Participants generally described consuming cannabis: “using,” “consuming,” and “partaking.”

Recommendations

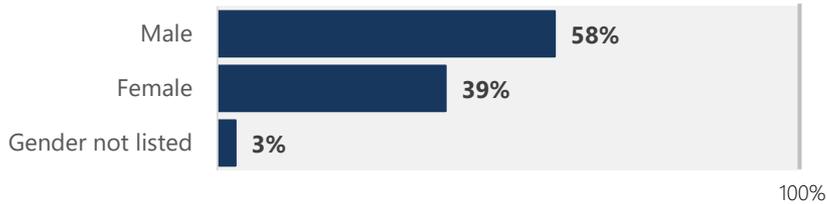
- Use these accepted terms and phrases of the industry to better connect with users.
- Use “marijuana” or “cannabis,” avoid saying “weed” or “pot.”
- Use “consume” or “partake” rather than “smoke” (although many did use “smoke” to describe their use, even if they weren’t actually smoking it).
- Use “under the influence” of cannabis, not “high” to refer to the general state of feeling the effects of cannabis.
- Avoid “driving high,” “drugged driving,” “stoned” or “impaired.”

In-the-Moment Study

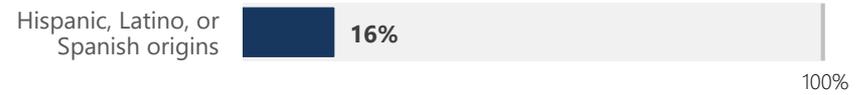
Participant Introduction

Participant Profile (In-the-Moment Respondents, n=64)

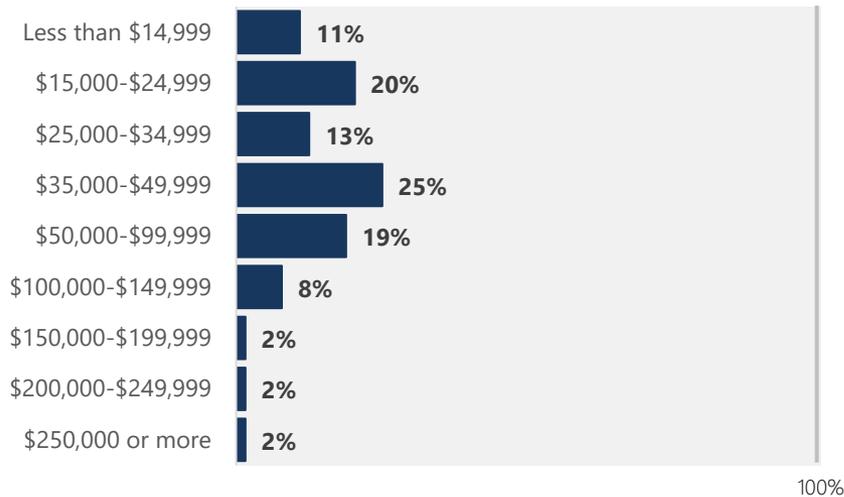
Gender



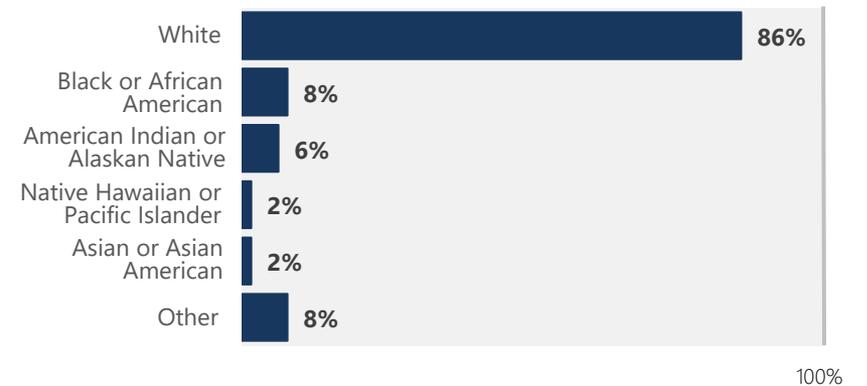
Ethnicity



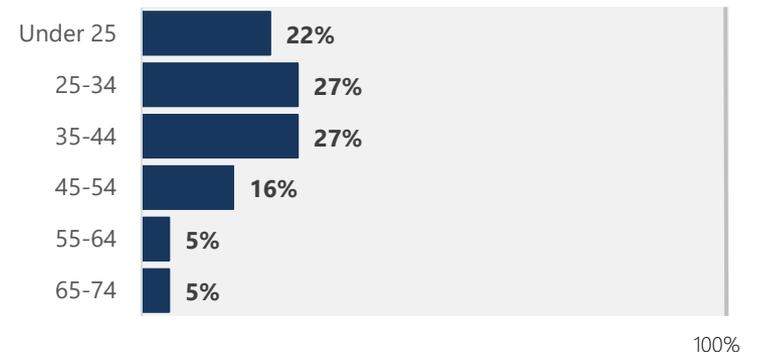
Household Income



Race



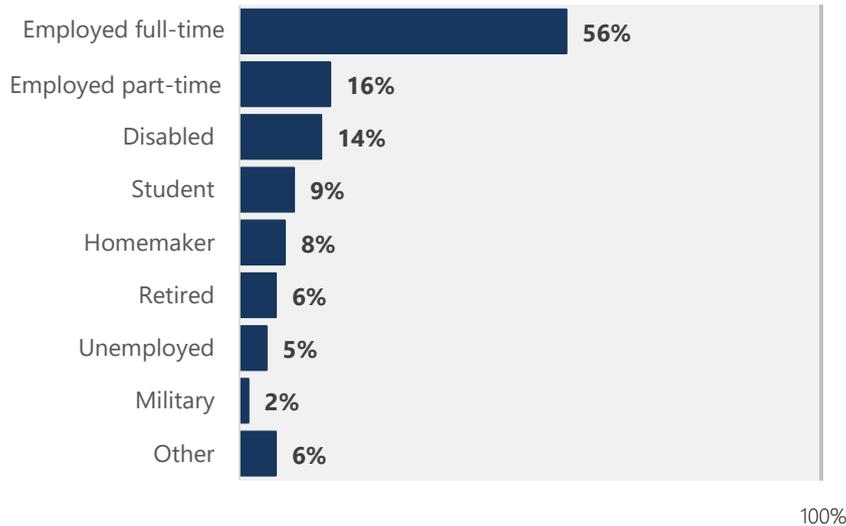
Age



- Due to rounding, or options where participants could select multiple answers, percentages may not sum to 100%. Rounding occurs on all demographic slides.
 - Findings for this report were not intended to be generalizable to the entire Colorado population, so the results should not be used that way.

Participant Profile (In-the-Moment Respondents, n=64)

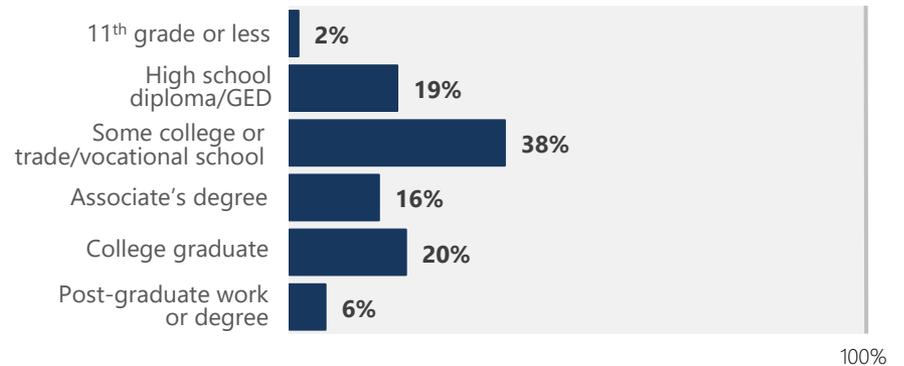
Employment Status



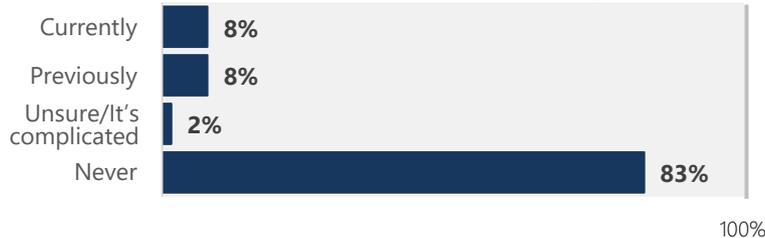
Residence Status



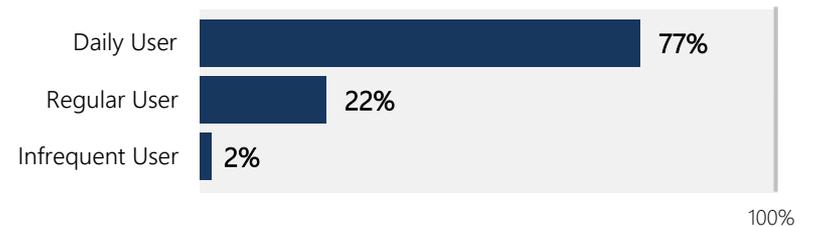
Education Level



Work in Cannabis Industry



Frequency of Cannabis Consumption

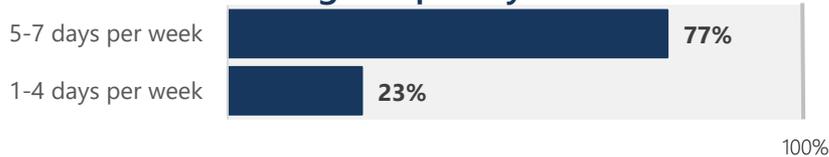


- Due to rounding, or options where participants could select multiple answers, percentages may not sum to 100%. Rounding occurs on all demographic slides.

- Findings for this report were not intended to be generalizable to the entire Colorado population, so the results should not be used that way.

Participant Profile (In-the-Moment Respondents, n=64)

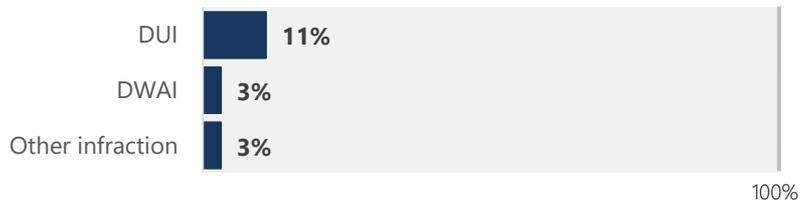
Driving Frequency



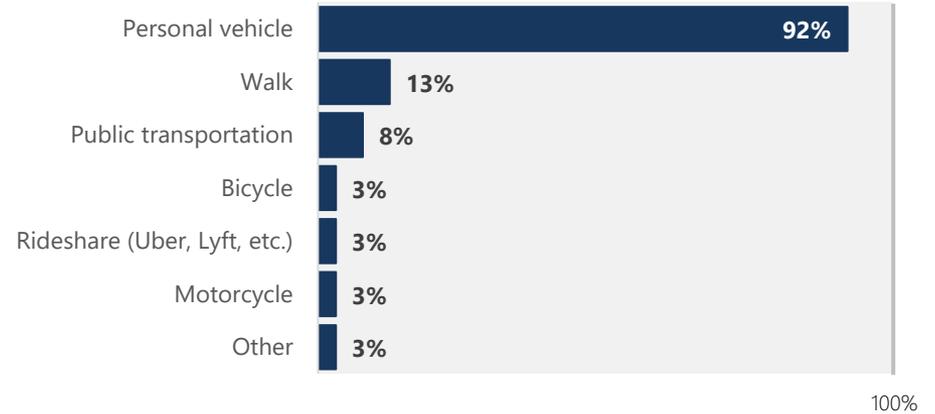
Access to a Vehicle



Ever Arrested for a DUI, DWAI



Primary Mode of Transportation



Driver's License



Includes: alcohol only (13%), alcohol and marijuana (2%), combination of drugs (2%), marijuana only (2%)

- Due to rounding, or options where participants could select multiple answers, percentages may not sum to 100%. Rounding occurs on all demographic slides.
- Findings for this report were not intended to be generalizable to the entire Colorado population, so the results should not be used that way.

Most participants were heavy cannabis users.

PRR's goal was to hear directly from people who drive under the influence of cannabis. The qualifying criteria were: live in Colorado, use marijuana at least once a month, and drove after using marijuana at least once in the past year.

Cannabis Use

- Most participants used marijuana every day, many for medical reasons.
- Many have used cannabis since they were teenagers.
- Recreational users tended to use more in the evenings and at home.
- Some medical users consumed all day (including at work).

"I use cannabis pretty much daily, in cartridge form primarily. I probably go through roughly 1 gram (1000mg) of concentrate per week. I used to smoke weed and drink socially, but once alcohol became a dependency, I didn't smoke as much during that period. I've been smoking off and on for about 8 years. Usually I'll take a couple vape hits at work, and then sometimes on the drive home, but most consumption is done at home."

- White male, 25-34, daily user

"I consume daily. I usually roll joints/blunt wraps. 1-1.5 grams in either one. I average 3 a day. I also smoke I also consume .5 grams of concentrate a week. I may consume 100mg of thc in edible form but I rarely consume edibles."

- African American male, 25-34, daily user

"Every evening. Flower that I smoke one to 2 hits. 6 months now. In backyard. All stress and anxiety melts away and I'm no longer confrontational. I take it to also help with severe perimenopause symptoms. It makes me easier to live with!"

- White female, 45-54, daily user

How people talk about cannabis:

Most participants use the term "cannabis," but some use "cannabis" and "marijuana" interchangeably.

Most common terms to describe consumption:

- Using
- Consuming
- Under the influence

Use of the word "high":

- Many say they feel "relaxed" after using and don't consider themselves "high"
- One person said she considers herself "properly medicated," not "high"

Most participants did not think driving “under the influence” was the same as driving “high.”

Driving Behavior

- Most participants said they have driven under the influence.
- Some participants said they go about their daily activities, including driving, after consuming. Others try not to drive, but sometimes do. A minority of participants are strictly against driving under the influence.
- Many distinguished between experienced or frequent users, who they believe can safely drive high, and newer users who are unfamiliar with how cannabis affects them.

"I think cannabis tolerance plays a huge factor in what "under the influence" might be. I am a heavy user, and I try to avoid driving while under the influence, but if an inexperienced user consumed a normal amount for me they would probably be unsafe to drive. But how do you quantify cannabis tolerance? The law certainly can't be "If you consume X grams per week then you can drive under the influence."

- White male, 35-44, daily user

"I have stopped myself because I have too much pain or am feeling my prescribed medications too much, but the idea of being too high on cannabis is basically comical to me."

-White male, 35-44, daily user

"I will preface this answer by defining "under the influence" as feeling the effects of cannabis, and NOT having detectable metabolites in your bloodstream."

- White male, 25-34, daily user

Participants used marijuana for a variety of reasons.

"I am a disabled veteran and a MMJ (medical marijuana) supporter. I was in Iraq 2005-2006 and as a result of that became one of the veterans on 24 pills a day. In 2008 I had my daughter and was also diagnosed with a tumor in my liver. I had chemo in 09 and got off pharmaceuticals and onto MMJ. Thanks to MMJ I can be a productive father within my disabilities. I no longer take pills to sleep and to wake up."

- White male, 35-44, daily user

"I moved back to Colorado to be near family in 2012 after I suffered a heart attack, open heart surgery, and had a baby in the same year. Cannabis has been a life saving medical need for me to treat my anxiety, depression and pain associated to my health problems. My poor heart health coupled with my sons special needs care has rendered me disabled, and now I take 12 prescription meds a day. Since it has become legal, I have stopped using controlled substances of every kind (except Ambien)."

- White female, 45-54, daily user

"I'm medical consumer. I moved to Colorado along with my son for medical cannabis. Personal responsibility is important to me. Like any chemical (legally prescribed or not) we must be responsible in its usage. My safety and safety of others is always a priority. This includes, humans animals and our natural surroundings. Be a good human!"

- White male, 35-44, regular user

"I am a conservative Christian who just got into Cannabis 2 years ago. I work in banking & real estate. I love God, my husband, my dogs, the Broncos, Zumba & sunshine.

[In June 2016] I tried 1/2 a gummy for the first time ever & felt like I had died & gone to heaven! I have used it 4-5 days a week ever since then!"

- White female, 45-54, regular user

In-the-Moment Study

Driving Under the Influence

Most participants have driven under the influence.

Most participants drove after consuming cannabis and many reported that they did so regularly. They said that when they drove high, they were in control and operated the vehicle safely. They attributed this ability to a high level of tolerance built up over time.

However, many made a point to distinguish between regular or long-term users and novices. They felt that people who used cannabis infrequently or had never used before were not capable of driving safely while under the influence because their personal tolerance would be low.

- Only a handful of people said that cannabis had no effect on anyone's ability to drive or that it actually improved one's driving ability.

Most participants acknowledged they had driven under the influence with passengers in the car. In general, it was a non-issue.

- When passengers were spouses, partners, or friends, they almost always knew the driver had recently consumed. When passengers were the driver's children, they often did not know.

Fear of getting caught driving under the influence and dealing with law enforcement was not a foolproof deterrent, but factored into people's calculations about whether they would drive high.

"I think that it's up to individual discretion. Daily users can smoke and drive perfectly fine, because of tolerance. People who smoke very occasionally would probably be too high to drive every time."

- White male, 25-34, daily user

"Honestly, I believe driving after smoking one hit or two is not that bad. Probably equivalent to being a bit tired behind the wheel. For the most part, however, I try to avoid getting behind the wheel after smoking. Not just because legal ramifications, but also in consideration of my safety and the safety of others."

- Latinx female, 25-34, daily user

"I have been smoking for 20 years, If I sit down and smoke a joint with someone who has been smoking for a short amount of time, I would be able to drive just fine [but] they would be impaired."

- Latinx female, 35-44, daily user



Connections

Most survey respondents:

- Who use often were more likely to drive under the influence of cannabis
- Agreed that driving high and drunk is more dangerous than driving high
- Rarely or never combine alcohol and marijuana

Considerations when driving under the influence

Personal Tolerance

- Personal tolerance was the primary factor cited by participants in terms of whether they could drive safely under the influence.
- Most participants argued that regular users have built up enough tolerance to drive safely after consuming; they assumed cannabis did not impair their ability to drive.
- Almost everyone gauged whether they could drive safely based on how "in control" they felt. However, few took steps to actually demonstrate to themselves whether they were in fact impaired (e.g., informal physical or cognitive tests).

Patterns of Consumption

- In general, participants were comfortable driving after smoking or vaping. Yet many were *not* comfortable driving after consuming edibles or dabs because they find these products more potent.
- The amount consumed and how recently they consumed factored into some participants' decision making about whether they felt safe driving after consuming.

Trip Characteristics

- Participants often weighed how far they would have to drive, with short or routine trips seen as no big deal.
- A few took into account the time of day; they avoided driving under the influence at night.

"A bowl/dab or two or 1000mg/THC of edibles is (safe) consumption for me. Watching how delayed their motor response is a good way to tell if a person is too inebriated to drive."

-White male, 35-44, daily user

"My personal belief is if you are only consuming cannabis, then 2 hours after indica, and 4 hours after sativa is safe to drive. Hybrid blends I wait 3 hours to drive. However, if you are also consuming alcohol or other substances while high, then it's out of my league to know when it's okay to drive."

-White female, 45-54, daily user

"I honestly think I am a better driver because I am less stressed and the traffic doesn't bother me. When I am in pain and driving my wife tells me I yell at the other cars a lot more."

-White unlisted gender, 55-64, daily user

In-The-Moment, participants rarely considered whether they should drive high or not.

Thought Process

Many participants considered themselves good drivers even when high, so they did not think much about driving under the influence beforehand.

Of participants who did go through a decision-making process, most said they evaluated whether or not they felt in control of their bodies.

- They primarily looked at their reaction times, clarity of thought, and physical indicators (e.g., motor skills, balance, and vision).
- They also took into account their personal tolerance level.

Additional considerations mentioned by participants:

- Traffic patterns: less inclined to drive when there were lots of people on the road (some avoided driving at rush-hour, others avoided major thoroughfares)
- Personal appearance: less inclined to drive with red eyes or smoke odors
- Time of day: more inclined to drive during daylight hours
- Weather: more inclined to drive during good weather
- Enforcement: less inclined to drive if they felt might get pulled over



Connections

Survey respondents who used less often generally considered how recently they had consumed before driving. In contrast, respondents who consumed cannabis often generally did not consider anything before they drove.

Like In-the-Moment participants, survey respondents generally only considered travel conditions before deciding whether to drive under the influence or not.

Planning Ahead—

Most participants said they do not plan ahead for driving after consuming.

Many participants said they avoid driving when they are impaired. The majority of these people said they turn to friends, family, transit, or ride hailing services for a ride in this situation.

Several said they usually waited until they sobered up before getting behind the wheel.

A few participants said they always plan a designated driver ahead of time.

"So my first thought is how far do I have to go and then what time of day it is. Any time during the day I'm not too worried about driving but at night is when I consider how much I have had to consume that I decide if I should stay and hang out until it wears off."

-African American, Latinx male, 18-24, daily user

Few people described an involved decision-making process before driving after consuming, but there were exceptions.

"I will do a mental check to make sure I'm aware, focused and able. Then I make sure my eyes aren't totally bloodshot and go about my business after using some Visine if needed. Red eyes might tell a cop I'm under the influence, but my driving never will. Lastly, I make sure I don't smell like I just smoked as much as I did because I know they look for it."

-White male, 35-44, daily user

"I first think about what I consumed...Then I consider how much cannabis I had based on what it was. The last thing I think about is how important whatever I want to drive to is, would there be another way to get there? Could I wait another hour and feel safer? I generally just think about how my body feels and if I feel comfortable behind the wheel."

-White female, 18-24, infrequent user

"I consider how much I smoked, over what time period and how long since I smoked last. I always wait to get where I am going before I smoke, and plan on staying for a period of time before driving again. At night, I don't smoke until I know I am [at a place] where I won't have to drive again or where I will be staying until morning... If I know I will be changing locations, I won't smoke much, if at all, until I know I will be staying in one place for a good period of time, i.e. 2-3 hours at least."

-White male, 35-44, infrequent user

"The first thing I consider is the people that I'm with and their ability to drive even without any alcohol or drugs. Then I factor in what I believe all things consumed could cause. If I believe that none of them could drive, I begin to evaluate myself. I test my reaction time, my ability to maintain balance and how my thought process is working. Then, if I believe I can operate the vehicle, I will go ahead and drive."

-Latinx male, 18-24, infrequent user

Participants agreed that driving after combining alcohol and marijuana was a bad idea. Most blamed the alcohol.

Most participants said that combining cannabis and alcohol would negatively impact their ability to drive, and many expressed strong opposition to driving after drinking at all, much less after consuming marijuana.

- Two people disagreed. One said that when they combine, it doesn't affect their ability to drive and the other said that driving drunk is dangerous, so cannabis may actually help by lessening the effects of alcohol.

There was a general sense among participants that alcohol had a stronger effect on driving abilities than cannabis. Many argued that alcohol impairs judgement and reaction times more than marijuana.

Several noted that combining alcohol and cannabis can compound the effects of the individual substances.



Connections

The survey results also reflect that users generally disapproved of combining alcohol, marijuana, and driving. Most users in the survey agreed that this would be more dangerous than just driving under the influence of marijuana. Additionally, most users rarely or never combined alcohol and marijuana.

"I believe that alcohol and driving do not mix. I think that cannabis can enhance the affects of alcohol so driving is a no-no."

-Latinx female, 35-44, daily user

"Motor reflexes and decision making is not affected in the same sense as alcohol, and many people function just fine high."

-White male, 45-54, infrequent user

"If I am also consuming alcohol, then I will not be behind the wheel under any circumstances."

-African American male, 18-24, daily user

"I don't drink and drive. If I'm drinking I usually wait at least an hour. If I'm drinking and smoking I don't drive for a few hours."

-White female, 25-34, regular user

Participants were frustrated with current DUI laws for cannabis and their enforcement.

Most participants opposed current laws regarding driving under the influence of cannabis. They did not agree with the current limits and said 5ng was too stringent.

- Five people went so far as to say that driving after consuming should be legal because cannabis does not impair driving abilities, but they were outliers.

The primary critique was that the current legal limit is not based on sufficient evidence. Many participants demanded more rigorous, scientific testing to justify the 5/ng standard.

- They argued that bloodstream THC is an inaccurate measure of impairment because tolerance varies widely based on individual characteristics (i.e. physical traits, frequency and method of consumption, and product consumed).
- They also drew on research they had done on their own or on their lived experiences to support their claim that experienced users could drive safely under the influence.
- Another common complaint was that THC stays in a person's system for a much longer time than alcohol—several weeks or months, depending on how much or how frequently someone uses.

Some said that cannabis should be treated like other legal substances, such as alcohol, prescription medications, or cigarettes. Several thought that distracted driving (e.g., texting while driving) should be a larger focus for law enforcement.

"Of course do not drive if you are unable to. However, I have not seen data that cannabis by itself has lead to fatal traffic accidents."

-White female, 18-24, infrequent user

"Stoners will wait for a stop sign to turn green. That's the worst thing. They are so overly cautious that they will drive the EXACT speed limit and stay in the dead center of their lane, because they are paranoid about cops and hurting people."

-White male, 25-34, daily user

"In my previous activities I mentioned tolerance to cannabis as a big factor, so I would like to see studies that focus on that. I don't think someone with high tolerance to cannabis should be allowed to drive while high, but I am interested to see what role tolerance plays."

- White male, 35-44, daily user

Many participants drove under the influence with passengers who knew they were high.

Generally speaking, participants drove high even when taking friends or family somewhere. Spouses and friends often knew the driver was high, but children did not. Most participants said there was not much, if any, discussion with passengers at the time.

When asked how they would dissuade someone who was too high to drive from getting behind the wheel:

- Most people said they would be upfront. They said they would tell the other person not to drive and offer them a ride home (personally or by calling a ride hailing service).
- Many described how they would have the person wait it out until someone sobered up enough to drive.
- Others suggested offering the person something to eat.
- A few would refuse to get in the car or even take away the keys.

"It is not my decision to place others' live at risk. They have the absolute right to determine if they want to subject themselves to that sort of risk. I would not appreciate, and likely would be livid about, someone choosing to so put me at risk without my knowledge and consent."

-White female, 25-34, daily user

"I got about two blocks, realized I was too high to be driving, turned around and returned to the place we left... I explained I was too high to drive, nobody else felt comfortable driving, so we all agreed to return and wait until one of us was comfortable to proceed."

-White male, 45-54, infrequent user

"I don't get impaired if I don't have a ride. So I don't get impaired unless I planned on doing it before hand. Why? Because my daughter was killed by a hungover driver that blew .01 below the limit and received almost no punishment. I couldn't live with myself if I did that to someone."

-White unlisted gender, 55-64, daily user

In-the-Moment Study

Influences

Most felt that nobody influenced their consumption, though friends and personal experiences mattered.

Most participants felt like nothing and no one influenced their consumption habits. Similarly, most said they do not talk to friends or family (with the exception of their spouse) about driving under the influence. However, when participants did name an influence, they usually listed friends (and occasionally advertisements) as their influencers.

- Participants were suspicious of government-sourced ads about cannabis that sought to influence perception and behavior. Some people viewed these ads as propaganda.
- Even when participants initially insisted that no one influenced their consumption, some people shared how they asked for recommendations from dispensaries or budtenders. Only one participant said that budtenders never influence his consumption.

Participants reported that seeing first-hand that tolerance varied from person to person affected how they thought about driving under the influence.

- The willingness of friends and spouses to drive high played a mixed role. For some participants, friends deterred them from driving under the influence, but for others friends encouraged them to drive under the influence.
- Generally, participants expected their friends and spouses to drive or intervene if they were not safe to drive.

"When I am on my own, I typically do not use cannabis. When I am around certain friends, I am much more likely to partake in cannabis use."

-White female, 18-24, infrequent user

"Yeah (my friend) sometimes drives when he shouldn't. I mentioned it & he said "I'm a veteran user" like that should matter! His attitude makes me personally MORE careful not less. Also my husband & I talk & he pretty much assumes he's driving when I'm high"

White female, 45-54, infrequent user



Connections

In-the-Moment participants expressed skepticism about the extent sources influence their consumption. In the survey, respondents who consumed cannabis often were three times more likely to say they would not believe any of the available sources.

Dispensaries gave people information about various cannabis products and, sometimes, free samples.

Although many participants said that no one influenced their consumption, some people shared they get recommendations from dispensaries.

- Some participants said they get recommendations from budtenders at dispensaries.
- Participants who work in the cannabis industry shared stories about how other industry professionals (e.g. suppliers) explain cannabis products to them. A few participants also discussed how they tell their own customers not to drive under the influence of cannabis, citing state law.
- Participants discussed both purchases and promotional products at dispensaries. People described dispensaries as a source for credible information about new products to try.



Connections

In-the-Moment participants' opinions about the role of dispensaries reflected the survey results. In the survey, most respondents purchased cannabis from dispensaries.

"Some of the people I am around may influence my use in the way of if they are a rec user as well then we may smoke more together, talking to people at the dispensary and spending more time there may cause me to smoke more too."

-White female, 25-34, daily user

"When I go to my dispensary I usually ask if there is anything new and interesting to try out. They usually are able to describe the effects and recommend dosing. The staff is always asking what I like and offering advise on what to try. And most of the time they are spot on."

-White male, 35-44, regular user

"My family, friends in social settings , I watch some YouTubers who are stoners. Dispensaries have little influence but the budtenders help with recommendations depending on my medical needs. Like a body high and clear mind."

-White male, 35-44, regular user

Participants doubted current statistics, preferring nuanced messages about driving under the influence.

Overall, people preferred a nuanced framing for cannabis and driving under the influence. Participants discussed the need for nuance in advertisement and research on driving under the influence.

- People said statistics would be helpful, but they did not trust current statistics or the 5ng/ml legal limit. A majority of participants questioned if there were additional substances or factors involved in THC-linked traffic fatalities from 2016.
- Some raised the concern that scare-tactics may be used in research or advertisements. Participants thought scare-tactics undermined advertising messages, though a vocal minority felt fear-based appeals would help people pay attention to the message.
- For people who disliked fear-based messaging, presenting information about alcohol and cannabis together was generally received as a scare-tactic that undermined the entire advertisement.

"I would like to see the research to include motor skills as well as cognitive processes determining one's ability to perform at a competent level. The combination of alcohol and cannabis together, as well as independent from each other. I also would like to see data on THC levels in the body for every day consuming and the rise and fall of levels throughout the day as cannabis is consumed."

-White male, 45-54, daily user

"Much of the research I have seen is just completely inaccurate (same as driving drunk) so I completely discredit it."

-White female, 18-24, daily user

"Research, data, and information should always welcomed. Negative or positive, I think that easily ACCESSIBLE, correct data is important for the citizens of Colorado to know. I would recommend making it fully accessible and across all platforms. Its kind of like a marketing campaign, get silly/relatable/2018 with it and I think some will respond."

-White male, 25-34, daily user



Connections

In-the-Moment participants' sentiments about the role of research and their preference for nuance reflected the survey results. In the survey, independent research was the only source of information that respondents trusted overall.

Participants considered their own personal history with cannabis when reflecting on their influencers.

"I first tried cannabis all by myself, alone, when I was 18 years old. I wanted to see what all the fuss was about. My use of cannabis is my own personal decision. No one "influences" me."

- White male, 25-34, daily user

"I have not [heard messages about not driving under the influence of cannabis], if I did I may have ignored it. Years of advertising bombardment has left me with the inert ability to mentally wander off during station breaks."

- White male, 45-54, regular user

"My use is influenced by my own need. The products I use are primarily my own choices based on trial and error. But I do try things based on advice of friends and new products I sometimes see advertised or on pages I may be following on Facebook."

- White female, 35-44, regular user

"I think I remember hearing or seeing something about [not driving under the influence] when I lived in Denver, and I thought it was absolute rubbish. It only made me feel rebellious and want to be sneakier and drive more while stoned."

- Multiple races, female, 25-34, daily user

In-the-Moment Study

4/20 Journal

4/20 was a normal day for most participants, with few exceptions.

Only some people do things differently for 4/20

- Most participants described 4/20 as a “normal” or “ordinary” day and generally did not do anything special to celebrate. However, several attended a 4/20 event at the Civic Center.
- A few people made a point to say they do not recognize 4/20 because it was not a real holiday; just a promotional plug for “weed culture.”
- People drove to get around that day; a few emphasized they only drove “sober” that day. Others said that they drove after consuming.

Most did not combine alcohol and cannabis

- Many did not consume until the end of the day when they were home. Few participants drank and smoked together or noticed people combining alcohol and cannabis on 4/20. Most leaned towards smoking only.
- Participants said that combining alcohol and marijuana (by themselves or others) tended to happen in private spaces (e.g. homes), not at public events.

No consensus on worrying about others’ use

- There was a split between participants who were concerned about other people driving under the influence on 4/20, those who were not concerned at all, and, to a lesser extent, those who worried that tourists from out-of-state would get high and drive irresponsibly.
- Many people mentioned an increase in infrequent users on 4/20, but several thought it was unlikely that people would partake and then drive just because it was 4/20.

“Just another day. Had 3 dabs before going to work, drive to work about 1/2 hr after dabs. Made it took working safe and stress free- worked 9 hours, drive home, broke open a pre rolled joint- the flower into my bong instead of smoking the joint. Did a couple dabs...as it was my Friday, I also drank a few rum and cokes at home. Safe. No Drinking and Driving.”

-White male, 35-44, daily user

“I think there is more to worry about on a Friday or Saturday Night or during the Super FOOTBALL GAME...more people will use Cinco de Mayo as an excuse to drink which make roads more risky to be on. What about St. Patrick's Day?”

-Latinx male, 35-44, daily user

“Definitely NOT an ordinary day. Had a brief business meeting in the morning then went to one of my favorite dispensaries that was having a party bus & a big sale. Then went to the 420 rally in Civic Center Park for about 3 hours, then for 4:20 & into the evening went to the International Church of Cannabis.”

-White female, 45-54, regular user

Participants did not identify with a “weed culture,” and some reacted negatively to that stereotype.

“I worked all day, so no it was just another day for me. I don't really have any desire to go out to a 420 festival anyway.”

-White male, 35-44, regular user

“I don't know of any people who only smoke on 4/20 and the few rare users I do know don't drive high anyway which is a good thing...I don't think it a valid concern and find people who are so pumped for 4/20 immature.”

-Asian male, 18-24, daily user

“I work for a CBD [Cannabidiol] company, so yesterday was the biggest sale of the year for us. If it wasn't for my job, I would not have “celebrated” 420. While it's a fun “holiday” for many people, I've always thought it was a bit silly. The holiday plays really hard into the “stoner culture” that many Cannabis users are trying to escape.”

-White female, 18-24, daily user

“Normal day. Weed culture is embarrassing.”

-White male, 45-54, daily user

Many believed that 4/20 incentivizes inexperienced or new users to consume and then drive high, but others disagreed.

Agree

"Yeah definitely, especially because it's cannabis day. So more people are likely to experiment and not have experience on how it affects them."

-American Indian or Alaskan Native, Latinx male, 18-24, infrequent user

"Those infrequent users aren't as familiar with how it affects them, vs the daily user. To daily users, 4/20 is just another day in terms of how they consume and how high they get."

-White male, 25-34, daily user

"Yes it is amateur hour just like on new year's eve with drunk driving. That is why I went straight home."

-White male, 35-44, regular user

"With this 'holiday' the smoke birds travel from Kansas Utah, Iowa, to other legal states CO, WA, CA, DC..."

-White male, 35-44, daily user

Disagree

"I think people who don't smoke are likely to not partake on 4/20. Or if they do, they likely don't feel comfortable driving and therefore won't drive."

-White male, 25-34, daily user

"I think those that don't normally drive high wouldn't do it even if it's a celebration...[and] those that do drive high will drive high on any other day besides 4/20."

-White female, 55-64, regular user

"The pot is so strong now that if anyone who doesn't smoke it regularly is not going to be able to find their car, let alone drive."

-White female, 45-54, daily user

"I don't know of anyone that has decided on 4/20 to partake the first time. It's more of a celebration for those already consuming."

-White female, 35-44, daily user

In-the-Moment Study

Reactions to Campaign Materials

Overall Guidelines for Media

Back up claims with research and personal stories

- Statistics and consequences help the case against driving high, especially when presented together.
- Real-life stories about the impact of driving under the influence personalized risks and consequences for participants.
- The reaction time statistic was controversial; many people did not believe it and consequently rejected the entire ad as biased.



Keep it simple, keep it positive

- Simpler ads tended to be received better.
- Participants appreciated ads such as the Cannabis Conversation poster that demonstrated an effort to engage users and showed respect for their opinions.
- People liked ads focused on fun things to do or see while high, such as the outdoors, parks, restaurants, and movies, whereas ads interpreted as condescending or preachy were viewed as ineffective or downright insulting.
- Bold imagery or messages, such as images of crushed or flipped vehicles, were criticized for going overboard or feeling hyperbolic.



Balance humor and seriousness

- Overall, people preferred fun, humorous, or visually engaging ads.
- No one explicitly said that humorous ads would change their behavior, but some mentioned that these ads sparked conversation between users.
- A couple of participants stressed the importance of having a mix of humorous and serious ads so that the message does not get lost and CDOT does not appear to make light of a serious issue.



Make it relevant to recreational and medical users

- Target just one audience and the other tunes out.

Talk to cannabis users like a friend, not a parent.

Incentivizing Alternative Options

Money Talks

Discounts for rideshare and Carshare services appealed to most participants.

One reason people drove under the influence was because they didn't have money for cab or rideshare fare.

Many said that having affordable alternatives (e.g. cheaper food delivery, free or discounted rides) would reduce the motivation to drive after consuming.

Work Through Trusted Networks

Dispensaries, head shops, and budtenders would be effective ambassadors because they are trusted sources on safe consumption.

Disseminating information through these channels means people who are not seen as having a vested interest or bias are advocates in CDOT's campaign.



Deterring Driving Under the Influence

Fear of Legal Consequences

The threat of enforcement, such as a DUI or jail time is an effective deterrent, but people have to think these consequences are likely to happen to them for it to work.

Field Tests

Some participants wanted to know more about how to tell if they were high.

They wanted more information about how to judge impairment so they wouldn't have to use their judgement in the moment.

Safety Concerns

People were concerned about jeopardizing the safety of themselves and others

They also worried about loss of personal property, such as their car.



Technical Considerations



Videos

Videos are more engaging than static pictures.



Advertisements

Shorter ads with fewer words are more effective.



Promo Codes

Short promo codes are easier to remember and use.



Cannabis leaf

Some people used the leaf image to determine if they should look at the ad or scroll past it.



Humor

Overall, people like fun, humorous, or visually engaging ads the best.



GIFs

GIFs do not play well on all devices.



Fonts

Font sizes should be easy to read on small screens.

A keen eye towards these elements will go a long way with media consumers.

Social Media Favorite: “320 Movement” Campaign

It looked great and seemed less biased.

At the end of the materials-testing activities, participants were asked which was their favorite. These slides outline the favorites and least favorites.

- Participants responded favorably to the website’s clean design and easy-to-read information. They did not view it differently from other advertisements, occasionally referring to the landing page as an ad.
- A few participants described this ad as objective, meaning it offered facts and a solution rather seeming biased against cannabis users.
- Since not everyone was familiar with the 320 movement, ads referencing the movement confused some participants.
- A few participants mentioned that planning a ride an hour ahead is unrealistic.

*“I’d like the 17% figure to be narrowed to show the amount that are *only* marijuana-related.”*

-White male, 25-34, daily user

“I like the designs and they saying of enjoy the ride if your high because it is nice to be able to relax after smoking and not have to worry about police and have to pay attention to road signs and traffic...it is already a great ad with a promo code so people are encouraged to use Lyft instead of drive.”

-Asian male, 18-24, daily user

“I liked the 3:20 home screen the best, as it was functional and included everything it needed to demonstrate the seriousness of the issue as well as ways to get around driving while intoxicated.”

-White female, 18-24, infrequent user



*COLORADO STATE PATROL

Social Media Runner-Up: “A DUI will ruin your high”

It was catchy and impactful.

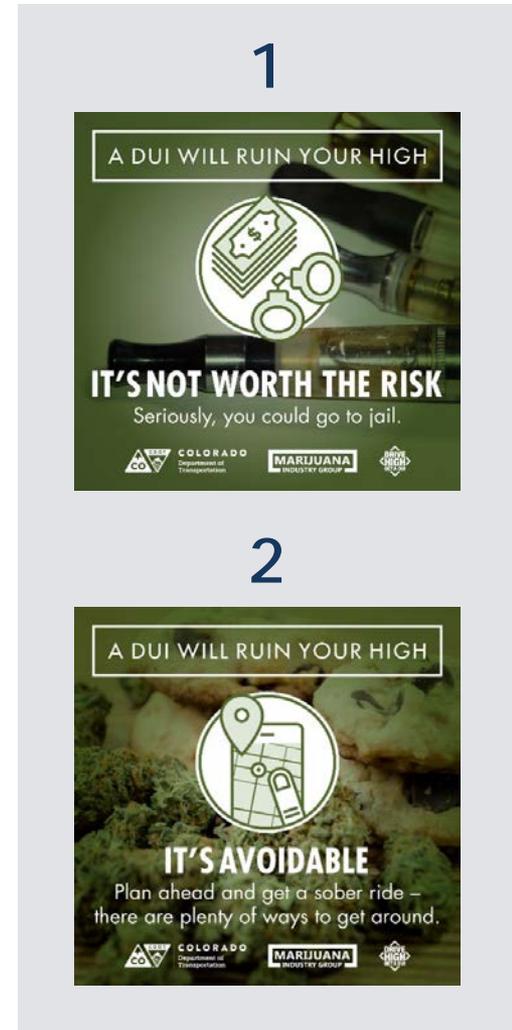
- Many participants liked this campaign’s tagline, “A DUI will ruin your high” because it rhymed.
- Generally, participants liked the “It’s not worth the risk” ad the best out of all the ads in this campaign because it had the strongest impact on them, either because of the messaging or the eye-catching aesthetics.
- The message “It’s avoidable” was also well-received, but more people had nuanced feedback about the ad’s design.
 - The image in the “It’s avoidable” ad of what appears to be a phone and finger caused confusion because it seemed to implicitly condone distracted driving.
- One person learned that jail time was a consequence because of these ads and suspected that others might not be aware either.

“It shouldn't say a DUI will ruin you high, it'll ruin a lot more than that, your day, your week, your month, and you possibly could feel the negative effects for the rest of your life.”

-White male, 18-24, daily user

“I liked the first one, it reasonable and speaks to an individual with intelligence and respect, the rest are typical negative threat propaganda we've seen forever.”

-White male, 45-54, infrequent user



Social Media Runner-Up: “A DUI will ruin your high” Campaign (cont’d).

- Several participants criticized the background for the “It’s illegal” ad, which showed gummy bears. They felt that the candy imagery in the ad targeted youth, and they disliked this strategy. However, a few other people liked the ad because it felt youth-targeted.
- The message “It’s unsafe” was not well-received because most people insisted that they are safe drivers.
- Some people wanted the ads to state that people should wait before driving (instead of not driving at all).

“I don't like that they assume you have a slower reaction time. I do like the idea of spending money over a ticket...No one wants a DUI or to have to waste money on a ticket...There are plenty of things that make you an unsafe driver, but it is definitely not cannabis.”

-Native Hawaiian or Pacific Islander, Latinx female, 18-24, daily user

“The one with the Gummi bears should be changed. Just because they were so aggressive about not allowing the industry to have child appealing shaped gummies.”

-American Indian or Alaskan Native female, 18-24, daily user

3



4



Social Media Third Place: “Plan a Ride” Campaign

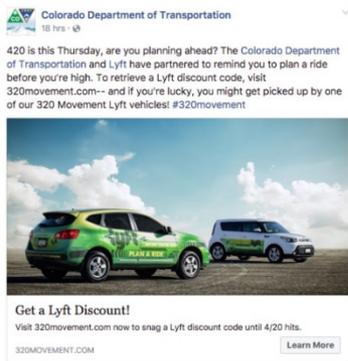
It was simple and effective.

- The Facebook post from a music festival (1st place), was the favorite among the “Plan a Ride” campaign; the post was considered the simplest ad yet still effective.
 - Some mentioned that the Facebook post looked less like direct advertising than the rest of the campaign, which participants said made it more effective because people tend to ignore what they think are ads.
 - One person suggested tailoring the post to be more about the performers at the festival.
- The last ad (4th place), with a sporty close-up of a 320 Movement vehicle, was also well-received.
- Some preferred ads from this campaign because they did not stigmatize cannabis use or blame users in any way. These participants also said the ads were solutions-focused and helpful.
- A few participants thought these campaign materials looked too much like car advertisements.
- One person strongly disliked phrases involving “lucky” because it diminished the importance of safety.
- Someone mentioned that rideshare services are less available outside of Denver and Boulder and in the middle of the day.

1st place



2nd place



3rd place



4th place



Least Popular Image: 320 Movement GIF

Participants said it did not work well with their devices.

- Many participants' devices did not display this series of images properly. Some had to click on the GIF or open the image in a new window to view the series of images. A few participants were not able to view the GIF even after consulting with technical support.
- The participants who were able to view it generally felt the ad was simple, a few remarked that it was plain. Some suggested selecting a different shade of green or adding a cannabis leaf to reach the target audience.
 - A few people suggested increasing the speed of the GIF so that viewers could recognize it is an ad.
 - Some suggested adding more information about the financial consequences of driving under the influence to highlight how the Lyft promotion is a good deal.

"It's confusing. It's just banking on the idea that someone will be curious of what the 320 movement is, and click the ad. If I saw this, I'd keep scrolling, or even hide the ad and block CDOT."

-White male, 18-24, daily user

"I like it, but the gif needs to change between images faster. I would not have even known if was a gif if the question didn't say."

-White female, 18-24, daily user



Favorite Ad Campaigns

Cannabis Conversation Poster

- Fifteen people said this was their favorite ad. They appreciated the campaign's positivity and effort to engage users in a solutions-oriented discussion.

420 mile marker campaign

- Eleven people said this was their favorite ad. They liked the game aspect of finding and collecting the mile markers as well as the discounted Lyft rides.

Images of crushed cars

- Six people picked an ad showing a crushed car in the shape of a joint or said they liked ads showing crushed cars.

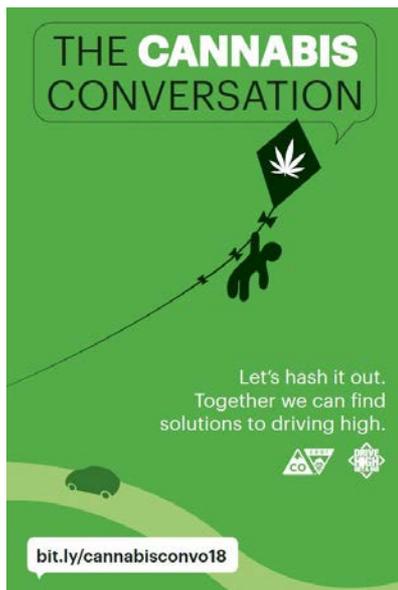
"Honestly, that whole Lyft idea is genius!"

-American Indian or Alaskan Native female, 18-24, daily user

Critics—

A handful of participants (3 total) said they disliked all the ads because they thought they were out of touch, hyperbolic, or unconvincing.

1



2



3



Most Effective Ad Campaigns

When asked which ads they thought would be most effective, participants emphasized themes or content of the advertising, rather than referencing specific ads.

Here are the important takeaways:

- Rather than discouraging a behavior outright, ads should focus on providing facts and information about impairment, risks of driving high, and legal consequences of getting caught.
- They should be realistic more often than humorous, but not necessarily threatening (although three people thought this direction would be effective).
- They should offer solutions and provide people with alternatives rather than just telling them to not do something. The prospect of discounted Lyft rides was very popular.
- They should be framed as reminders, with an honest tone and a straightforward approach.
- Arresting images have an impact, especially crushed cars.

Critics—

Several participants (8) did not think that any of these campaigns would be effective, either because they disliked the ads themselves or because they thought that users would not be swayed by messaging in general.

*"These ads are a great start, promoting actual FACTS of the use of Cannabis. In these facts, it should be included that 'not everyone has the same reaction to Cannabis, but everyone will face the same legal consequences,' just to nip in the bud anyone that thinks they're *above* these issues just because they believe they're a wonderful driver while high."*

-White female, 18-24, daily user

"I think the last one [the crushed car handout]. It's unapologetic. It's not trying to be cool to catch the stoners attention. If anything, it's a slap of reality in the face."

-White female, 45-54, daily user

"If you want to get peoples attention, grab them by the wallet...the one thing that crosses all genres is the love of and need for money..."

-White male, 55-64, daily user

Ads Seen as Solutions-Oriented

"This [postcard] I like a lot. Many people are unaware that they can get a DUI for being high just like being drunk and this makes that clear. Also makes the Lyft discount offer clear as a solution."

-White male, 45-54, daily user

"The possibility of finding a free Lyft ride would...dissuade people from using Cannabis and then get behind the wheel."

-White female, 18-24, regular user

"I finally think [this Lyft concept] will be effective...without the discount people will drive their cars 100%. With the discount...people MAY consider an alternative."

-White male, 25-34, daily user

"I like [the Lyft code]...Solid deal that would make me want to take an uber/lyft."

- White male, 25-34, daily user

Ads Seen as Honest and Straightforward



"Overall I like the idea [of rolling papers]. It's right there in front of a persons face just before they smoke Marijuana."

-White female, 55-64, regular user



"I think [the rolling papers] are straight to the point, but you're gonna run into people like me who will say 'nah I'm fine.' The downside is they may not be fine and end up like this."

-African American male, 25-34, daily user



"I feel like giving people handouts at a dispensary is a great way to reach the target audience. I feel like most people would at least read the handout the first time they got it...it's simple and honest, it isn't advertising anything."

-White male, 35-44, daily user

"Buzzkill is better, gets right to the point. The second looks like it says DOPE which we know cannabis is not. I would give it right back so they can recycle it."

-Latinx male, 35-44, daily user

Visually-Engaging Ads



"The crunched up car always make an impact! But you should change up the photos every so often (show DIFFERENT crunched up vehicles or whatever). Cuz it's like the cancer warning on cigarettes- you take notice the first time or 2 then kinda don't notice anymore. Like for repeat purchase."

White female, 45-54, regular user



"If I saw [the installation] in real life I'd definitely stop to read since on first glance I didn't realize it was a car and found it intriguing."

-White female, 18-24, regular user



"My favorite is the NOPE one. It has great graphics and is very eye catching to me."

White female, 55-64, regular user

Favorite Video: “Playing Basketball High is Legal” Ad

Participants said it was funny, but some felt it was out-of-touch.

Participants’ favorite video showed a group of guys waiting for their friend to shoot a free throw. This ad was generally well-liked and was selected as the favorite or most effective most often.

Participants who liked this ad considered it to be both entertaining and to have objective facts. Some participants wanted more ads like this one but in different settings (e.g., grocery store checkout lines).

However, participants who disliked this ad strongly disliked it.

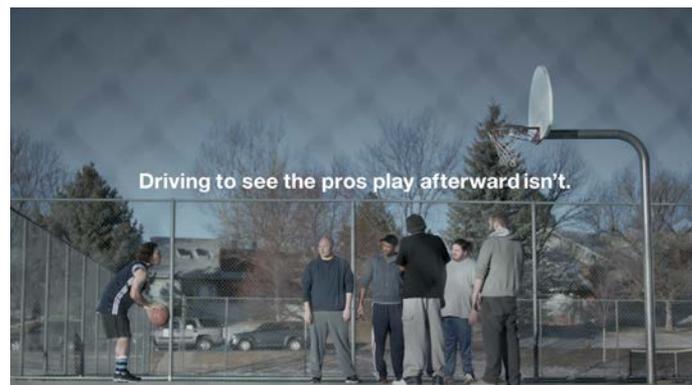
- Several found it offensive or said it played into negative stereotypes.
- A vocal few expressed strong concerns that it understated the importance of safety
- A few insisted that this ad was the worst in the bunch.

“The basketball video was my favorite. There wasn’t any threatening imagery, there was not any misleading information, and it was all straight to the point.”

-White female, 18-24, infrequent user

I like it. Although I think the guy dribbling should be a little more clean cut. I think some will get turned off by the “typical” stoner look and think “that’s not me” I’m just a recreational user.

-White male, 45-54, daily user



“It is probably more interesting to a male audience. It was boring for me and lost my attention.”

-White female, 45-54, daily user

Runner-up Video: Correcting Misperceptions

Participants said it works as long as the characters seem realistic or are not police officers.

In these videos, people described common misperceptions about driving high. In general, participants found the ads relatable, humorous and informative.

Participants liked the diverse characters were and how short the videos were.

There were a few actors that some people did not find believable or credible—the man who drinks and consumes cannabis and the woman with high tolerance.

Some participants expressed doubts about the message that police could detect impairment. They criticized both the social inequities in enforcement and the fact that courts will believe police over drug tests.

"I like the diversity of people and age groups in the ads. And I think they bring up some of the biggest reasons people have for justifying driving high. But they also bring up the controversy of just what IS 'too high' to drive."

-White male, 35-44, regular user

"I like this series of videos because some of the people reasons for driving high are similar to the ones I stated such as the high tolerance. Police can't tell. I like they used a diverse group of people and situations that anyone using cannabis could run into..."

-Asian male, 18-24, daily user



"Police are trained to recognize impairment and yet they are still human and make mistakes...I agree with these facts, and I still disagree that these facts contribute to car accidents, fatalities, and tickets."

-American Indian or Alaskan Native, Latinx female 25-34, daily user

Third-Favorite Video: Slow-speed Car Chase

Participants did not have strong feelings but felt it might be effective to target audiences at a venue.

CDOT drove “slow-speed chase” vehicles wrapped in marijuana safety messages around 420 events. Generally, people did not have many strong feelings about this ad.

A few participants said it was long or boring, and they stopped listening when they heard something they disagreed with such as the line officer talking about cannabis not being safer than alcohol.

People who liked the ad noted it might be effective for people *at the venue*, but not necessarily for the audience watching the ad later.

A couple of participants found the documentary style relatable (more so than the videos using actors).

The social media impressions and other analytics were described as not useful by a few people.

One person liked that this video in particular showed CDOT working with community partners to get out their message. He believed people would appreciate this type of collaboration and it may even make them more receptive to the campaign.



"I was loving it until...the officer stated something along the lines of Cannabis being just as dangerous as alcohol. Of course I agree that Cannabis can be very dangerous if not used responsibly, but I believe statistics can show us just how much more dangerous alcohol has been within our communities...to claim they have similar effects or similar risks are not quite accurate..."

-White female, 18-24, daily user

"[This video] really made me think that maybe I've been going about the "driving high" thing all wrong. While I still believe some people function better, I can definitely see that there may be a higher percentage of people driving high that become a danger behind the wheel. (Maybe that's what other people will realize too)."

-African American male, 25-34, daily user

Least Popular Video: Car/Joint Roll-Up

Participants said it grabbed their attention but some found it overwhelming.

The Car/Joint Roll-Up ad described risks of impaired driving against the backdrop of rolling a car in a joint and audio of a car crash. People generally liked the ad because it was visually appealing and safety-focused.

- Participants generally found the imagery to be particularly effective at grabbing consumer attention. A vocal minority wanted more graphic imagery.
- A few participants did not like the model of the car or felt the car was unnecessary because of the sound.
- For some, the sounds made them uncomfortable or reminded them of previous school education efforts.



"I don't like this one. The crash sound effects were loud and annoying, making me turn the volume down. I don't like the line "Rolling one up now could mean rolling one over later". I understand 100% what it means, I just think it sounds silly. This video feels too dramatic. Maybe if the background "music" was different it might not feel so dramatic."

-White male, 35-44, daily user

"Super cool stop motion animation, I really liked that. The voice over was good. I didn't like the loud metallic crunching that came after the squeak of the tires, that was really creepy and made me uncomfortable. That sound kind of ruined the entire watching experience for me."

-White female, 18-24, regular user

"It doesn't seem very impactful. Yes it has a cartoon car wrecking but I don't think it drives any point in this Society where we see such graphic stuff all the time. It would have more of an impact if it showed an actual car wreck and First Responders on the scene showing that people are injured and that's a decision you made means something."

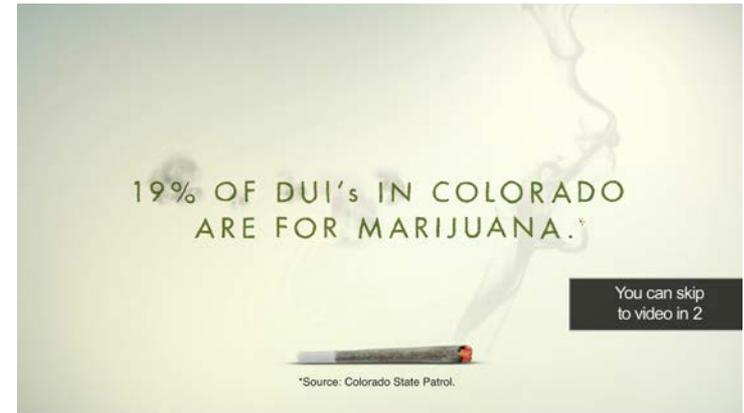
-Unlisted race, unlisted gender, 25-34, regular user

Second-least Popular Video: Skip Ad

Participants found it polarizing, some wanted to use the ad as a safety test to see if they were safe to drive.

The Skip Ad video presented facts about DUI prevalence in Colorado and how cannabis impairs reaction time. Overall, it was polarizing.

- On both sides, people considered the ad as a way to possibly test impaired reaction time, with some suggesting they will/did consume cannabis to test the claim. A few people mentioned they did/could catch the button, so the ad was irrelevant.
- One person liked it because it was dry, two others liked it because it was attention-grabbing.
- Some people thought it was clever, illustrated reaction time well, and mentioned they could not catch the button (and considered that to corroborate the claim).
- Some people felt angry or belittled by the challenge to click the skip ad button. Others felt it was gimmicky, distracting, or preachy.



"To me this feels like a "test" - I don't like the moving skip ad button. The stats are good overall though but I cant get over how annoying the moving skip ad function is."

-White male, 25-34, daily user

*"Wow! Preachy..... feel like getting high and getting in the car for a drive just to prove that that snarky **** wrong!"*

-White male, 45-54, infrequent user

"I think it is a creative idea, but if we are trying to prove a point with this there are plenty of other reasons why people have slower reaction times. I've seen people that are old in age and can hardly drive completely sober...I've seen people who are too tired at the wheel and are just as dangerous as alcoholics."

-Native Hawaiian or Pacific Islander, Latinx female, 18-24, daily user

In-the-Moment Study

Conclusion

Overall, participants appreciated CDOT's investment in this topic and felt that CDOT values their opinion.

What, if anything, was memorable about this research experience?

"The amount of consideration CDOT is giving to actually fix these issues."

- White male, 18-24, daily user

"That there seems to be actual interest in what I have to say."

- White female, 35-44, daily user

Have you talked to anyone about this research experience?

"I have talked a little with my best friend and even showed him my favorite ads/vids. He was impressed with the approach you are taking."

- White male, 35-44, daily user

"I showed off some of the video ads, the daydreaming basketball player was a huge hit with everyone I showed it to."

- White male, 35-44, daily user

Which of these messages have had the most impact on how you think about driving and cannabis?

"The car crashes and basketball adverts are the ones that stuck out the most."

- White male, 25-34, daily user

"The commercial with the car being rolled into the joint stuck with me the most. I can still hear the horrible crashing sounds."

- White female, 18-24, daily user

What did you think about participating in this research experience?

"I think it was great to be a part of the campaign to help promote not driving high. I have also found myself addressing the issue in a different way to my customers. I feel that by participating I found a good insight for myself on how to communicate to our customers about not driving high. Overall this was a very good experience."

- White female, 55-64, regular user

Several people said they are paying more attention to their physical state before they get in their car and drive.

"It made me think about whether I'm being unsafe in some of my driving habits, and how I could help influence people."

- White male, 18-24, daily user

"It made me think twice about driving high."

- White female, 45-54, daily user

"I am looking forward to finding out how many nanograms are in a 10 mg edible and how long they say not to drive after consumption. I want to be legal while driving but don't know what that is."

- White female, 45-54, daily user

"I will now consider other options for driving if I am stoned. I think this study was most beneficial in this way."

- White male, 25-34, daily user

"In the past if I was high and had to drive, I did even though I was nervous. Now I won't smoke if I know I have to drive, or I will wait until the high wears off."

- White female, 45-54, daily user

"It has pushed me to find research on the subject, been doing' a lot of reading."

- White male, 45-54, regular user

"Just being in the study makes me think even more about driving high. I didn't drive high very often (maybe 2 - 3 times a year) but now I will probably cut that down. The overall experience of this study will stay with me forever, I'll always think of this study if I think about driving high."

- White male, 35-44, daily user

"[Because of this study] I have stopped driving high entirely. I now take it just as seriously as drinking and driving."

- White female, 45-54, daily user

03

The Cannabis Conversation Survey

Results as of April 30, 2018

Survey Limitations



Findings for this report were not intended to be generalizable to the entire Colorado population, so the results should not be used that way.

Due to recruitment methods, this is NOT a representative or statistically valid sample of Coloradans. Generalizing to the entire population of Colorado was not a goal for this survey, and using these data to do so would be inappropriate.

- Survey recruitment included purposive sampling (the survey was advertised and sent to target audiences) and snowball sampling (participants were encouraged to share the survey with others).
- Not everyone who lives in Colorado had an equal chance of being selected for this survey. Instead, people who were already familiar with the Colorado Department of Transportation (CDOT) were more likely to hear about the survey and to participate.

The target respondents in this study were people that CDOT could effectively reach with specific outreach methods (e.g., public meetings, advertisements). It is therefore appropriate to generalize these data to people that CDOT can effectively reach with these outreach methods.

Additionally:

- This survey was not designed to capture change over time (e.g., seeing how people felt about driving high after a period of two weeks).
- The online survey provided anonymity that may have enhanced some respondent's reporting of stigmatized behaviors. However, it is possible that some respondents provided untruthful information due to the anonymous nature of this survey. We did not attempt to sort fact from fiction in the qualitative data.

Survey Methodology



The online survey launched on February 7, 2018. This report describes findings from responses collected through April 2018.

Recruitment

CDOT and partners recruited people throughout the state of Colorado—including residents, non-residents, and tourists—to take the survey. The survey was available in English and Spanish, and recruitment took place in both languages.

There were several means of recruitment: Facebook and Instagram advertisements asked participants to “Join the Conversation” by taking the survey. CDOT also partnered with various agencies, dispensaries, and non-profits to host and participate in events around the state, and advertised the survey at these events.

Overall, 12,635 people took the survey by April 30, 2018. Of that total, 8,488 reported that they have used marijuana within the last year. These respondents are called “users” in this report. The other 4,147 respondents had not used marijuana within the last year or had never used marijuana. These respondents are called “non-users” in this report.

Limitations—

- This is NOT a representative, statistically valid sample of Coloradans. The recruitment included purposive sampling (the survey was advertised and sent to target audiences) and snowball sampling (participants were encouraged to share the survey with others). Due to the recruitment methods, the results cannot be generalized to the entire population of Colorado.

See page 81 for additional details about limitations for this survey.



Survey Methodology

Analyzing and reporting on the survey data



Analysis

PRR collected the data through SurveyGizmo, a professional online survey platform, and then cleaned and analyzed the data in Stata, a professional statistics software.

Figures in the report summarize frequencies for survey questions. Only statistically significant correlations are discussed throughout the report. To achieve the cut-off for statistical significance, regressions must have a 0.05 significance level (a 95 percent confidence level). We used odds ratios to determine relative significance. Odds ratios measure of the effect between a factor of interest (e.g., cannabis consumption) and an outcome (e.g., driving high).

When running regressions, we accounted for the unique contribution of several variables, including: age, gender, income, education, race, county, ethnicity, employment, how often respondents consume cannabis, and whether they took the survey in English or Spanish.¹ Occasionally, we included other variables, such as reasons for marijuana use, to account for some users consuming marijuana both medically and recreationally.

¹ Although many respondents who identified as Latinx took the survey in Spanish, 56% of Latinx respondents took the survey in English. Similarly, 31 people (0.5%) who did not identify as Latinx took the survey in Spanish.

How to Read Findings in This Report

Charts in this report include both total results for all respondents and results broken out by frequency of cannabis use. In the example below, we identify some important chart elements to facilitate interpreting them.

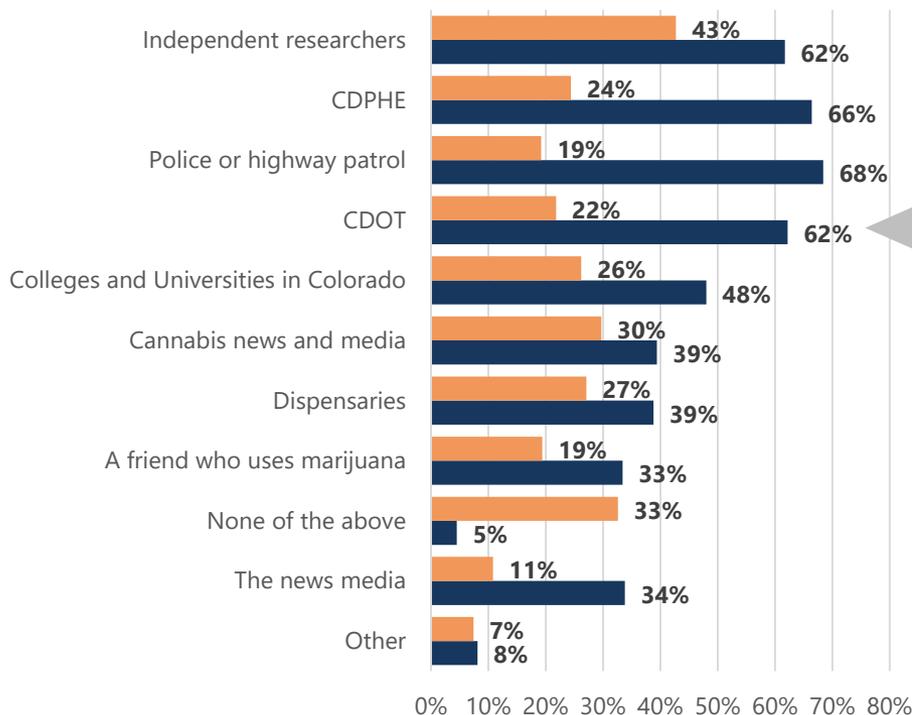
Base: people who answered the question, which is used to calculate the overall percentages.

Who would you believe if they told you it was dangerous to drive under the influence of marijuana?

Base: all respondents. Multiple responses allowed. Percentages add to more than 100%.

Users (n = 6,260) Non-users (n = 3,478)

Legend: color coding information and number of respondents for each group.



Group percentages: percentages for each group individually, with each bar representing a different group (see legend above for color coding). In this example, 62% of respondents who do not use marijuana (non-users) said they would believe CDOT that it is dangerous to drive under the influence of marijuana, but only 22% of users would believe CDOT.

How to Read Findings in This Report

Here are some guidelines for how to interpret the words and sections on the pages.

The title generally summarizes a key finding.

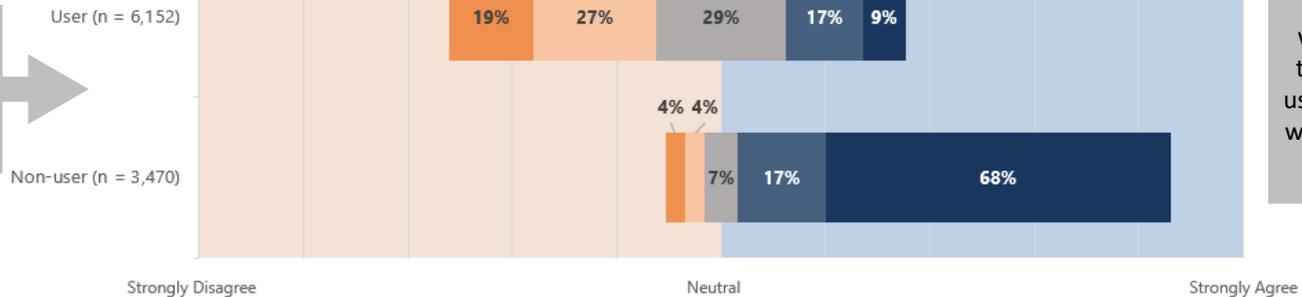
Non-users thought driving high puts *others* in danger, but users disagreed.

This is the question we asked.

People who *drive* under the influence of marijuana are putting others in danger.

Strongly disagree Disagree Neutral Agree Strongly agree

This chart shows differing opinions, with disagreement on the left and agreement on the right.



Unless otherwise stated, these results are true regardless of whether or not the respondent uses marijuana or what type of user they are.

Here we summarize what the chart says.

- About half (46%) of cannabis users did not think people who drive under the influence of marijuana were putting others in danger, and 19% felt strongly about this question. Half as many (26%) agree with the statement and 29% were neutral.
- In contrast, the vast majority (85%) of non-users agreed (17%) or strongly agreed (68%) that people driving high are putting others in danger, while very few disagreed (8%) or felt neutral (7%).

The Deeper Analysis boxes show all of the statistically significant relationships between survey variables.

Deeper Analysis

Respondents who agreed that driving high puts others in danger were more likely to be:

- Older
- Higher income
- Female
- Spanish-language respondents
- More formally educated

Respondents who disagreed that driving high puts others in danger were more likely to be:

- More frequent users
- Region 3 (Northwest) residents
- Region 5 (Southwest) residents

Key Findings and Recommendations from the Survey

Key Finding #1

Users and non-users had different perspectives on driving under the influence of marijuana. The more frequently people consumed marijuana, the greater these differences were.

- Non-users generally viewed driving under the influence of marijuana as unsafe and likely to result in a DUI. Users felt the opposite. Users were less likely to say driving under the influence of marijuana put anyone in danger or could result in a DUI.
- The more often respondents consumed cannabis, the more likely they were to agree that a person's driving ability depends on how often someone consumes cannabis.
- The more frequently respondents consumed cannabis, the greater the difference was in their responses from non-users. This relationship remained true even when we accounted for demographic differences.

Recommendations

- Tailor messaging and outreach campaigns to specific audiences.
- Heavy users responded well to messaging about individual differences in impairment. They generally believed driving under the influence of cannabis was not dangerous and they were skeptical of messages suggesting otherwise.
- People who consume less was less convinced about individual differences in impairment. They generally thought driving under the influence of cannabis was at least somewhat dangerous. They were more receptive to messaging about the risk of driving under the influence of cannabis.

Key Findings and Recommendations from the Survey

Key Finding #2

Respondents generally trusted independent researchers for credible information about driving under the influence of marijuana. Respondents' trust in other sources differed based on how often they consumed cannabis.

- Non-users typically trusted public agencies like CDOT, The Colorado Department of Public Health and Environment, and law enforcement to provide credible information about driving under the influence. Users were much less likely to trust these sources.
- Users who consumed daily generally said they trusted no one for credible information. Many frequent users wrote about trusting their lived experiences more than any other source. People who consume less often were generally more inclined to believe dispensaries.
- Respondents clearly desired straightforward, empirical research on driving under the influence. They wanted detection tests providing real-time data on how much cannabis someone has in their body, impairment assessments based on driving simulations data, and/or dosage based equivalents to alcohol.

Recommendations

- Cite independent research when possible to reach a broad audience.
- Avoid having law enforcement deliver messages about driving under the influence to users. Instead, choose messengers that are credible to users, such as independent researchers, dispensaries, and other users.
- Partner with dispensaries to most effectively reach people who consume cannabis less often.

Key Findings and Recommendations from the Survey

Key Finding #3

People drove under the influence of marijuana because they felt safe enough to drive.

- Feeling safe enough to drive, inconvenience, and costs were the top reasons people gave for not using an alternative means of transportation.
- The more often respondents consumed cannabis, the more likely they were to say they were safe enough to drive. About half of users felt that cannabis had no effect on their ability to drive.
- Unemployed respondents, younger people, or respondents who use cannabis less often were more likely to say cost alone prevented them from using alternative forms of transportation.
- Respondents thought that having more accessible alternative transportation options would reduce driving under the influence.

Recommendations

- Messaging that directly challenges people's perceptions of being safe drivers may backfire.
- Messaging that combines cost, convenience, and feeling safe enough to drive would be ideal. Otherwise, focusing on cost would be more effective than focusing on convenience.
- Promotional codes for alternative transportation may be most effective with users who consume less often.

Key Findings and Recommendations from the Survey

Key Finding #4

The more often respondents consumed cannabis, the more daily activities people did while under the influence of cannabis, including driving.

- Respondents who consumed often were more likely to say they consumed in a public space (e.g., nature) or a vehicle.
- People who drove under the influence of cannabis were generally people who consumed cannabis more often.
- Most daily users (81%) drove under the influence of marijuana, but some did not.

Recommendations

- Advertisements that show users doing common daily activities (e.g., laundry, socializing, reading) may resonate with people who consume often.

Key Findings and Recommendations from the Survey

Key Finding #5

Most respondents acquired cannabis from dispensaries.

- Dispensaries were the most common source of cannabis for respondents, regardless of how often they consumed cannabis.
- People who consumed cannabis often were more likely to grow their own cannabis or to purchase it from a private seller.
- People who consume marijuana less often were more likely to get their cannabis from dispensaries or as gifts from a friend.

Recommendations

- Dispensaries are helpful for targeting a large audience.
- Specialized suppliers (e.g., hydroponics) may be useful for targeting heavy users.

Key Findings and Recommendations from the Survey

Key Finding #6

Passengers can make a difference. Generally, non-users disliked impaired driving and took steps to prevent riding with a high driver.

- People who have used cannabis before but have not consumed in the past year were eight times more likely to have ridden as a passenger for a high driver. These respondents were also more likely to drive the car of someone under the influence of cannabis.
- Passengers who have never used cannabis were more likely to feel worried, angry, or annoyed at people who drive under the influence.
- People who have used at least once before but do not use anymore were more likely to say they felt neutral or carefree about people driving under the influence.
- Passengers' arguments about safety and legal or criminal consequences have convinced people not to drive high.

Recommendations

- Provide potential passengers details about the safety, legal, and criminal consequences of driving under the influence of marijuana so that they understand the risks of being a passenger in a vehicle with a high driver.
- Provide potential passengers with information about how to speak up when they think a driver is unsafe.

Key Findings and Recommendations from the Survey

Key Finding #7

Respondents were polarized in their views on the role of government in preventing people from driving under the influence of marijuana. Still, they were generally dissatisfied with government responses.

- Some respondents, primarily non-users, wanted harsher penalties for those who drive under the influence of marijuana. Some of these respondents also wrote that prohibition of cannabis would be appropriate.
- Other respondents, generally people who use often, wanted the opposite. These respondents wanted to minimize or eliminate penalties for people driving under the influence of marijuana. Some discussed how other issues (e.g., drunk driving) were higher priority issues and they thought cannabis was relatively safe.

Recommendations

- Be aware that adopting an explicit stance on the role of government in preventing driving under the influence of marijuana may not be well-received by the public.

Key Findings and Recommendations from the Survey

Key Finding #8

Respondents considered combining alcohol and cannabis to be dangerous. Users generally avoided combining the two. All respondents considered drinking and driving dangerous.

- Respondents overwhelmingly considered drinking and driving to be more dangerous than combining alcohol and marijuana.
- A majority of users (69%) said they never or rarely combine alcohol and cannabis.

Recommendations

- Equating driving under the influence of cannabis with drinking and drivers may not go over well with users, but non-users may respond favorably.

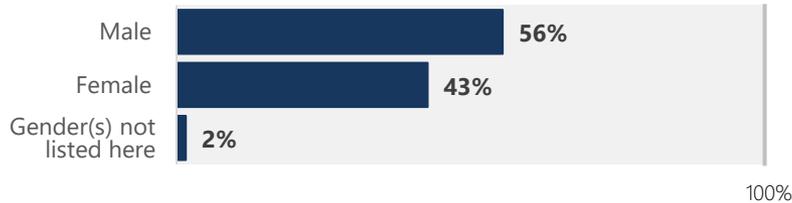
The Cannabis Conversation Survey

Who We Heard From

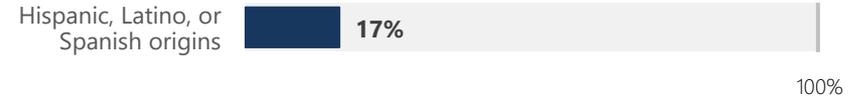
Base: all respondents

Participant Profile (All Respondents, n=12,635)

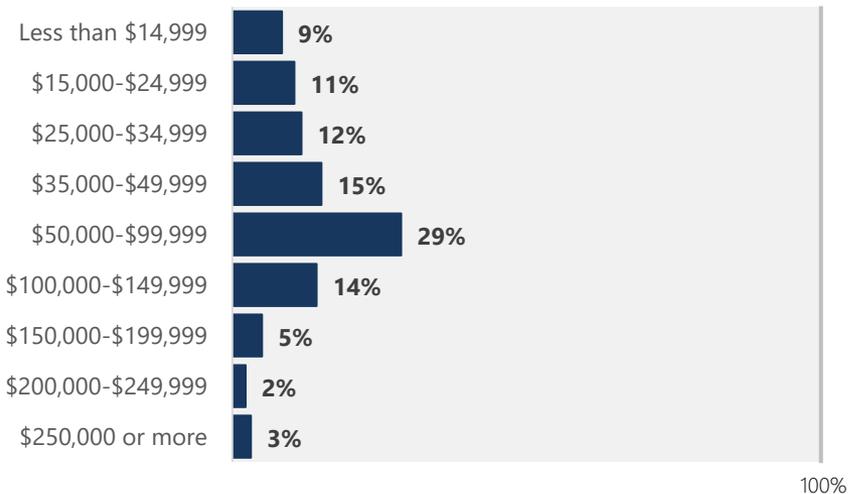
Gender



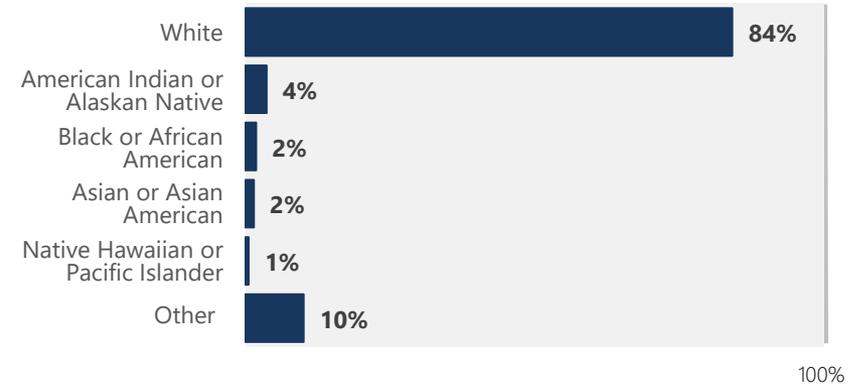
Ethnicity



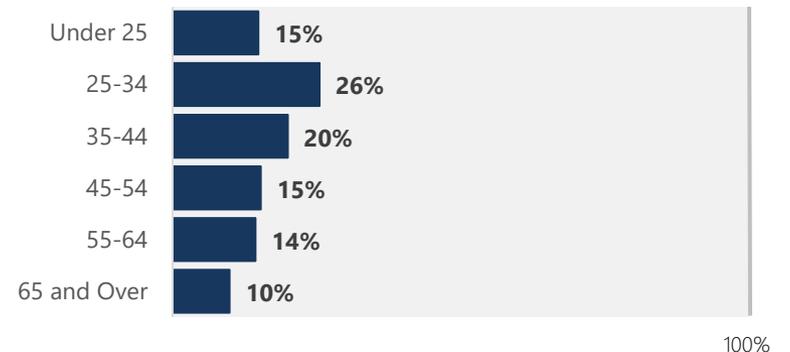
Household Income



Race



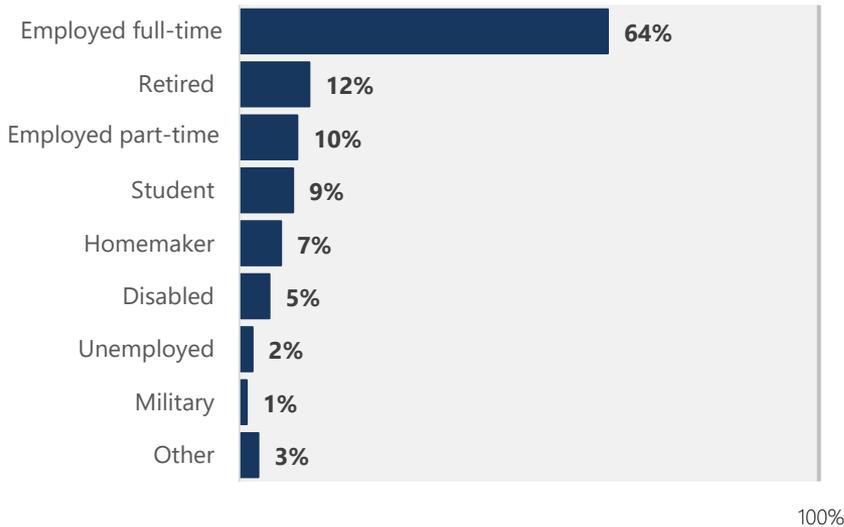
Age



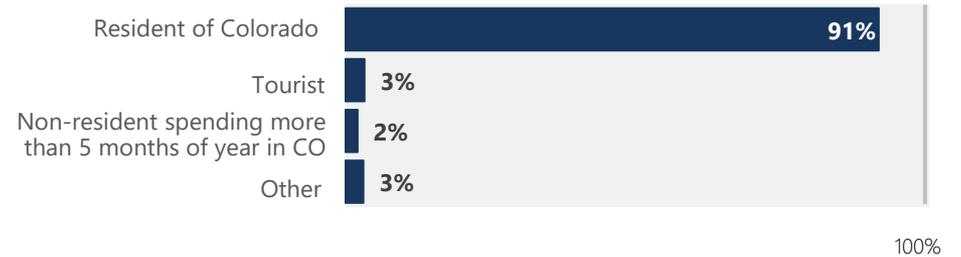
- Due to rounding or options where participants could select multiple answers, percentages may not sum to 100%. Rounding occurs on all demographic slides.
- Findings for this report were not intended to be generalizable to the entire Colorado population, so the results should not be used that way.

Participant Profile (All Respondents, n=12,635)

Employment Status



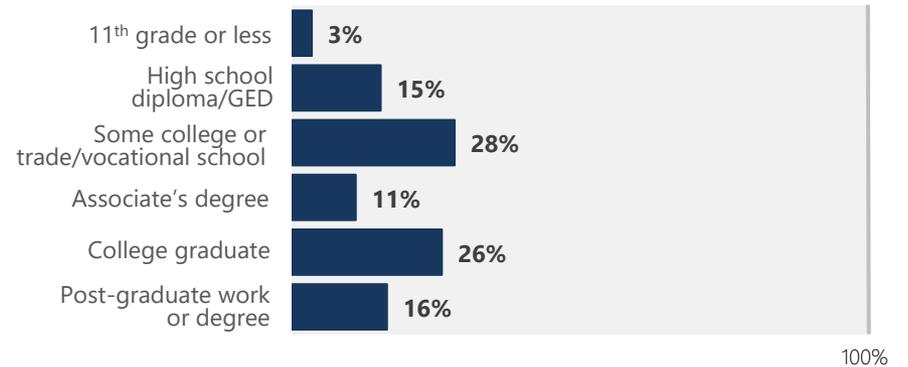
Residence Status



Work in Cannabis Industry

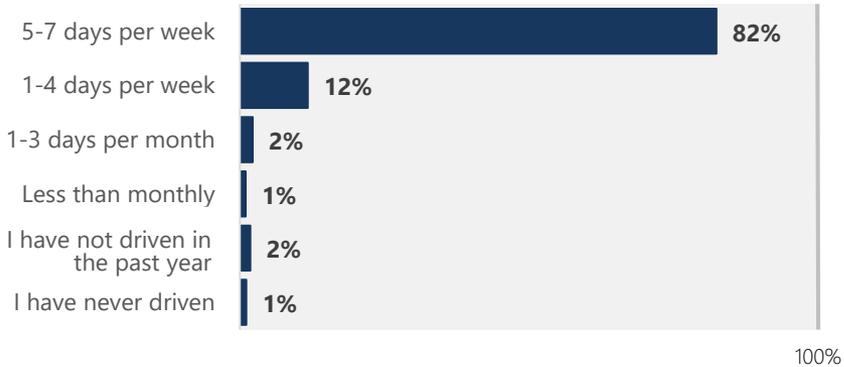


Education Level

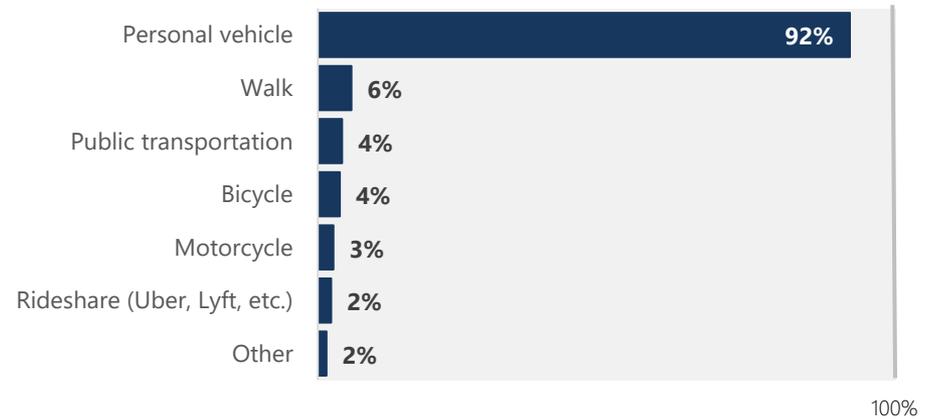


Participant Profile (All Respondents, n=12,635)

Driving Frequency



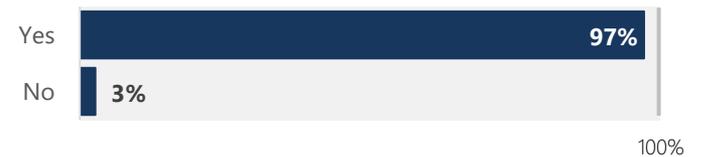
Primary Mode of Transportation



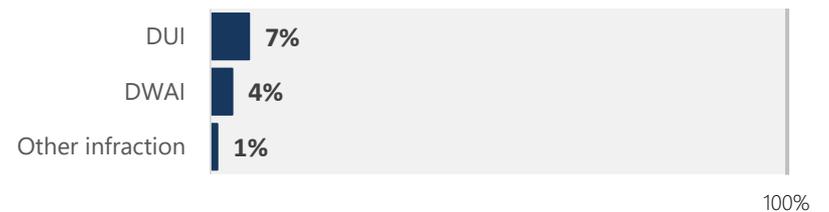
Access to a Vehicle



Driver's License

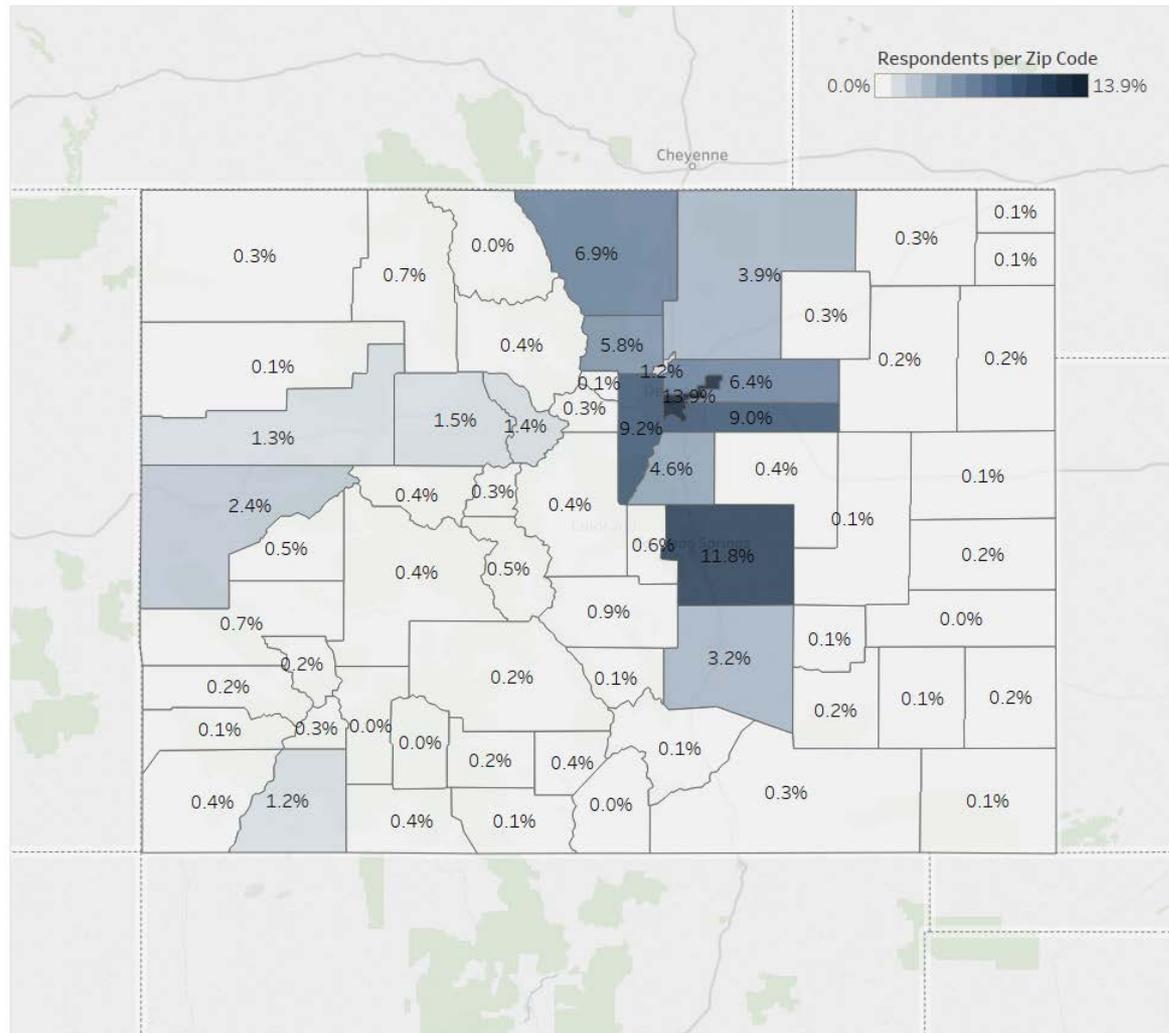


Ever Arrested for a DUI or DWAI



Geographic Distribution of Participants (All Respondents)

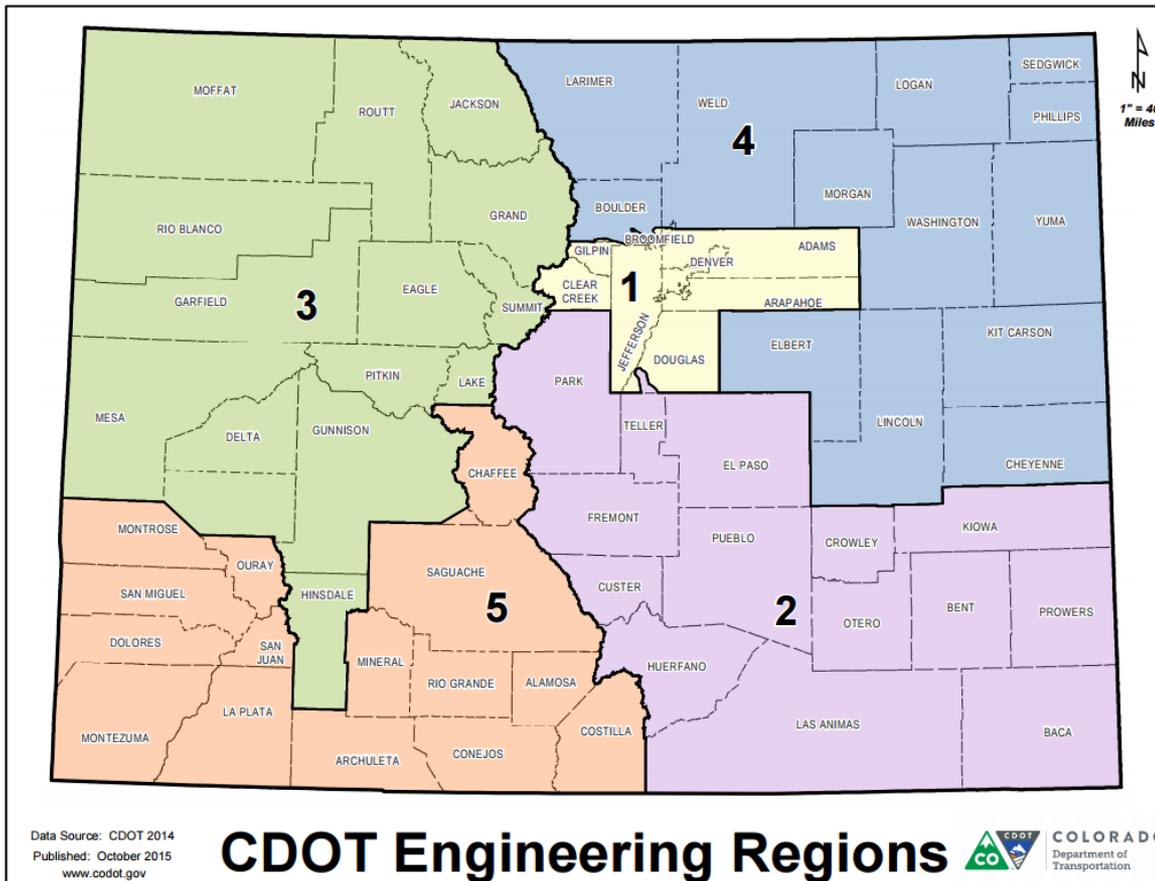
Respondent Home Zip Codes
The Cannabis Conversation Survey
(n = 8,208)



*Note: total n for zip codes is lower than overall n because many people did not leave their zip code or left the survey before the zip code question.

CDOT Engineering Regions

CDOT divides the state into six regions to enhance customer service. Our analysis considered the relationship between where participants lived (i.e. which region) and their responses to the survey questions.



Region 1: Denver area

Region 2: Southeast

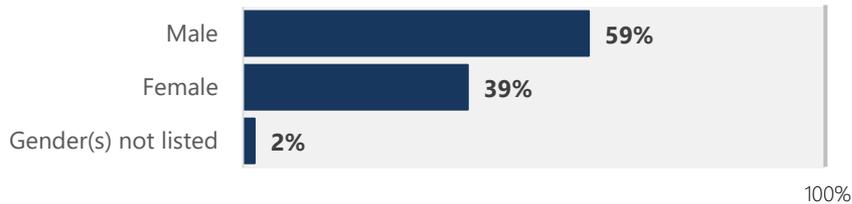
Region 3: Northwest

Region 4: Northeast

Region 5: Southwest

Participant Profile (Marijuana Users, n=8,488)

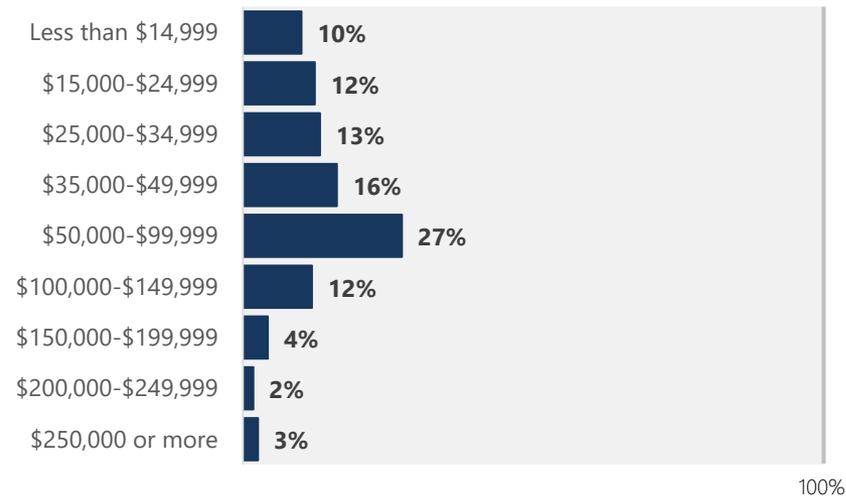
Gender



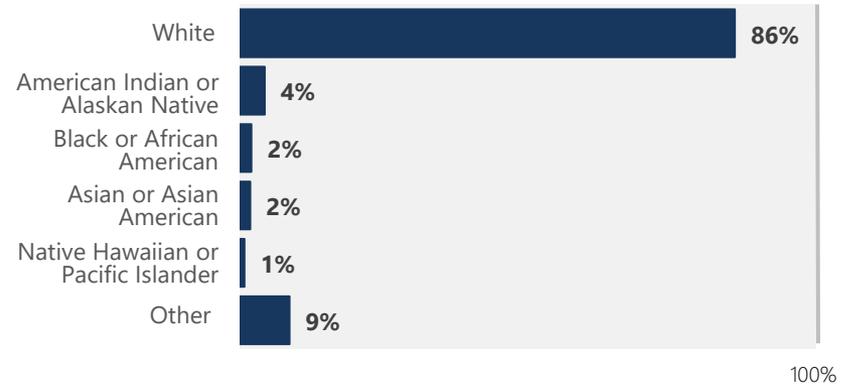
Ethnicity



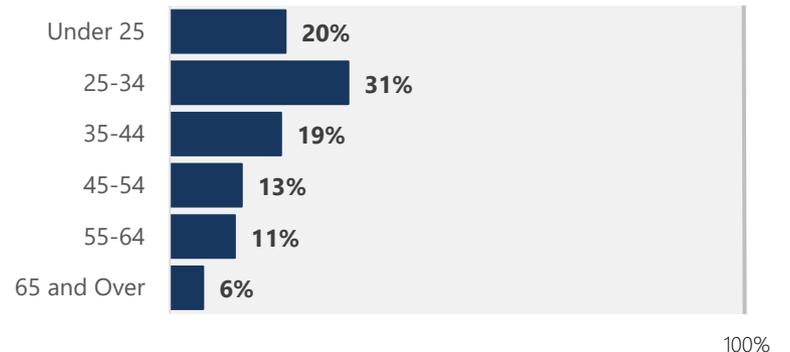
Household Income



Race



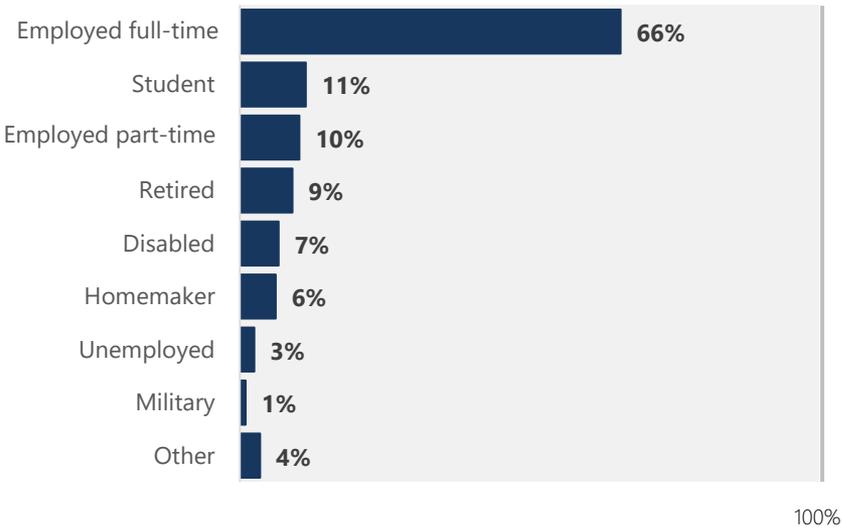
Age



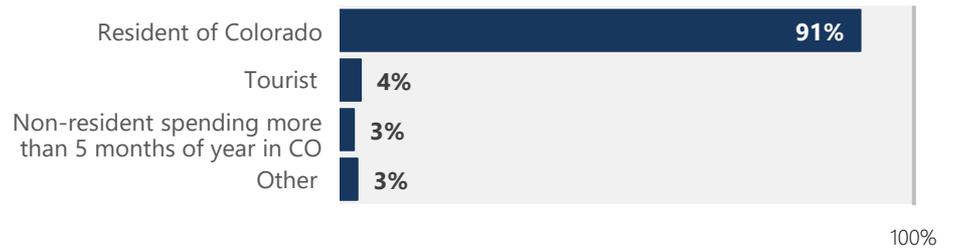
- Due to rounding or options where participants could select multiple answers, percentages may not sum to 100%. Rounding occurs on all demographic slides.
 - Findings for this report were not intended to be generalizable to the entire Colorado population, so the results should not be used that way.

Participant Profile (Marijuana Users, n=8,488)

Employment Status



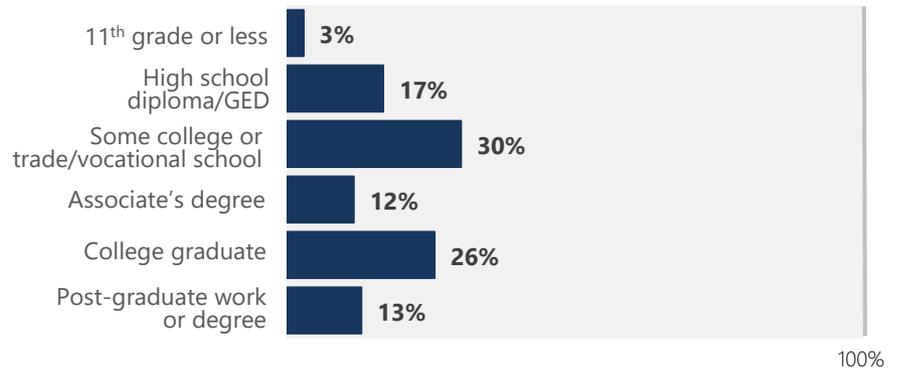
Residence Status



Work in Cannabis Industry

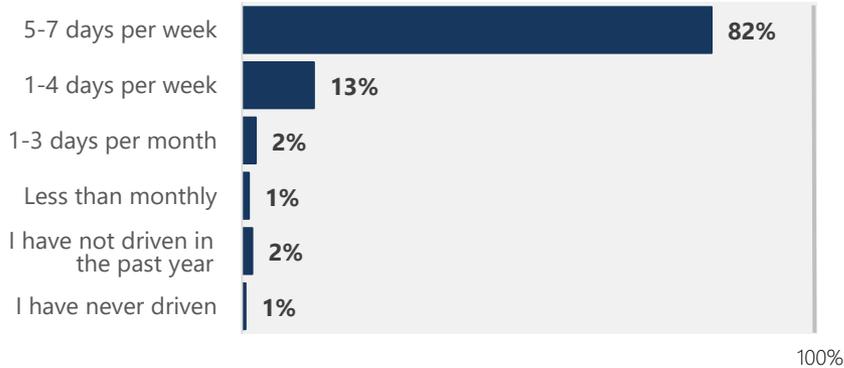


Education Level

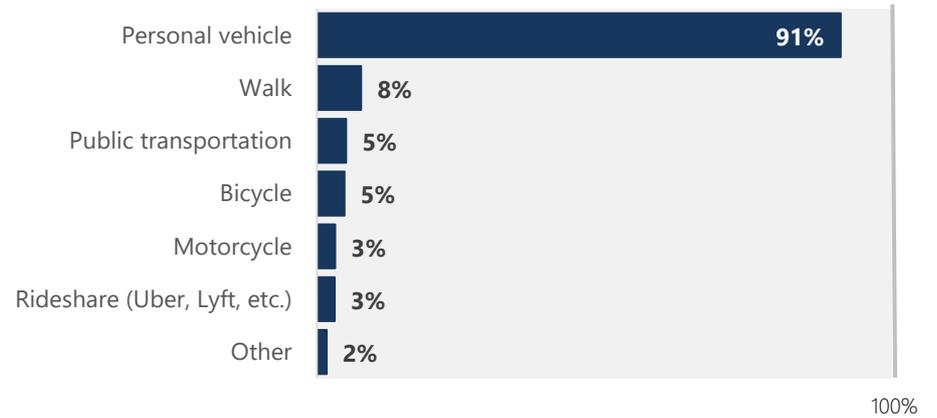


Participant Profile (Marijuana Users, n=8,488)

Driving Frequency



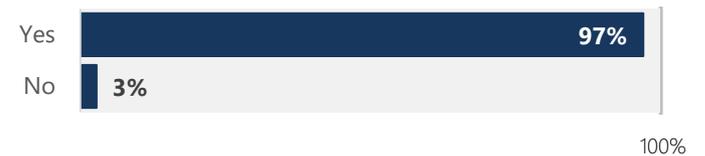
Primary Mode of Transportation



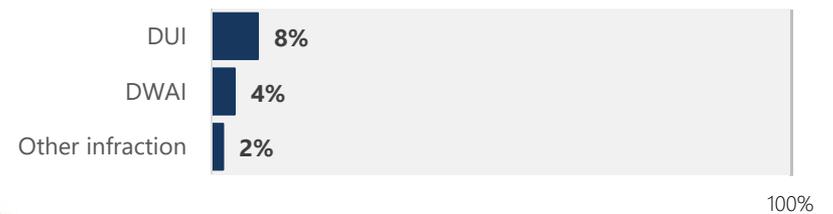
Access to a Vehicle



Driver's License



Ever Arrested for a DUI or DWAI

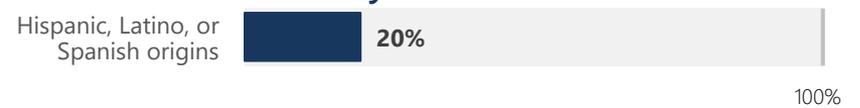


Participant Profile (Non-Users, n=4,147)

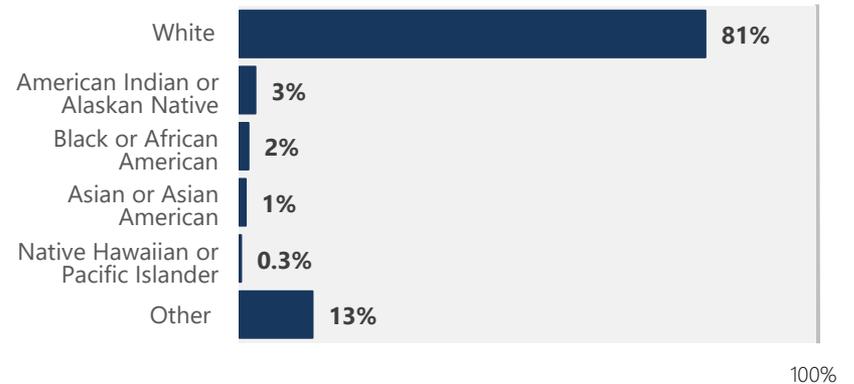
Gender



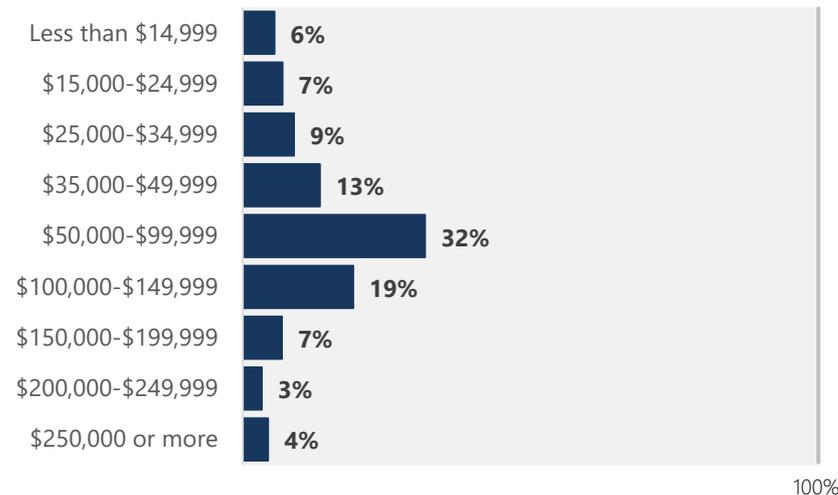
Ethnicity



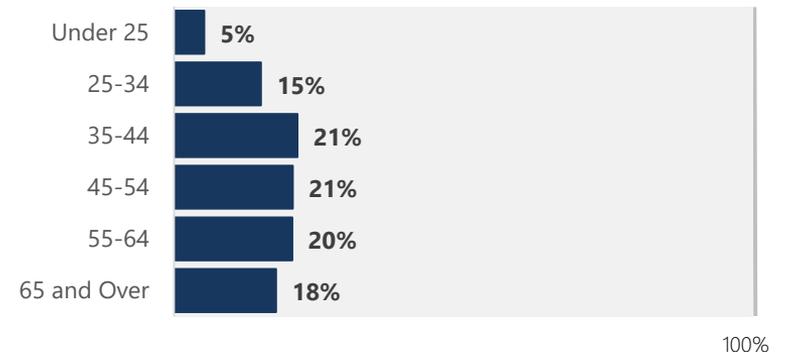
Race



Household Income



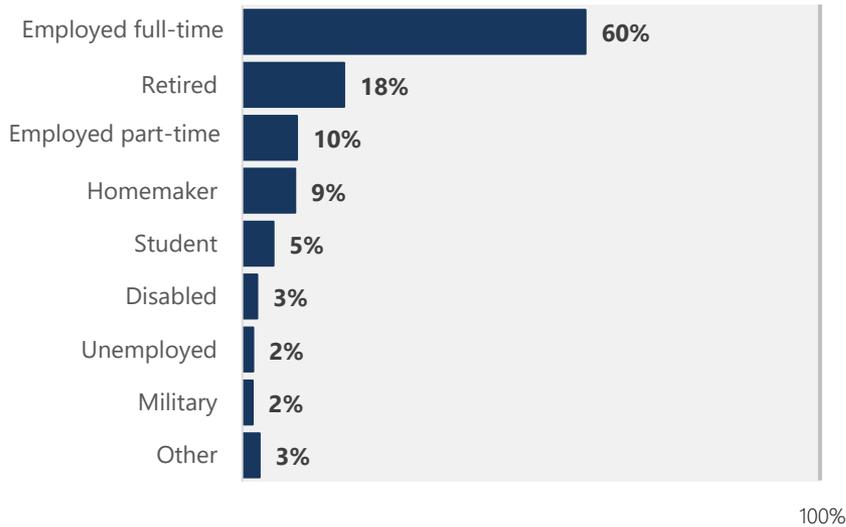
Age



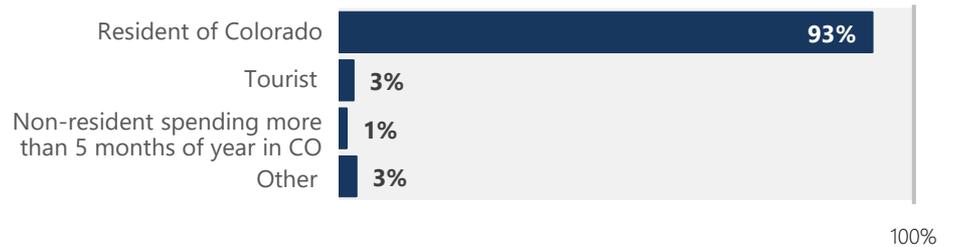
- Due to rounding or options where participants could select multiple answers, percentages may not sum to 100%. Rounding occurs on all demographic slides.
 - Findings for this report were not intended to be generalizable to the entire Colorado population, so the results should not be used that way.

Participant Profile (Non-Users, n=4,147)

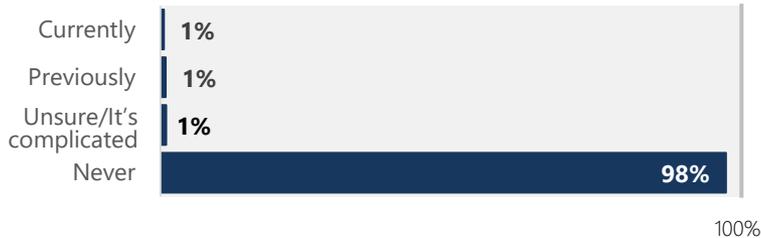
Employment Status



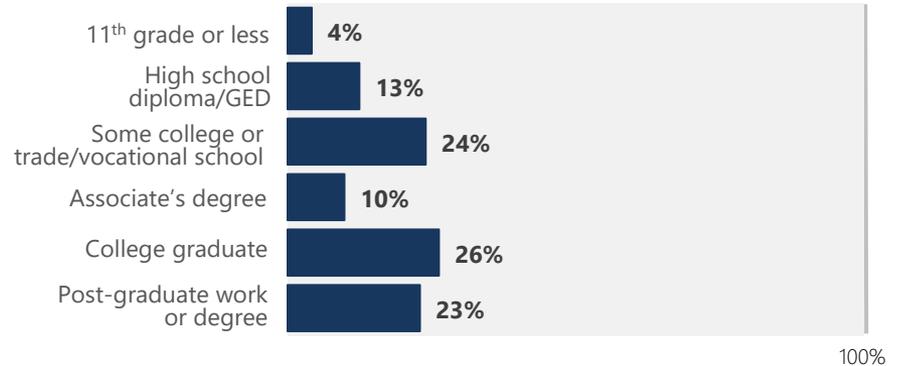
Residence Status



Work in Cannabis Industry

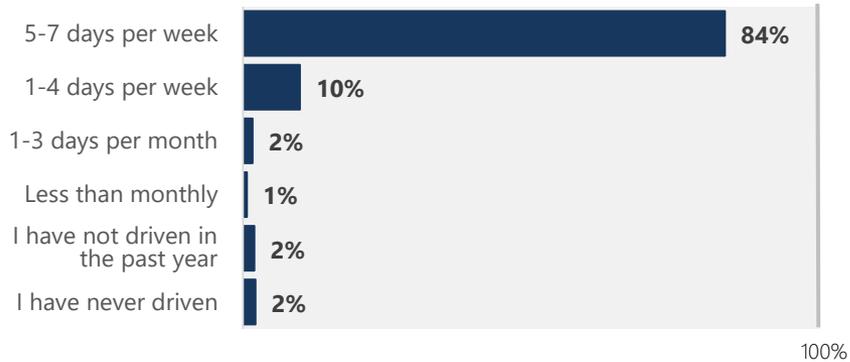


Education Level

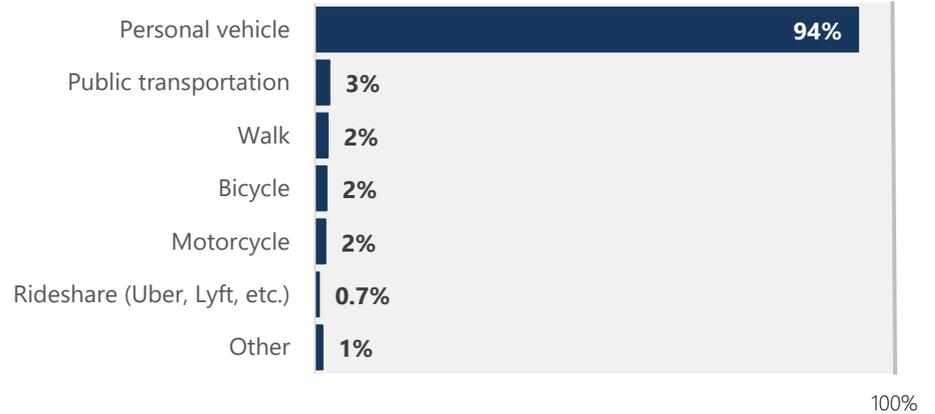


Participant Profile (Non-Users, n=4,147)

Driving Frequency



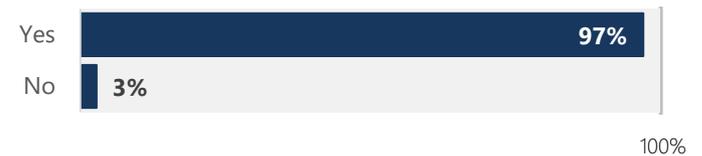
Primary Mode of Transportation



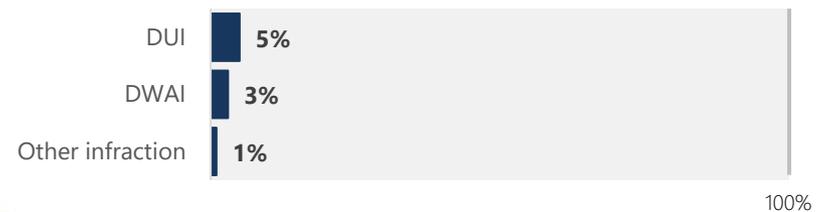
Access to a Vehicle



Driver's License



Ever Arrested for a DUI or DWAI



The Cannabis Conversation Survey

Norms and Beliefs Among Users & Non-Users

Base: all respondents

More users than non-users said society stigmatizes marijuana use.

- Users were more likely to think that society stigmatizes marijuana use.
- 53% of users believed this stigma exists, compared to 41% of non-users.
- Similarly, 14% of non-users said no such stigma exists, compared to only 6% of users.



Deeper Analysis

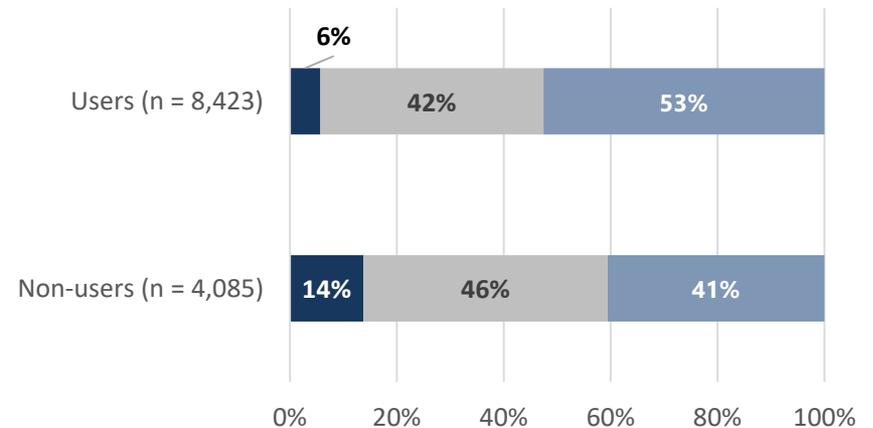
People who believed society still stigmatizes marijuana were more likely to be:

- Female
- Younger
- Spanish-language respondents

Does society still stigmatize marijuana use?

Base: all respondents

■ No ■ Sometimes ■ Yes



Users and non-users disagreed about how dangerous it is to drive under the influence of cannabis.

- Non-users said driving under the influence of both marijuana and alcohol was more dangerous than driving under the influence of alcohol.
- Users rated the danger of driving under the influence of alcohol as basically tied with driving under the influence of both marijuana and alcohol.
- Non-users rated driving under the influence of marijuana as more dangerous than users did. Non-users ranked driving under the influence of marijuana as the 4th most dangerous activity on the list, while users ranked it as the least dangerous activity.

Users	
Rank	Activity
T1	Driving under the influence of alcohol
T1	Driving under the influence of both marijuana and alcohol
3	Texting and driving
4	Driving while sleep deprived
5	Not wearing seat belts
6	Speeding
7	Driving under the influence of marijuana

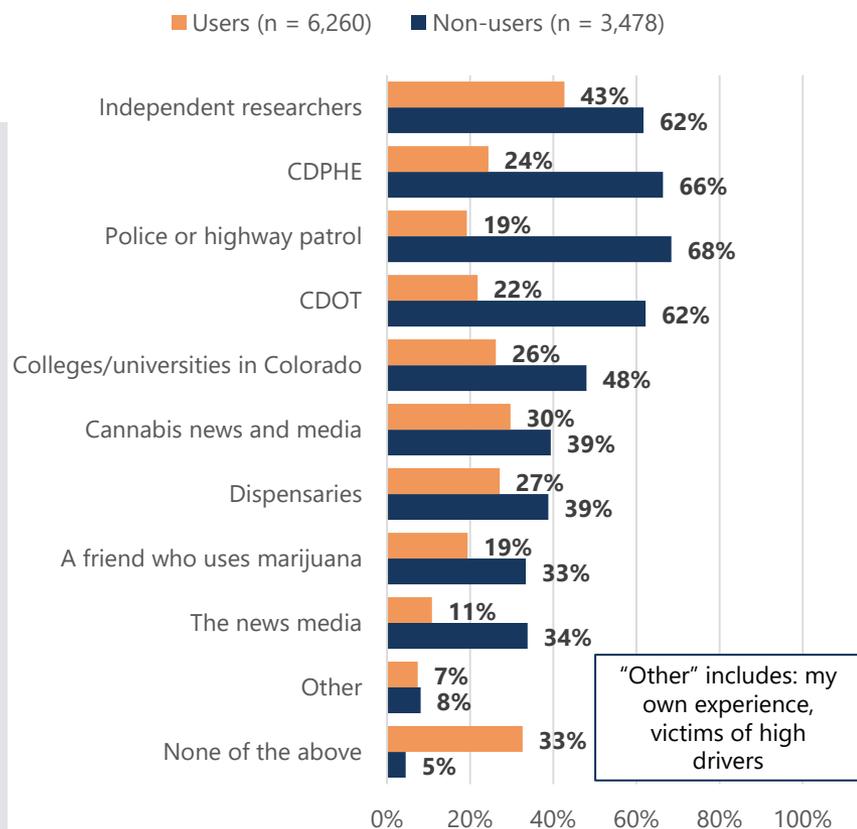
Non-Users	
Rank	Activity
1	Driving under the influence of both marijuana and alcohol
2	Driving under the influence of alcohol
3	Texting and driving
4	Driving under the influence of marijuana
5	Driving while sleep deprived
6	Not wearing seat belts
7	Speeding

People generally trusted independent researchers, but users and non-users disagreed about other sources.

- Overall, users were skeptical about who to believe if they were told driving under the influence of marijuana is dangerous. Almost half of users (43%) said they would believe this information coming from independent researchers. A third (33%) indicated that they would not trust any of these sources.
- Most non-users said they would believe police and highway patrol (68%), Colorado Department of Public Health and Environment (CDPHE) (66%), CDOT (62%), or independent researchers (62%).

Who would you believe if they told you it was dangerous to drive under the influence of marijuana?

Base: all respondents. Multiple responses allowed. Percentages add to more than 100%.



Deeper Analysis

Respondents who consumed more often were more likely to select:

- None of the above (three times more likely)
- Other

Respondents who consumed less often were more likely to trust:

- CDPHE
- A friend who uses
- Dispensaries
- Police

English-language respondents were more likely to believe:

- Independent researchers
- Other
- None of the above

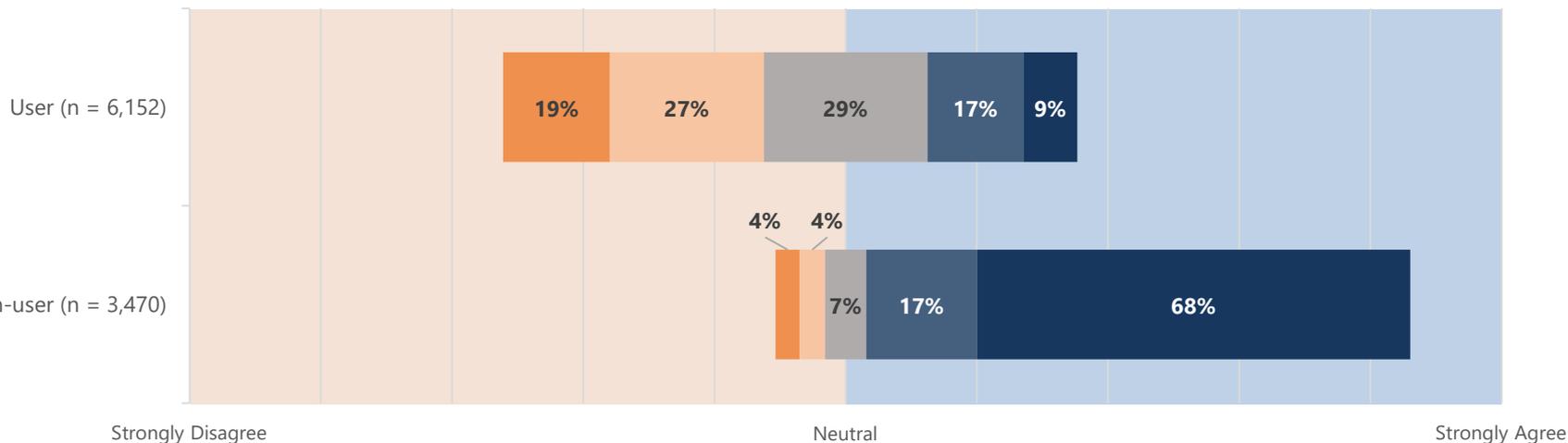
Spanish-language respondents were more likely to believe:

- CDOT (two times more likely)
- Cannabis news and media
- CDPHE (over two times more likely)
- News media (over three times more likely)
- Colleges/universities (over two times more likely)
- Police/highway patrol

Non-users thought driving high puts others in danger, but users disagreed.

People who drive under the influence of marijuana are putting *others* in danger.

Strongly disagree Disagree Neutral Agree Strongly agree



- About half (46%) of cannabis users did not think people who drive under the influence of marijuana were putting others in danger, and 19% felt strongly about this question. Half as many (26%) agree with the statement and 29% were neutral.
- In contrast, the vast majority (85%) of non-users agreed (17%) or strongly agreed (68%) that people driving high were putting others in danger. Very few disagreed (8%) or felt neutral (7%).



Deeper Analysis

Respondents who agreed that driving high puts others in danger were more likely to be:

- Older
- Female
- More formally educated
- Higher income
- Spanish-language respondents

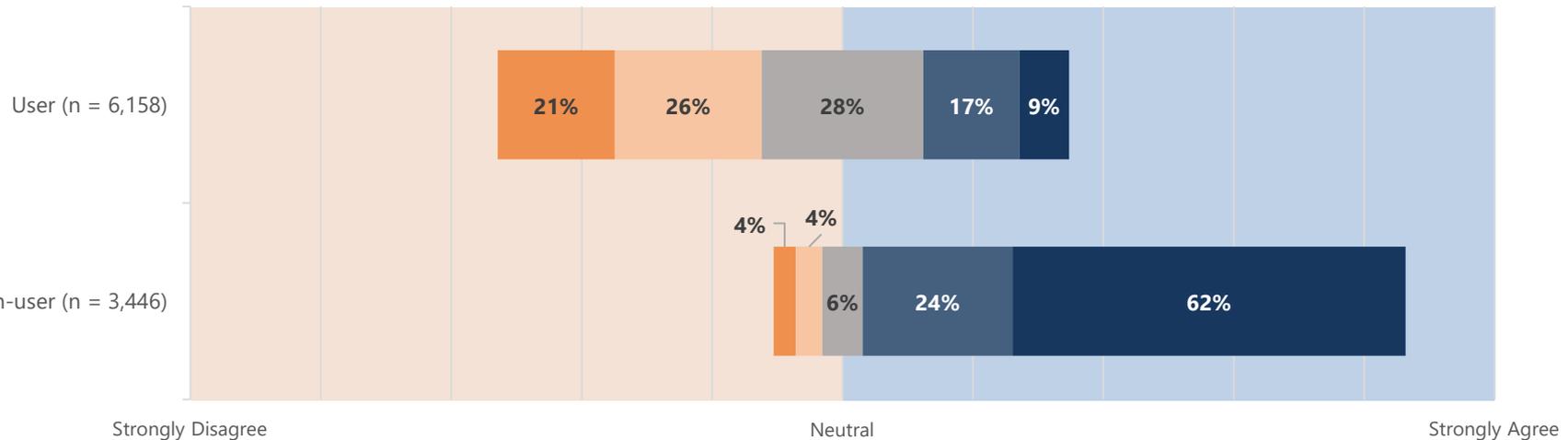
Respondents who disagreed that driving high puts others in danger were more likely to be:

- More frequent users
- Region 5 (Southwest) residents
- Region 3 (Northwest) residents

Non-users thought driving high puts the driver in danger, but users disagreed.

People who drive under the influence of marijuana are putting *themselves* in danger.

Strongly disagree Disagree Neutral Agree Strongly agree



- About half (47%) of cannabis users did not think people who drive under the influence of marijuana would be putting themselves in danger. About a quarter (26%) agreed with the statement and another quarter (28%) were neutral.
- In contrast, the vast majority (86%) of non-users agreed (24%) or strongly agree (62%) that people driving high would be putting others in danger, while very few disagreed (8%) or were neutral (6%).



Deeper Analysis

Respondents who agreed that driving high puts the driver in danger were more likely to be:

- Older
- Higher income
- Female
- Spanish-language respondents

More formally educated

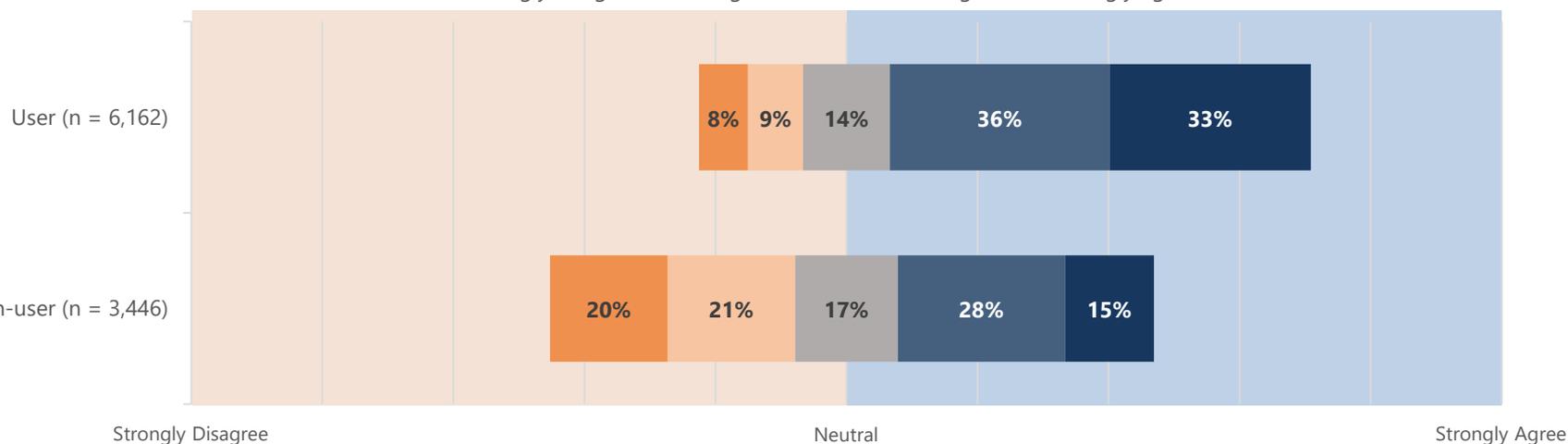
Respondents who did not believe that driving high puts the driver in danger were more likely to be:

- More frequent users
- Region 5 (Southwest) residents

Users believed a person's ability to drive under the influence depends on consumption frequency.

A person's driving abilities under the influence of marijuana vary based on how often they use marijuana.

Strongly disagree Disagree Neutral Agree Strongly agree



- A majority (69%) of users agreed that a person's driving abilities under the influence of marijuana vary based on how often they use marijuana. Only 17% disagreed.
- In contrast, non-users were fairly divided on this question. 43% agreed and 41% disagreed that driving abilities under the influence of marijuana are connected to frequency of consumption.



Deeper Analysis

Respondents who agreed that driving ability depends on consumption frequency were more likely to be:

- More frequent users
- More formally educated
- Higher income
- English-language respondents

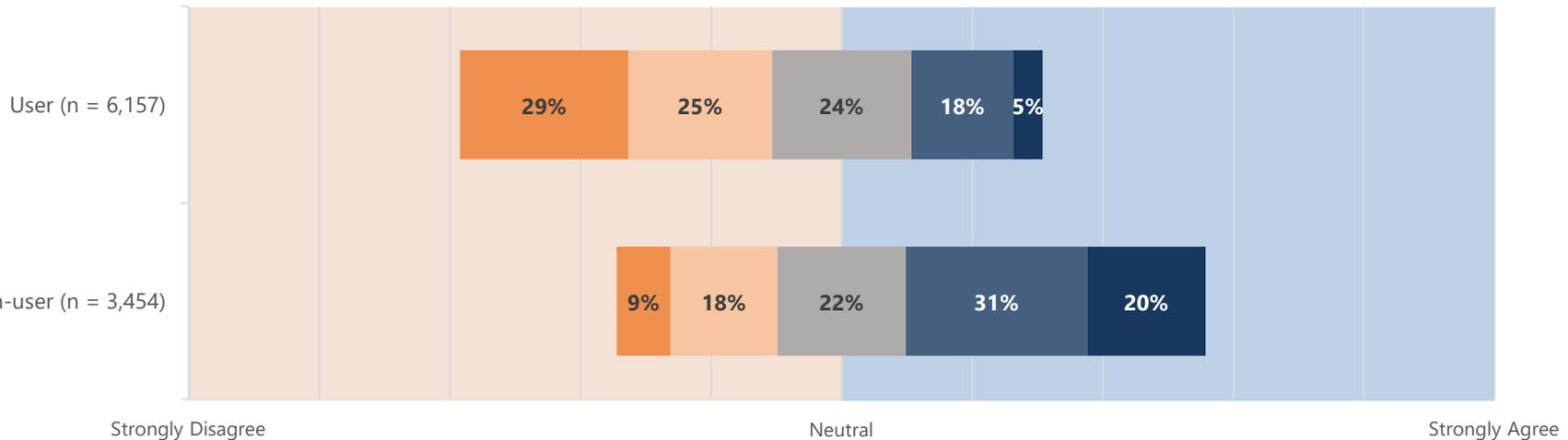
Respondents who did not believe that driving ability depends on consumption frequency were more likely to be:

- Male
- Older

Non-users agreed that police can determine impairment from marijuana, but users disagreed.

Police can determine impairment from marijuana.

Strongly disagree Disagree Neutral Agree Strongly agree



- About half (54%) of users said the police cannot determine impairment from marijuana. About a quarter (24%) were neutral and another quarter (23%) said they think police can determine impairment from marijuana.
- In contrast, about half (51%) of non-users thought that police can determine impairment, while roughly a quarter (22%) were neutral and another quarter (27%) said police cannot determine impairment.



Deeper Analysis

Respondents who agreed that police can determine impairment were more likely to be:

- Female
- Older
- Latinx
- Spanish-language respondents (over three times more likely)
- Less formally educated

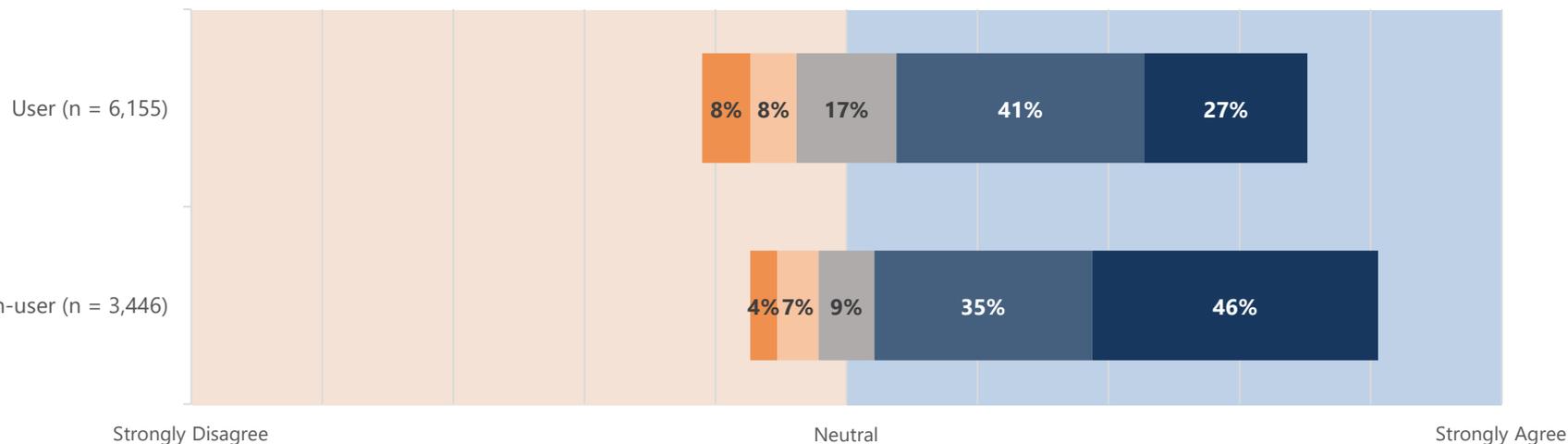
Respondents who did not believe police can determine impairment were more likely to be:

- More frequent users
- Unlisted gender
- More formally educated
- Full-time or self-employed

Respondents agreed that there are legal consequences for driving high.

There are legal consequences for driving under the influence of marijuana.

Strongly disagree Disagree Neutral Agree Strongly agree



- The majority of users (68%) and non-users (81%) recognized that there are legal consequences for driving under the influence of marijuana. Few users (16%) or non-users (11%) disagreed.
- More non-users (46%) than users (27%) strongly agreed that driving high can have legal consequences.



Deeper Analysis

Respondents who agreed there are legal consequences for driving high were more likely to be:

- Region 2 (Southeast) residents
- Higher income
- Older
- Spanish-language respondents
- More formally educated

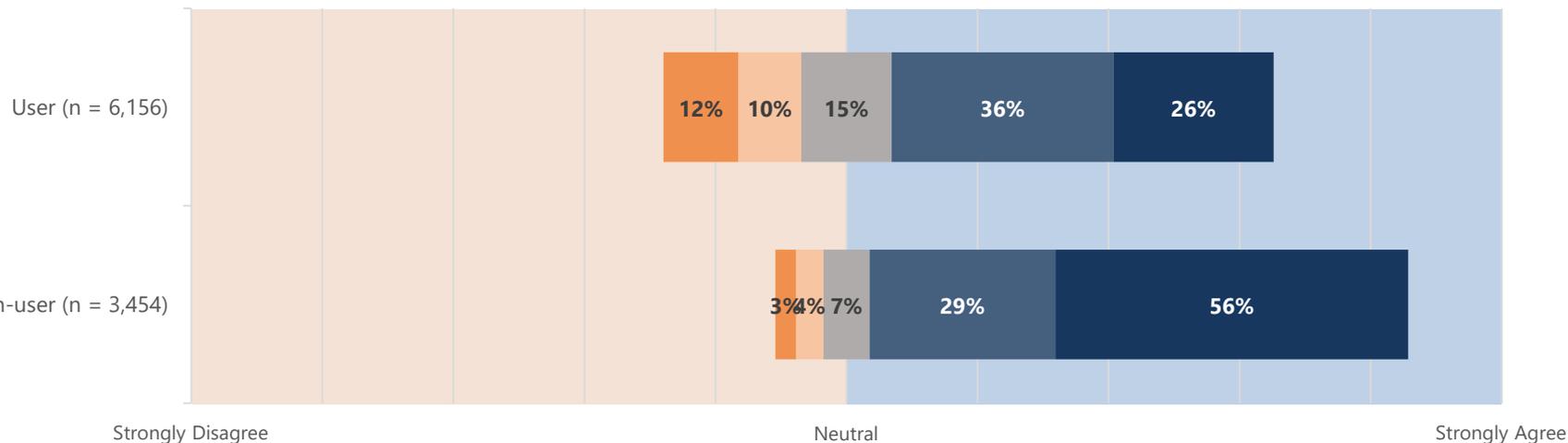
Respondents who did not believe there are legal consequences for driving high were more likely to be:

- More frequent users
- Region 5 (Southwest) residents

Respondents agreed that a person can get a DUI for driving high.

If you drive high, you can get a DUI.

Strongly disagree Disagree Neutral Agree Strongly agree



- The majority of users and non-users recognized that someone can get a DUI for driving under the influence of marijuana. More non-users (85%) than users (62%) agreed that if you drive high, you can get a DUI.
- Furthermore, far more non-users strongly agreed (56%) with this statement than simply agreed (29%). In contrast, slightly more users agreed (36%) than strongly agreed (26%).
- Few respondents, whether users (22%) or non-users (7%), did not think you can get a DUI for driving high.



Deeper Analysis

Respondents who agreed a person can get a DUI for driving high were more likely to be:

- Region 2 (Southeast) residents
- Older
- More formally educated
- Higher income

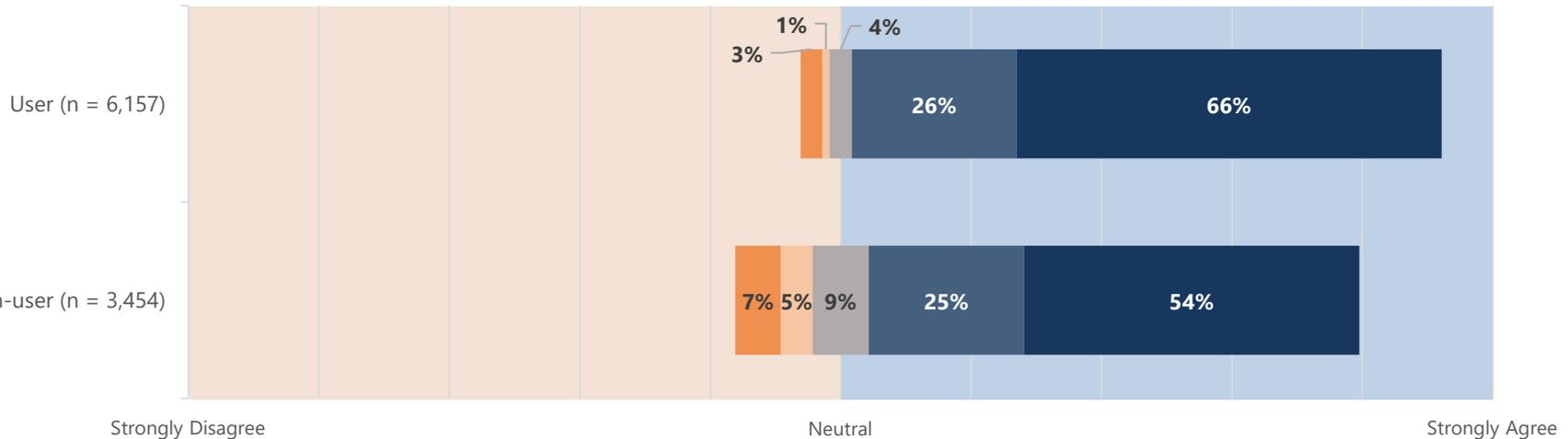
Respondents who did not believe a person can get a DUI for driving high were more likely to:

- Use more often

Respondents agreed that driving drunk and high is more dangerous than driving high.

It is more dangerous to drive under the influence of both marijuana and alcohol than to drive under the influence of only marijuana.

Strongly disagree Disagree Neutral Agree Strongly agree



- The vast majority of users and non-users agreed that it is more dangerous to drive under the influence of both marijuana and alcohol. 66% of users and 54% of non-users strongly agreed. About a quarter of both groups (26% of users and 25% of non-users) simply agreed.
- Few respondents, whether users (4%) or non-users (12%), disagreed with this statement.



Deeper Analysis

Respondents who agreed that driving drunk and high is more dangerous than driving only high were more likely to:

- Have more formal education
- Use more often
- Have higher household income
- English-language respondents

Respondents who did not believe driving drunk and high is more dangerous than driving high were more likely to be:

- Latinx, Spanish-language respondents
- Younger

Open-Ended Responses: What changes would you want to see around marijuana and driving while high?

Most people were frustrated by what they see as a lack of understanding of marijuana's impact on drivers. They **want more credible measures of impairment**.

- Most respondents said that drivers are less impaired by cannabis than alcohol, and many viewed the 5ng limit as arbitrary and not credible.
- Many believed that marijuana, to a greater effect than alcohol, affects each person differently. Some described how marijuana makes them feel more alert or more focused, but that campaign messaging typically does not acknowledge this effect (e.g., ads show people who are high as sleepy or slower).
- Many did not trust roadside testing and railed against their ineffectiveness, especially relative to alcohol breathalyzers.



Respondents had **polarized opinions about how to approach enforcement**.

- Many respondents thought driving under the influence of marijuana should not constitute a DUI. They felt such a penalty was excessive given that alcohol and marijuana (and their respective effects) were too different to compare. Some wanted to increase knowledge and influence opinion through public campaigns about the risks of driving high. A few specifically asked for campaigns focused on respect and responsibility.
- Many others wanted more enforcement; they argued that driving high should be treated the same as drunk driving. Some wanted increased penalties such as higher fines, longer license suspensions, and even jail time.



Marijuana supporters and critics **see government policies as out-of-touch**.

- People who accepted high drivers believed the powers-that-be were misguided in their approach or lacked the credibility to justify strict punishments. Some of these people were tired of what they saw as undue attention to a minor issue.
- People concerned about high drivers often did not support marijuana legalization. They wanted harsher penalties since they saw driving high as knowing endangerment of others.
- People noted tobacco and alcohol campaigns were effective and could serve as models for public campaigns about marijuana.



Most respondents have talked to their children about the dangers of driving high.

- Most (81%) respondents who have driving children between the ages of 15 and 34 years old talked to them about the dangers of driving under the influence of marijuana.



Deeper Analysis

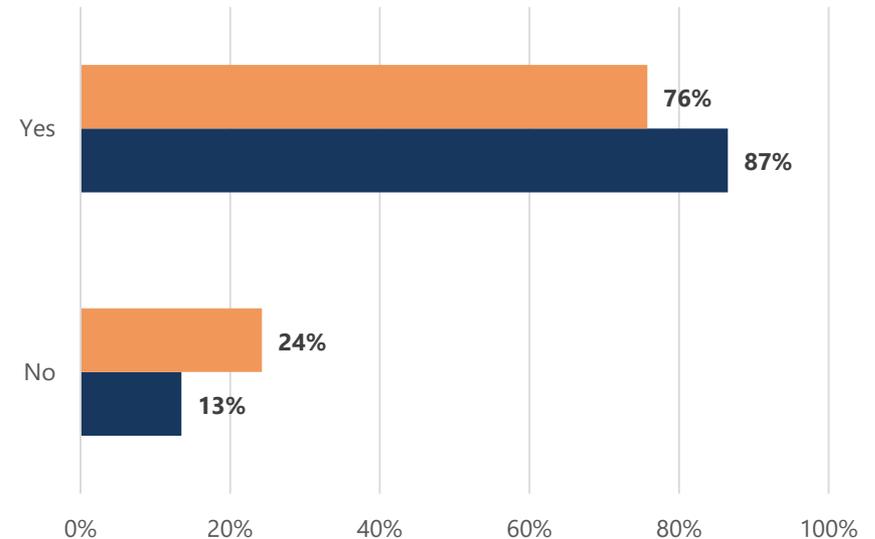
Respondents who have talked to their children about the dangers of driving under the influence of marijuana were more likely:

- Homemakers (two times more likely)
- To identify as Male or Female (not unlisted gender)
- Younger
- More formally educated
- Less frequent users

Have you ever talked to your children about the dangers of driving under the influence of marijuana?

Base: respondents aged 25+ with children aged 15-34.

Users (n = 1,064) Non-users (n = 1,068)



The Cannabis Conversation Survey

Cannabis Behaviors and Patterns of Use

Base: all respondents who consumed cannabis in the past year

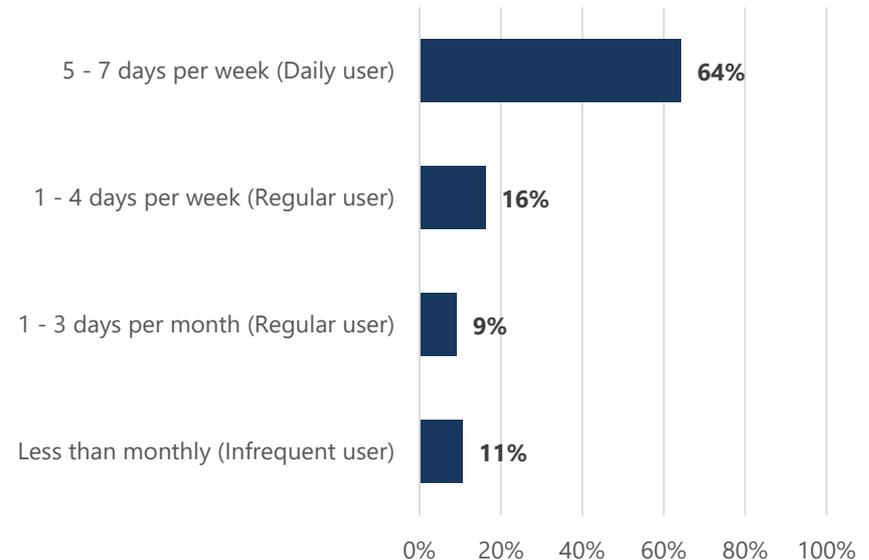
The majority of users said they consume marijuana daily.

Based on how often respondents consumed cannabis and on their pattern of responses for the survey, we identified three groups of users:

- **Daily users** (64%) consume cannabis 5 to 7 days per week.
- **Regular users** (25%) consume at least monthly, but fewer than 5 days a week (1-4 days per week and 1-3 days per month categories)
- **Infrequent users** (11%) consume cannabis less than monthly.

Which of the following best describes your marijuana use within the past year?

Base: all cannabis users (n = 8,487).



Deeper Analysis

Respondents who used marijuana more often were more likely to be:

- Male (twice as likely)
- Less formally educated
- Disabled
- Younger
- Employed full-time
- English-language respondents

Due to recruitment methods, this is NOT a representative or statistically valid sample of Coloradans. Generalizing to the entire population of Colorado was not a goal of this survey, and using these data to do so would be inappropriate.

Daily users tended to consume medically and recreationally. Infrequent users tended to consume recreationally.

- Most daily users (59%) consumed cannabis for medical and recreational purposes. About a quarter (24%) of daily users consumed cannabis purely for recreation and 17% used it strictly for medicinal purposes.
- Regular users were almost evenly split between consuming for both medical and recreational purposes (41%) and consuming strictly for recreation (46%).
- For the most part, infrequent users consumed exclusively for recreation (60%). However, some of them were medical users, either exclusively (16%) or in combination with recreation (25%).



Deeper Analysis

Compared to people who consumed medically and recreationally...

People who *only* consumed medically were more likely to be:

- Less frequent users
- Older
- Female
- People of color
- Region 2 (Southeast) residents
- Employed, homemakers, students, or retired
- Not disabled

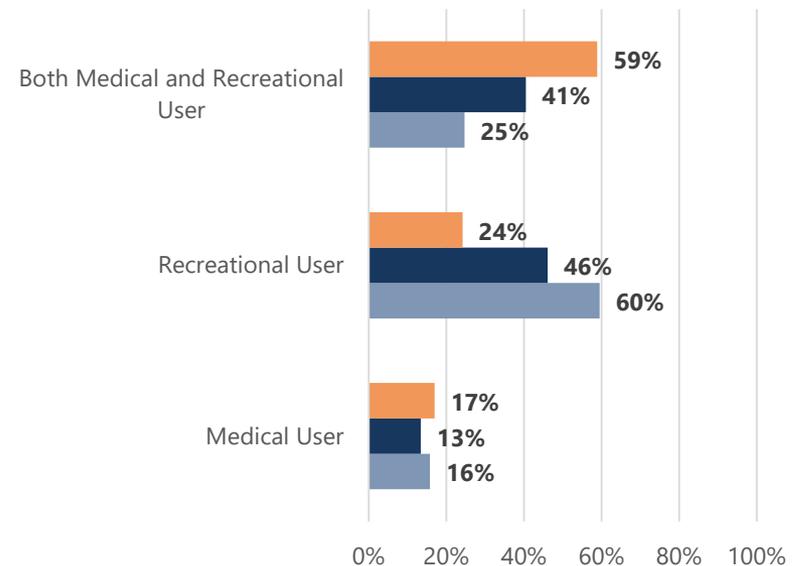
People who *only* consumed recreationally were more likely to be:

- Less frequent users
- Younger
- Male
- Latinx
- Less formally educated
- Outside Region 2 (Southeast)
- Not disabled
- Not homemakers

User Type

Base: all cannabis users.

■ Daily User (n = 5,274) ■ Regular User (n = 2,062) ■ Infrequent User (n = 859)



Most respondents acquired marijuana from a dispensary.

- Most respondents, regardless of how often they consumed, purchased cannabis through a dispensary (87% among daily users, 82% among regular users, and 71% among infrequent users).
- Infrequent users (30%) received marijuana from friends more often than other users (19% among regular users, 15% among daily users).



Deeper Analysis

People who *purchase from dispensaries* were more likely to be:

- Less frequent users
- Less formally educated
- Not disabled
- Younger
- Male
- Students
- Not unemployed or not employed full-time
- Outside Region 1 (Denver area) or Region 4 (Northeast)

People who *purchase from a private seller* were more likely to be:

- More frequent users
- Employed part-time, or student
- Male
- Outside Region 1 (Denver area) or Region 4 (Northeast)
- Less formally educated

People who *receive marijuana from friends* were more likely to be:

- Less frequent users
- Employed part-time
- English-language respondents
- Lower income
- Outside Region 1 (Denver area)

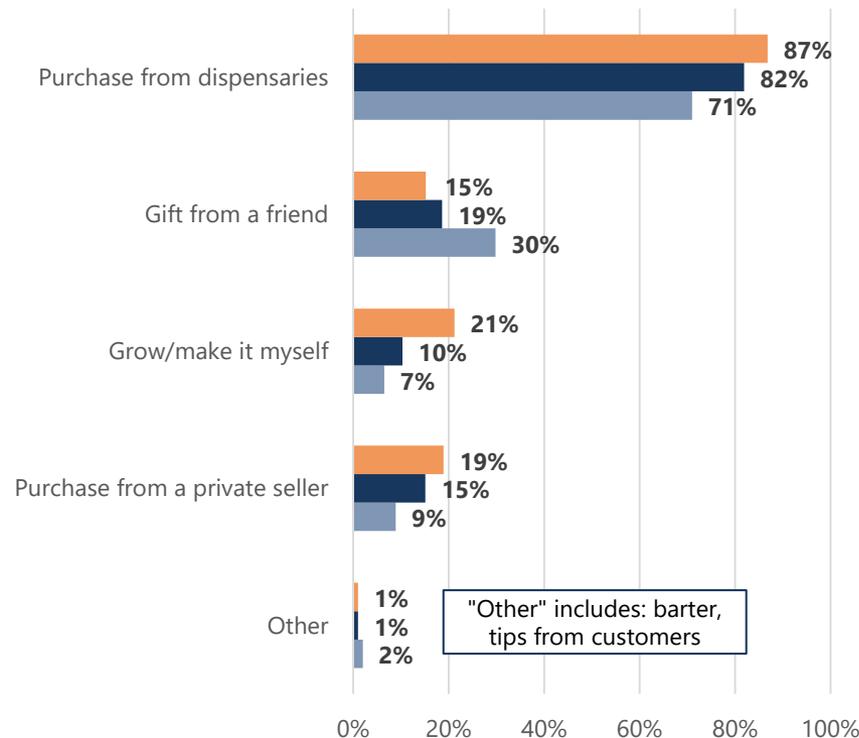
People who *grow marijuana* were more likely to be:

- More frequent users (two times more likely)
- Homemakers
- Male
- English-language respondents
- Disabled
- Older
- Residents of a region other than Region 1 (Denver area)

Where do you typically acquire marijuana (in any form)?

Base: all cannabis users. Multiple responses allowed. Percentages add to more than 100%.

■ Daily User (5,285) ■ Regular User (n = 2,068) ■ Infrequent User (n = 865)

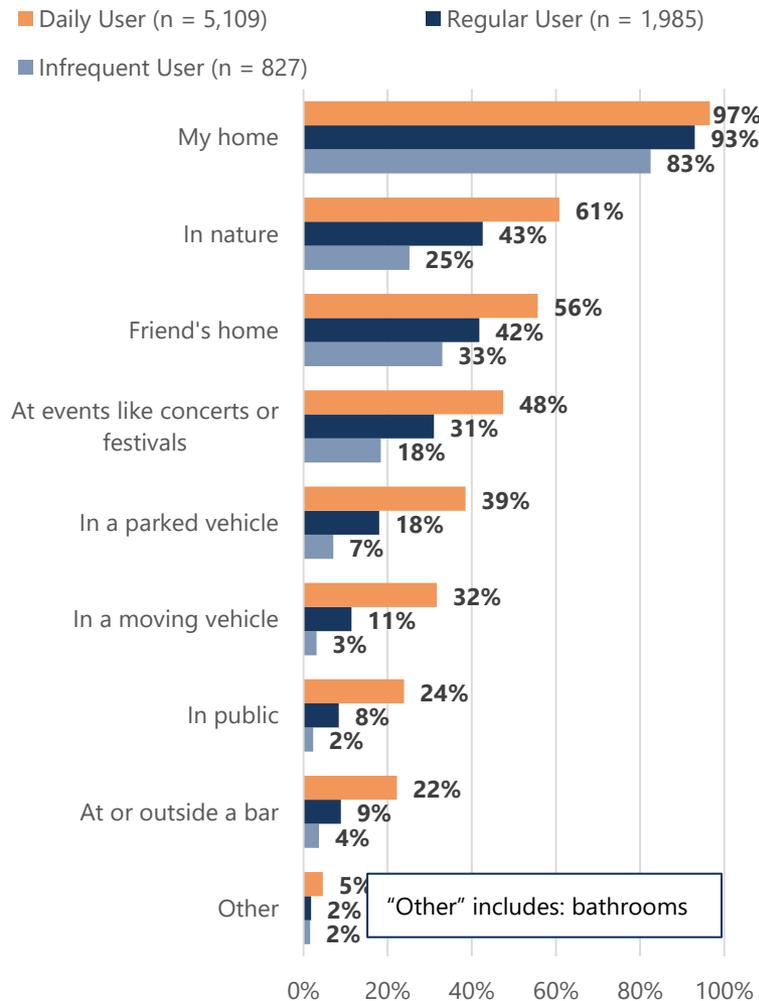


Respondents who use often are more likely to consume outside of their home and in more places.

- Almost all daily (97%) and regular (93%) users, and most infrequent users (83%), consumed cannabis at home.
- Daily users consumed in a wider range of locations than other users. About half of daily users consumed in nature (61%), at a friend's home (56%), or at events (48%). Regular users consumed in these locations less often (43% in nature, 42% friend's home, and 31% at events). Infrequent users were the least likely to consume outside their home.
- Few regular and infrequent users consumed in public spaces such as a bar (9% and 4%, respectively), a moving vehicle (11% and 3%, respectively), or in public (8% and 2%, respectively). Daily users consumed at a bar (22%), in public (24%) or in a moving vehicle (32%) more often.

Where do you typically use marijuana?

Base: all cannabis users. Multiple responses allowed. Percentages add to more than 100%.



Deeper Analysis

Respondents who consumed *at home* were more likely to be:

- Unemployed (three times more likely)
- More frequent users (three times more likely)
- Employed full-time (over two times more likely)
- English-language respondents

Respondents who consumed *in a moving vehicle* were more likely to be:

- More frequent users (four times more likely)
- Unlisted gender(s)
- Employed full-time
- Female
- Younger
- English-language respondents

Respondents who consumed *in nature* were more likely to be:

- More frequent users (two times more likely)
- Younger
- Outside Region 1 (Denver area)
- Region 3 residents (three times more likely)
- English-language respondents

English-language respondents were more likely to consume:

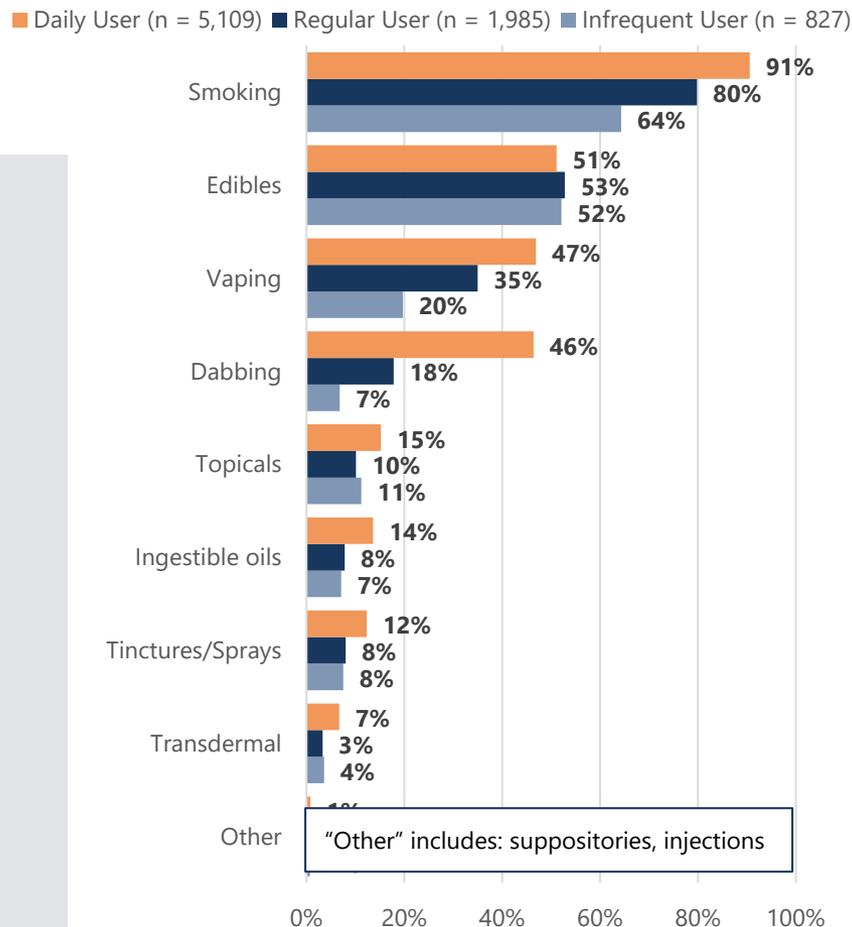
- At home
- In friend's home
- In public
- In a moving vehicle
- At events

Daily users more frequently consumed marijuana using a wider variety of methods.

- Smoking was by far the most popular way respondents consumed marijuana, regardless of how often they consumed (91% among daily users, 80% among regular users, 64% of infrequent users).
- About half of daily users consumed via edibles (51%), vaping (47%), or dabbing (46%).
- Regular (53%) and infrequent (52%) users preferred edibles to vaping (35% and 18%, respectively) or dabbing (20% and 7%, respectively).

How do you typically consume marijuana?

Base: all cannabis users. Multiple responses allowed. Percentages add to more than 100%.



Deeper Analysis

Respondents who *smoke* were more likely to be:

- More frequent users (two times more likely)
- Less formally educated
- Male
- Younger
- Lower income
- Employed full-time

Respondents who *vape* were more likely to be:

- More frequent users
- Outside Region 2 (Southeast)
- Male
- Disabled
- Younger
- More formally educated
- Employed full-time

Respondents who *dab* were more likely to be:

- More frequent users (four times more likely)
- Less formally educated
- Male
- Lower income
- English-language respondents
- People of Color

English-language respondents were more likely to consume marijuana through:

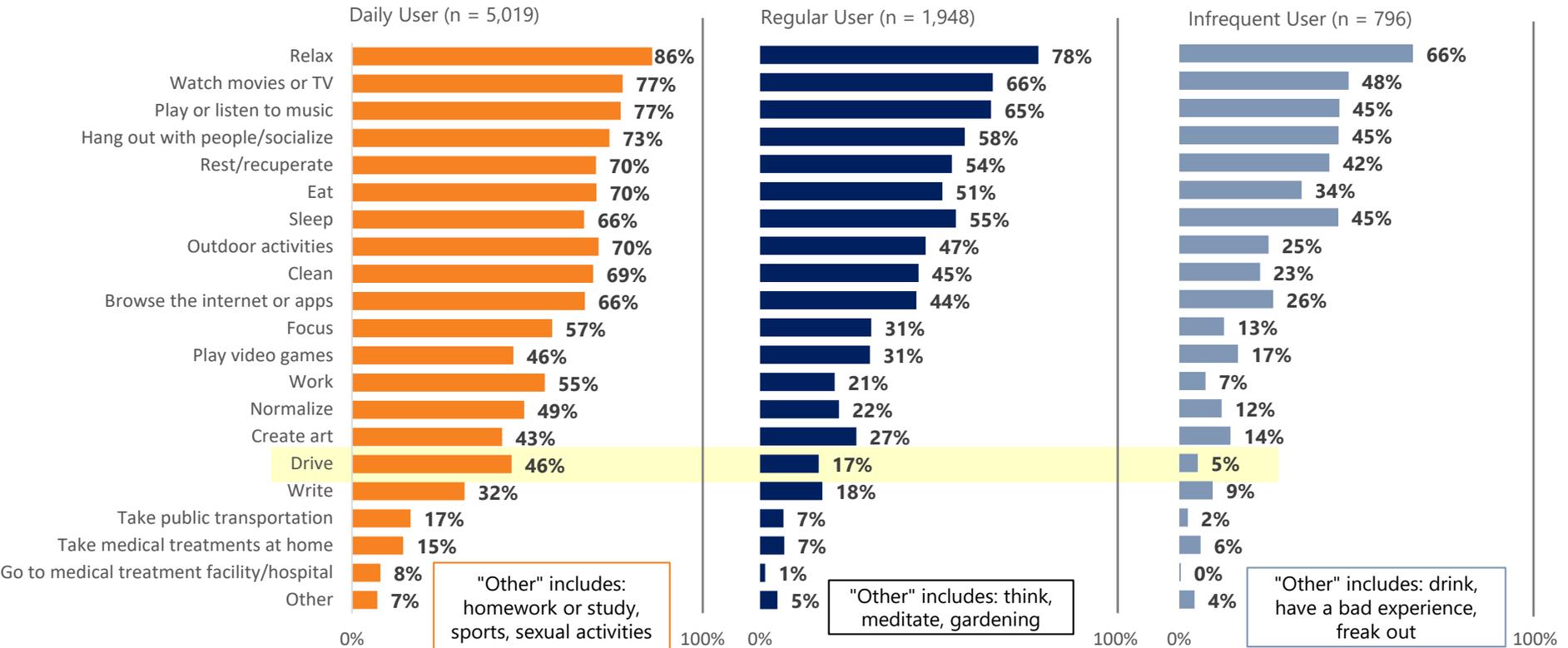
- Edibles
- Topicals

Daily users did a wider range of activities while high than people who consume less often.

- Daily users engaged in a wider variety of activities after consuming than regular or infrequent users.
- Daily users were more likely to say they consumed to focus or to drive.

What do you typically do while high?

Base: all cannabis users. Multiple responses allowed. Percentages add to more than 100%.



The Cannabis Conversation Survey

Driving Under the Influence

Base: all respondents who consumed cannabis in the past year

Driving Behavior

Quick Facts

83%

of daily users thought it was not necessary to find alternative transportation because they felt safe driving themselves.

48%

of recreational users thought marijuana did not affect their ability to drive.

46%

of daily users have driven under the influence of marijuana with passengers who did not know the driver was high.

41%

of daily users reported driving high 5-7 days a week.



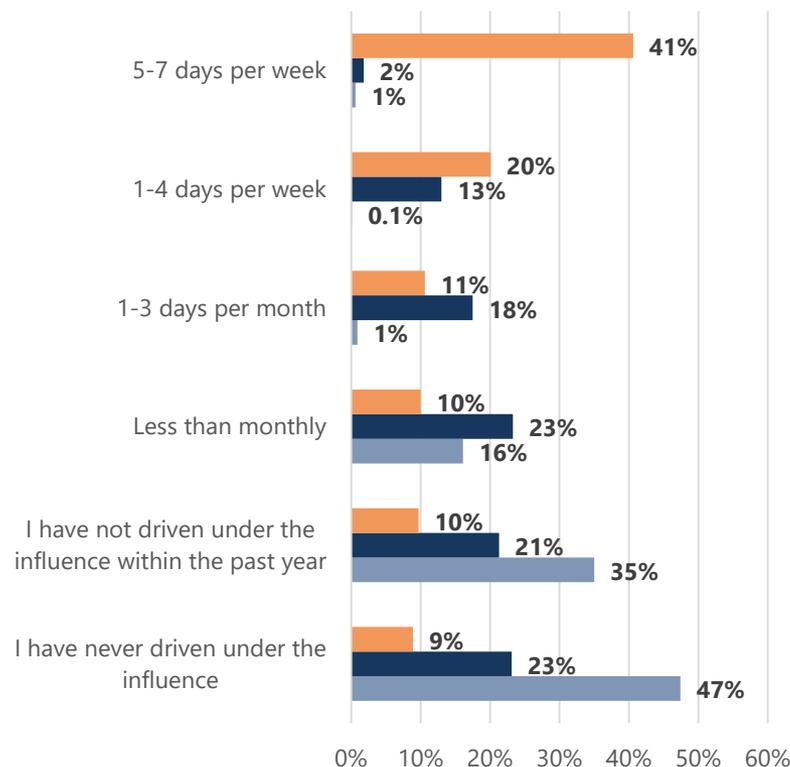
The more often people used marijuana, the more often they drove under the influence of marijuana.

- Frequent users drove under the influence of marijuana more often than respondents who used marijuana infrequently. Many daily users (41%) drove under the influence 5-7 days per week this year.
- Not all users drove under the influence. Overall, nearly a third (31%) of users reported they have not driven under the influence within the past year or they have never done so.
- Most infrequent users (82%) had not driven under the influence of marijuana within the past year or have never done so. Almost half (44%) of regular users and almost a third (29%) of daily users had not driven under the influence of marijuana in the past year.

How often do you drive under the influence of marijuana?

Base: all cannabis users.

■ Daily User (n = 4,572) ■ Regular User (n = 1,763) ■ Infrequent User (n = 703)



Deeper Analysis

Respondents who drove under the influence of marijuana more often were more likely to be:

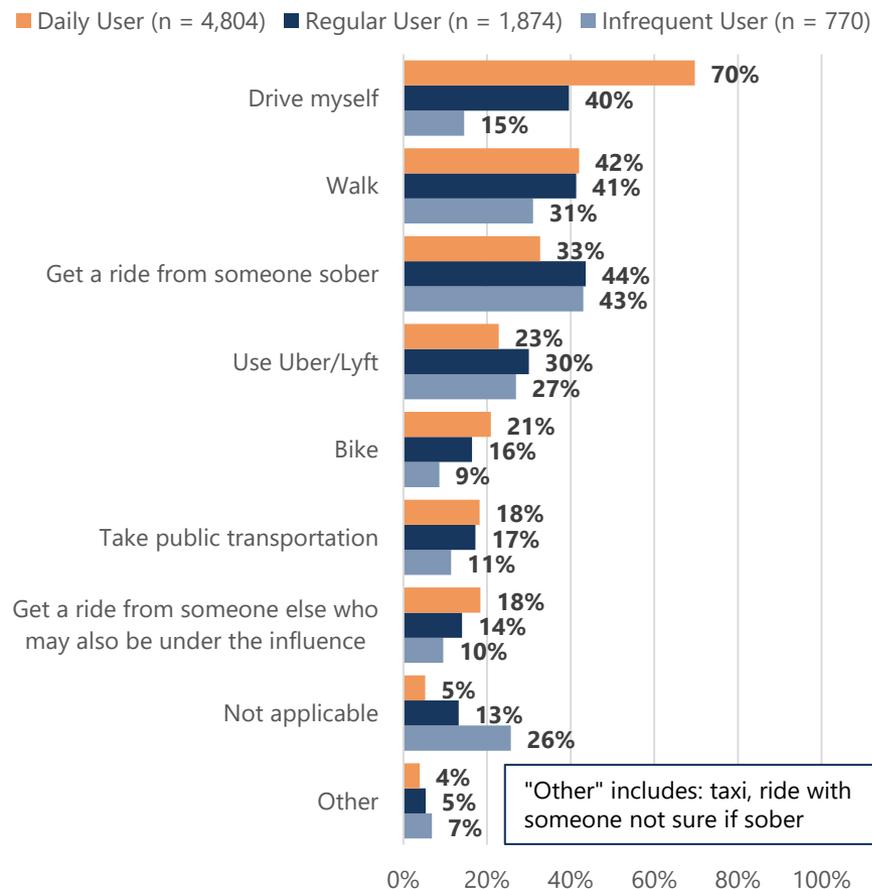
- More frequent users (five times more likely)
- Employed full or part-time
- Retired
- Male
- Outside Region 1 (Denver area)
- Younger
- Less formally education
- Lower income
- English-language respondents

Most daily users chose to get around by driving themselves when they were under the influence.

- 70% of daily users chose to drive themselves when they were under the influence of marijuana. Other common means of getting around for daily users included walking (42%) and getting a ride from someone sober (33%).
- Regular users were about equally likely to get a ride from someone sober (44%), walk (41%), or drive themselves (40%) when they were under the influence.
- Infrequent users did not trend toward a specific mode of travel when high. They were more likely to get a ride from someone sober (43%), walk (31%), use Lyft or Uber (27%), or not go anywhere (26%) than they were to drive themselves (15%).
- Roughly a quarter of users (regardless of frequency of use) used Lyft or Uber to get around when they were under the influence.

How do you get around if you're under the influence of marijuana?

Base: all cannabis users. Multiple responses allowed. Percentages sum to more than 100%.



Deeper Analysis

Respondents who *drove themselves* when they were under the influence were more likely to be:

- More frequent users (four times more likely)
- Employed part-time or full-time
- Male
- Students
- Younger
- Less formally educated

Respondents who *rode with someone sober* were more likely to be:

- Disabled
- Homemakers
- Infrequent users
- Younger
- More formally educated
- Higher income

About half of users said marijuana did not affect their ability to drive.

- About two-thirds (63%) of medical users said that when they use marijuana medically it does not affect their ability to drive or that it makes them a better driver.
- When asked about using marijuana recreationally, opinions differed between recreational-only users and medical and recreational users.
 - About half of recreational-only (49%) users and more than two-thirds (69%) of medical and recreational users said that using recreationally does not affect their ability to drive or that it makes them a better driver.
 - 39% of recreational-only users and 24% of recreational and medical users believed that it affected their driving ability.



Deeper Analysis

Respondents who thought marijuana did not affect their ability to drive were likely:

- Using more often
- Male

Respondents who thought marijuana made them a better driver were likely:

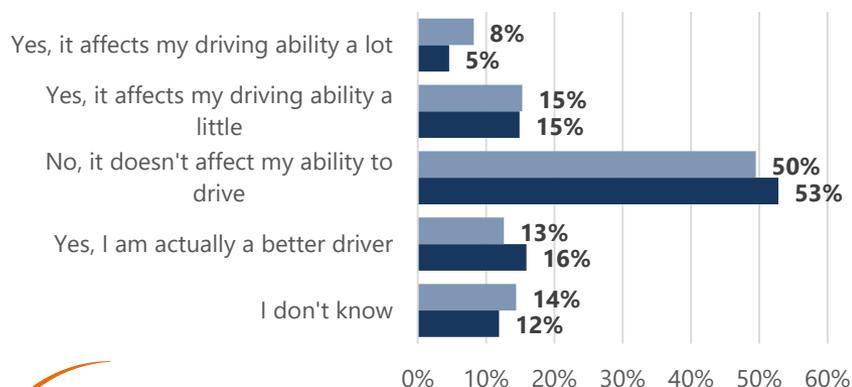
- Retired (two times more likely)
- Younger

Spanish-language respondents were more likely to:

- Say, "yes it affects my ability a lot when I use medically"

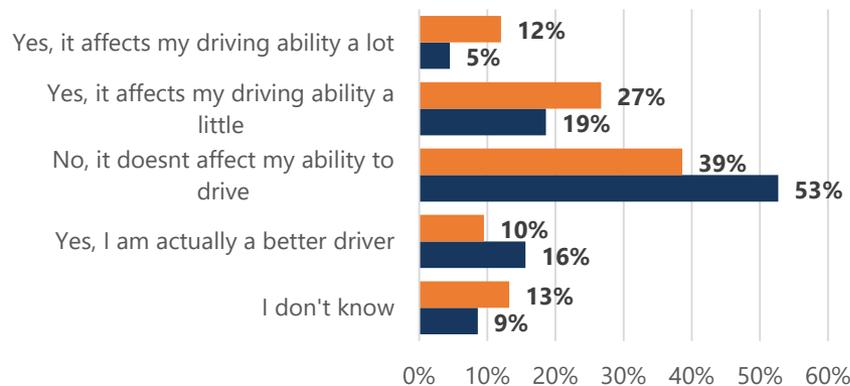
When you use marijuana *medically*, do you think it affects your ability to drive?

- Medical-only users (n = 1,139)
- Medical and recreational users (n = 3,662)



When you use marijuana *recreationally*, do you think it affects your ability to drive?

- Recreational-only users (n = 2,294)
- Medical and recreational users (n = 3,662)

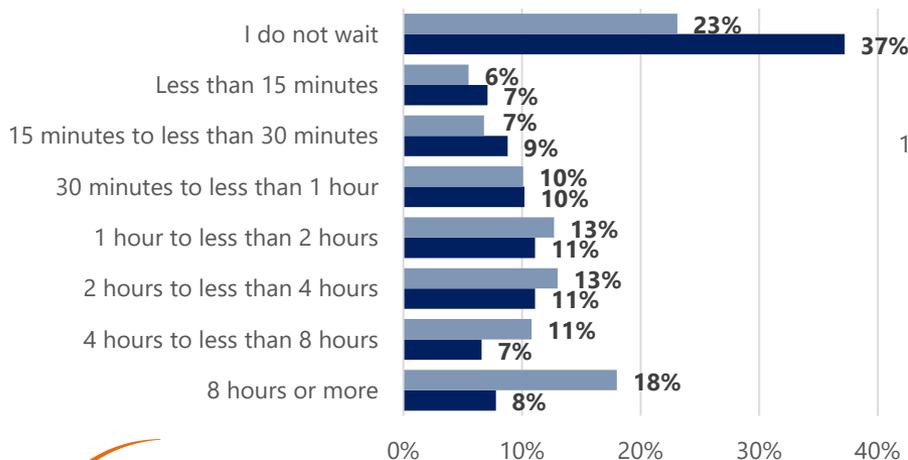


Almost half of users did not wait long before they drove, especially if they consumed marijuana frequently.

- The current recommendation is that people should wait at least 4 hours after using marijuana to drive. We found that less than a third of medical-only (29%) or recreational-only (24%) users waited this long to drive. Very few medical and recreational users (12% when using recreationally and 15% when using medically) waited that long.
- Of all users who drove after consuming, about half did not wait at all or waited less than 30 minutes before they drove.
- People who used both medically and recreationally were more likely to not wait after consuming before driving relative to people who only used medically or who only used recreationally.

After using marijuana *medically*, about how long do you typically wait before you drive?

■ Medical-only users (n = 1,122) ■ Medical and recreational users (n = 3,579)



Deeper Analysis

Respondents who waited longer before they drive are likely:

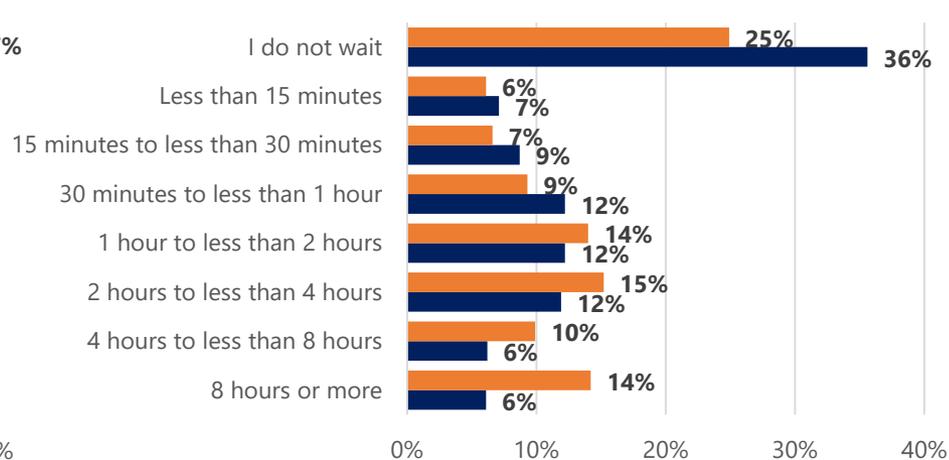
- Using less often
- Female
- Older
- More formally educated
- Medical users from Region 1 (Denver area) or 4 (Northeast)

Respondents who waited for less time or did not wait before they drive are likely:

- Recreational users employed full-time
- Users who consume both medically and recreationally

After using marijuana *recreationally*, about how long do you typically wait before you drive?

■ Recreational-only users (n = 2,294) ■ Medical and recreational users (n = 3,579)



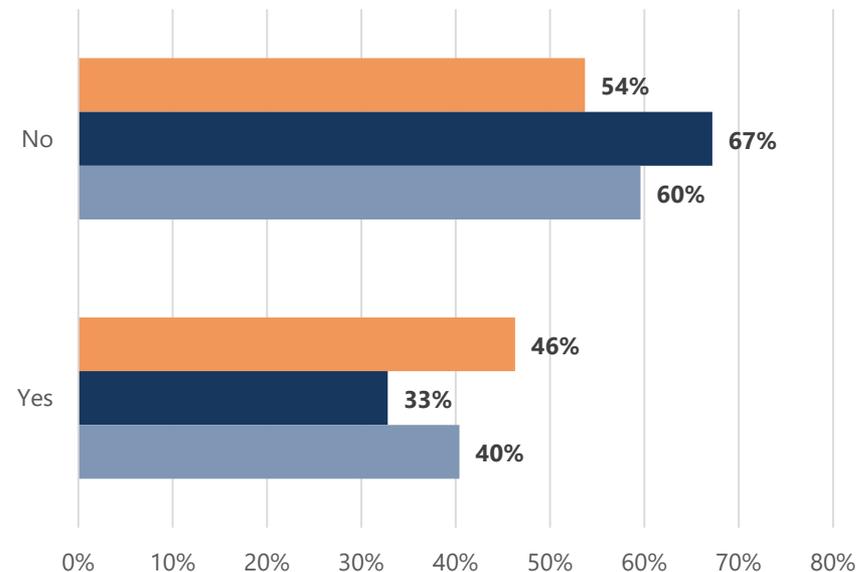
More than a third of users had driven high with a passenger who was not aware the driver was high.

- Of respondents who had driven under the influence of marijuana, 57% said they had not driven under the influence of marijuana with passengers who did not know they were high.
- Daily users were the most likely to say they had driven with passengers who did not know they were high (46%) while regular users were the least likely (33%). Infrequent users were in the middle, though we asked very few infrequent users this question because most infrequent users had not driven under the influence.

Have you ever driven under the influence of marijuana with passengers in your vehicle who didn't know you were high?

Base: respondents who have driven under the influence of marijuana within the past year.

■ Daily User (3,526) ■ Regular User (n = 912) ■ Infrequent User (n = 104)



Deeper Analysis

Respondents who had driven under the influence with unaware passengers are likely:

- Less frequent users
- Older
- Male
- Retired
- Employed part-time
- Employed full-time
- Spanish-language respondents

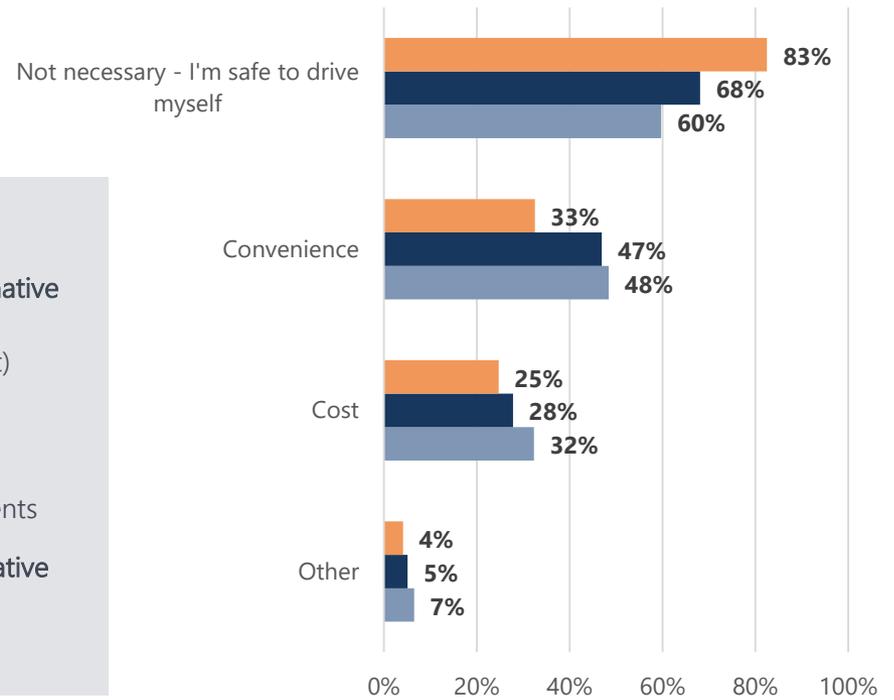
Feeling safe to drive kept users from taking alternative forms of transportation when high, especially daily users.

- Most users who had driven under the influence said that an alternative form of transportation was not necessary because they were safe to drive themselves.
- Convenience was a barrier for almost half of infrequent (48%) and regular (47%) users and a third (33%) of daily users.
- Cost was a barrier for between a quarter and a third of all users.

What prevents you from using an alternative form of transportation when you are high?

Base: cannabis users who drive themselves to get around while under the influence of marijuana.

■ Daily User (n = 2,958) ■ Regular User (n = 608) ■ Infrequent User (n = 62)



Deeper Analysis

Respondents who said *cost* prevents them from using alternative transportation are likely:

- Unemployed (two times more likely)
- Younger
- Have more formal education
- Not in Region 3 (Northwest)
- Use less often
- Lower household income
- English-language respondents

Respondents who said *convenience* prevents them from using alternative transportation are likely:

- Spanish-language respondents

Marijuana and Alcohol



Quick Facts

94%

of daily users said drinking and driving is more dangerous than driving under the influence of marijuana or marijuana and alcohol combined.

85%

of regular users would not drive high if they thought it was as dangerous as driving under the influence of alcohol.

46%

of infrequent users “don’t know” if combining marijuana and alcohol affects their ability to drive.

33%

of daily users never drink alcohol when they consume marijuana.

It was uncommon for users to combine marijuana and alcohol, particularly for daily users.

- The majority of users (69%) said they rarely or never combine marijuana and alcohol.
- However, a sizeable portion of users (26%) said they sometimes drink alcohol when they are also using marijuana.
- Only 5% of users said they drink most or all of the time when they use marijuana. Daily users rarely combined alcohol and cannabis (4%), regular users and infrequent users were slightly more likely to do so (7% and 9%, respectively).



Deeper Analysis

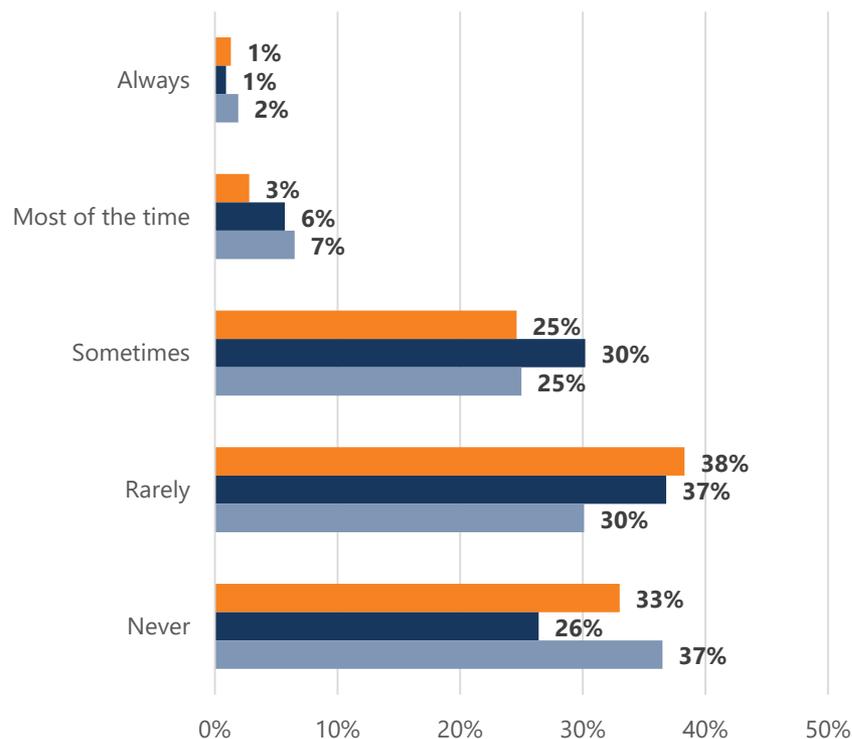
Respondents who combined marijuana and alcohol were more likely to be:

- Not disabled (two times more likely)
- Homemaker
- Outside Region 1 (Denver area) or 2 (Southeast)
- Male
- White
- Infrequent users
- More formally educated
- Higher income
- Younger

When you use marijuana, how often do you also drink alcohol?

Base: all cannabis users.

■ Daily User (n = 4,978) ■ Regular User (n = 1,930) ■ Infrequent User (n = 787)



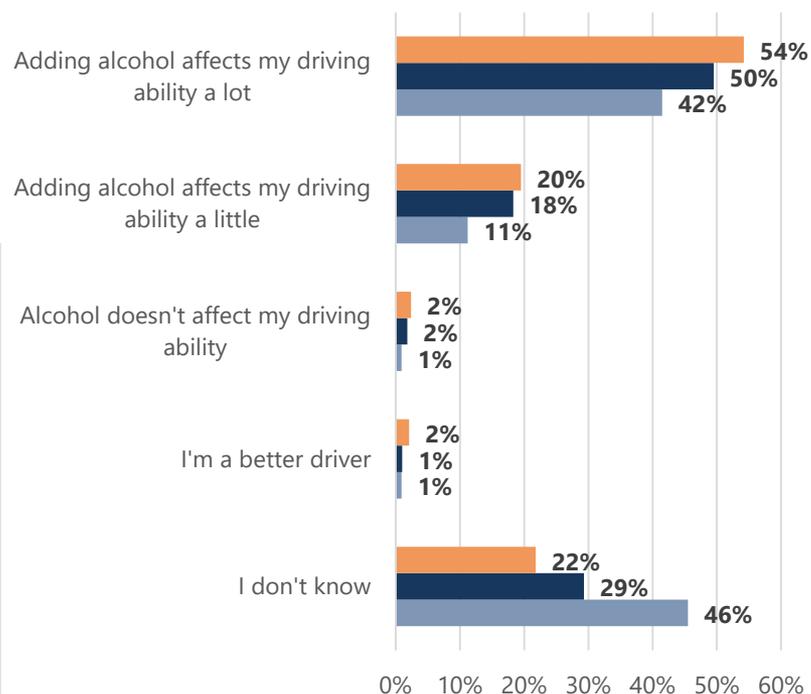
Most users said combining alcohol with marijuana affected their ability to drive.

- Of those who combine marijuana and alcohol, a slim majority of daily marijuana users (54%) said that combining alcohol with marijuana affects their driving ability a lot. Half of regular users (50%) and less than half of infrequent (42%) users said that adding alcohol affects their driving ability a lot.
- Daily (20%) and regular (18%) were also similar in terms of how many said adding alcohol affects their driving ability a little. Again, fewer infrequent users (11%) were in agreement.
- Far more infrequent users (46%) said they did not know how combining alcohol with marijuana affects their driving. In contrast, around a quarter of daily (22%) and regularly (29%) users said they did not know.

How does combining alcohol with marijuana affect your ability to drive?

Base: cannabis users who combine marijuana and alcohol.

■ Daily User (n = 3,024) ■ Regular User (n = 1,272) ■ Infrequent User (n = 429)



Deeper Analysis

Compared to respondents who said adding alcohol affected their driving ability a lot...

Respondents who said they are a *better* driver were more likely to be:

- An unlisted gender (six times more likely)
- People of color (over two times more likely)
- Spanish-language respondents (three times more likely)

Respondents who said alcohol *doesn't* affect them were more likely to be:

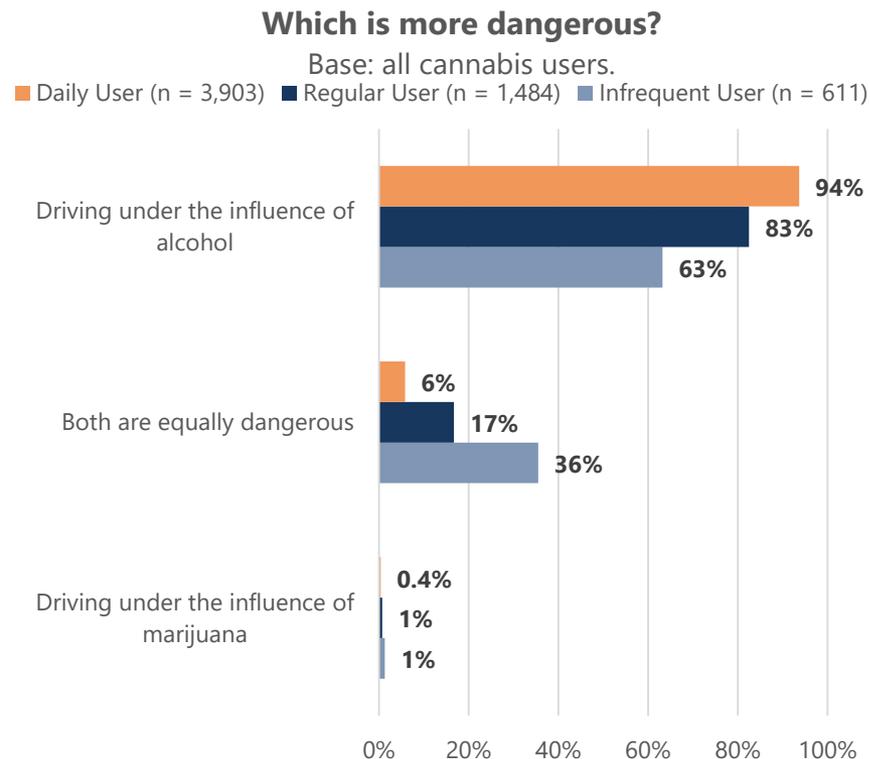
- Latinx (four times more likely)
- Students

Respondents who said alcohol *affects* them a *little* were more likely to be:

- Homemakers
- Lower income
- Male
- Latinx (two times more likely)
- Spanish-language respondents (three times more likely)

Drinking and driving was overwhelmingly seen as more dangerous than driving under the influence of marijuana.

- Daily users overwhelmingly (94%) believed that driving under the influence of alcohol is more dangerous than driving under the influence of marijuana. Most regular and infrequent users also believed this (83% and 63%).
- Interestingly, more than a third (36%) of infrequent users said that both driving under the influence of alcohol and driving under the influence of marijuana are equally dangerous. Only 6% of daily users said this.
- Almost none of the cannabis users said driving high was more dangerous than drinking and driving.



Deeper Analysis

Compared to respondents who said drunk driving is more dangerous...

Respondents who believed driving under the influence of marijuana is more dangerous likely:

- Unlisted gender(s) (three times more likely)
- Use less often (over two times more likely)

Respondents who believed both are equally dangerous likely:

- Use less often (three times more likely)
- Disabled
- Latinx
- Female
- Older

English-language respondents were more likely to:

- Agree that it is more dangerous to drive under the influence of both marijuana and alcohol

Open-Ended Responses: Which is more dangerous (alcohol, marijuana, or equally dangerous), and why?

Both are **equally** dangerous (n = 3,326)

- These respondents thought both marijuana and alcohol impaired reaction time and sound judgement on the road. Many asserted that the danger and risk of injury was the same when driving under the influence of either substance. Some described how being high or being drunk affects the body in the same way, while others offered a more nuanced perspective of the mental effects.
- Notably, many people described how marijuana and alcohol affect “all five senses” and create the same danger. This focus on the whole-body effects was common in this group of respondents.



Driving under the influence of **alcohol** is more dangerous (n = 6,342)

- These respondents said alcohol more severely affects motor function, coordination, judgement, overconfidence/loss of inhibitions, and aggression. Many saw alcohol as more physically disruptive and therefore more dangerous. A few described alcohol as addictive, thus creating reoccurring problems, whereas marijuana was seen as non-addictive or consumed in quantities that impaired people less.
- Furthermore, this group argued that cannabis has more mental and fewer physical effects than alcohol. These respondents considered marijuana’s effects to be less disruptive to driving abilities and more dependent on individual tolerance level.



Driving under the influence of **marijuana** is more dangerous (n = 89)

- These respondents were concerned that marijuana does not have benchmarks for impairment as alcohol does (i.e. 1 standard drink takes ~1 hour to metabolize). They were also concerned that marijuana may affect each person differently, thereby increasing the chances someone over-estimates their driving ability.

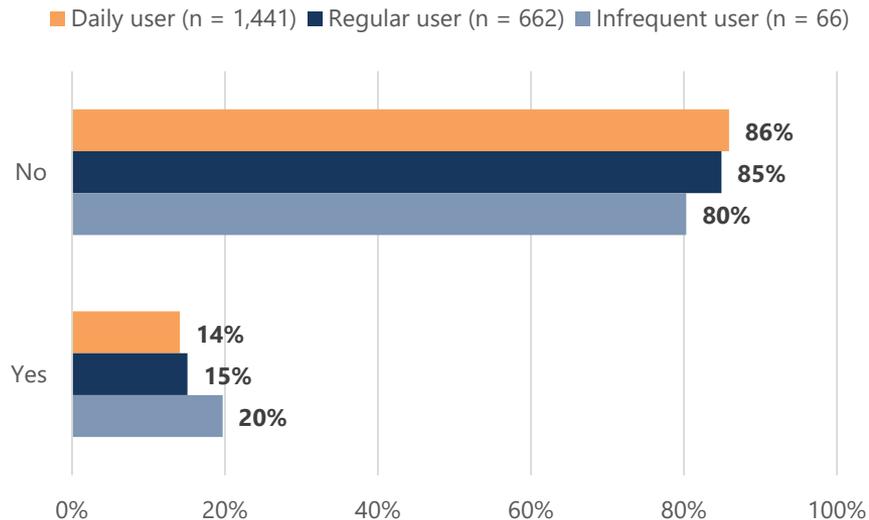


Users said they would NOT drive high if they thought it was as dangerous as drunk driving.

- Regardless of how often they consumed cannabis, most users (80-86%) reported that they would not drive high if they thought driving high was as dangerous as drunk driving.
- Slightly more infrequent users (20%) than other types of users (14% among daily users; 15% among regular users) said they would still drive high even if they thought it was as dangerous as drunk driving.
- Respondents who would still drive high even if they thought it was as dangerous as drunk driving were more likely to be Spanish-language respondents.

If you thought driving high was as dangerous as drunk driving, would you still drive high?

Base: cannabis users who drive under the influence of marijuana AND think driving under the influence of alcohol is more dangerous than driving under the influence of



Deeper Analysis

Respondents who would still drive high even if they thought it was as dangerous as drunk driving were more likely to be:

- Spanish-language respondents (over two times more likely)

Deterrence

Quick Facts

81% of all respondents with children have talked to their kids about the dangers of driving high.

73% of infrequent users consume less marijuana if they know they will need to drive.

61% of daily users typically did not plan to find a ride because they feel they are okay to drive.

57% of regular users would drive high less often if they knew police were just as capable of arresting high drivers as drunk drivers.



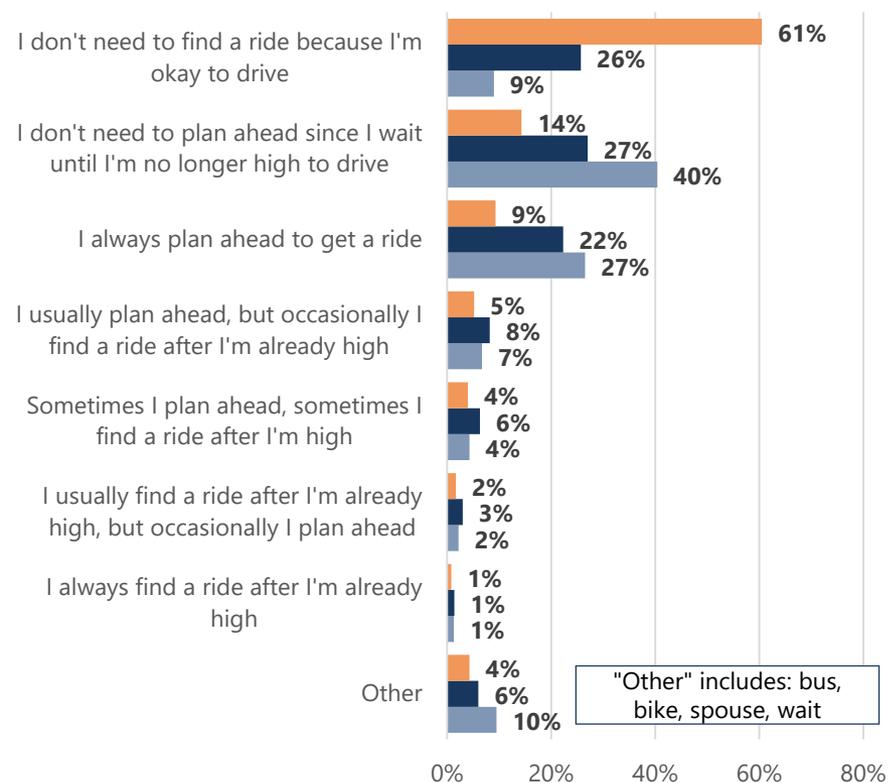
Most people said they did not need to find a ride because they were okay to drive or waited until their high was over.

- Most daily cannabis users said they do not need to find a ride when they know they will consume because they felt they could safely drive high. While many daily users felt this way (61%), only 25% of regular users and 9% of infrequent users agreed.
- Regular users were nearly split between waiting until they were no longer high (27%), not needing to plan because they felt okay to drive (26%), and always planning ahead (22%).
- Generally, infrequent users (40%) said they waited until they were no longer high to drive and did not plan to find a ride. About a quarter (27%) said they always planned ahead.

How do you get around when you know you will be using marijuana?

Base: all cannabis users.

■ Daily User (n = 3,973)
 ■ Regular User (n = 1,518)
 ■ Infrequent User (n = 623)



Deeper Analysis

Compared to those who never planned ahead...

Respondents who *always* planned ahead are likely:

- Less frequent users (over three times more likely)
- Female
- More formally educated
- Higher income

Respondents who *waited until they were no longer high* are likely:

- Less frequent users (over three times more likely)
- Female
- Older
- More formally educated
- Outside Region 5 (Southwest)
- Employed full-time, part-time, or a student

Open-Ended Responses: What, if anything, would convince you to not drive high?

The decision to drive high was **very personal**.

- Many people used statements like, "I feel fine," "I know myself," "I wouldn't drive if I thought I was too high."
- Some people were convinced they were fine, if not better, drivers while high. An equal number were very cautious and took extra precautions when driving high.
- Some people talked about how they would not drive high if they had family members or children in the car. A few said they wanted to know more about the risks so they could make a more informed decision.



The vast majority of respondents wanted **more credible science and justification**.

- Many people did not find current statistics and studies convincing enough to merit changing their behavior or warrant the kind of scrutiny law enforcement and local government puts on driving high. Additionally, some respondents said they had heard there was research that cannabis improves reaction time or driving ability. Others offered to participate in studies that would experimentally determine driving ability.
- Some expressed frustration that their personal experience of safely driving high was not respected, particularly when they did not see credible, objective evidence that it is unsafe.
- Many people wanted proof that marijuana significantly impairs driving ability. They also wanted a guarantee that law enforcement would treat them fairly (current tests struggle to distinguish between people who smoked recently versus those who smoked days or weeks ago).



Additional transportation options could help.

- Some respondents wanted additional transportation options like rail, metro, and cheaper ride-shares so they would not have to drive high in the first place.



Enforcement and civic responsibility deter people from driving under the influence.

- Many cited DUI checkpoints, getting pulled over, causing an accident, or hurting someone as big deterrents to driving high in the future.

Travel conditions were the top consideration people made when deciding whether to drive after using marijuana.

- Overall, travel conditions were the most common consideration for respondents deciding whether to drive after using marijuana.
- Over half of regular (55%) and infrequent (54%) users considered how recently they consumed cannabis before deciding whether to drive. Only about a third (34%) of daily users considered the same thing.
- Some daily users (17%) did not consider anything before they drive, but only 7% of regular or infrequent users said the same.



Deeper Analysis

Respondents who considered travel conditions were likely:

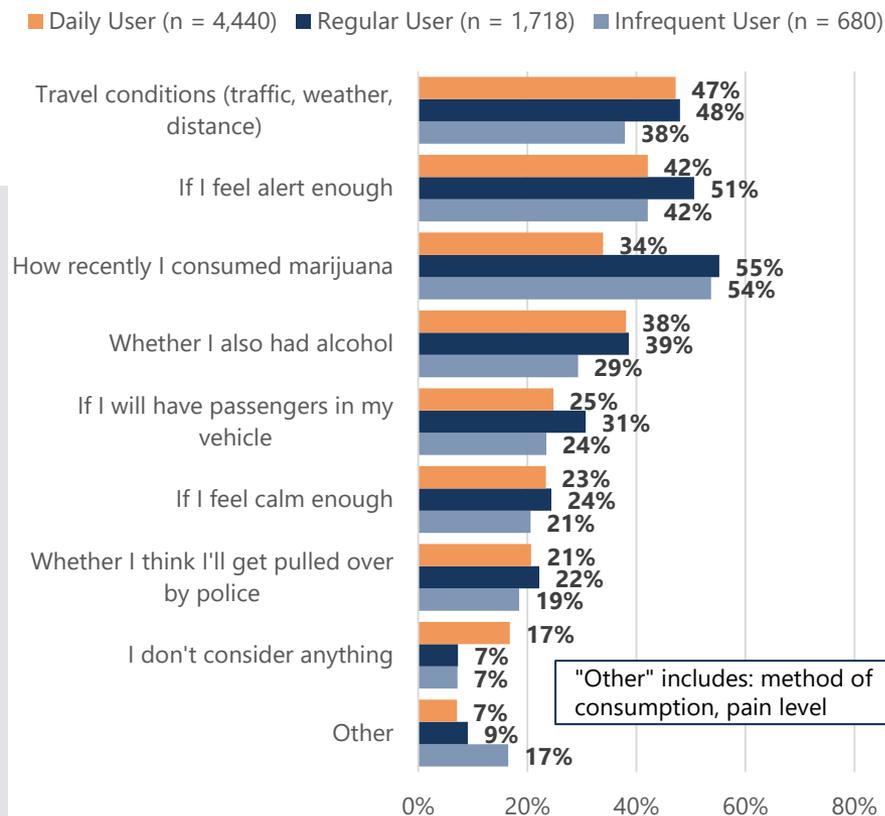
- Students
- Female
- More frequent users
- Older
- More formally educated
- Higher income

Respondents who considered if they were alert enough were likely:

- Less frequent users (over three times more likely)
- Students
- Outside Region 5 (Southwest)
- Female
- Younger
- Higher income

What do you consider when deciding whether to drive after using marijuana?

Base: all cannabis users. Multiple responses allowed.
Percentages add to more than 100%.



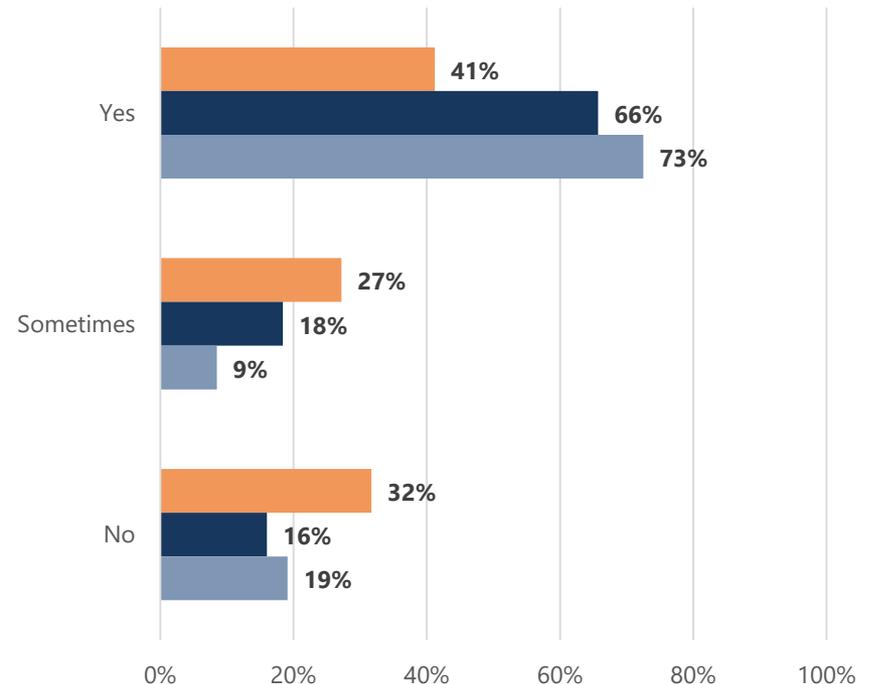
Most people consumed less if they knew they would need to drive.

- Most infrequent users (73%) and regular users (66%) said they consume less marijuana if they know they will need to drive.
- Only 41% of daily users said they consume less if they need to drive, while 32% said the don't. Additionally 16% of regular users and 19% of infrequent users said they don't consume less if they know they will need to drive.

If you know you will need to drive, do you consume less marijuana?

Base: all cannabis users.

■ Daily User (n = 4,426) ■ Regular User (n = 1,651) ■ Infrequent User (n = 606)



Deeper Analysis

Respondents who consumed less if they knew they would need to drive were likely:

- Less frequent users (two times more likely)
- Not disabled
- Not employed full-time
- More formally educated

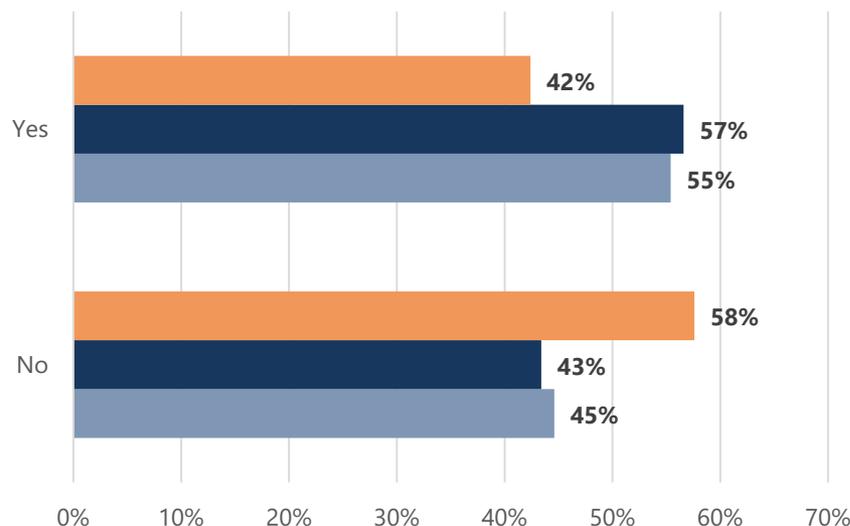
Users would drive high less often if they knew police could arrest high drivers as easily as drunk drivers.

- When asked to consider the possibility that police were just as capable of arresting high drivers as well as drunk drivers, about half of respondents who drive high were deterred. Overall, about half (53%) said that they would drive high less often if this were the case.
- More respondents who were regular (57%) or infrequent (55%) users said they would drive high less often, but fewer than half of daily users (42%) said the same.

If you knew police were just as capable of arresting high drivers as drunk drivers, would you drive high less often?

Base: all cannabis users who drive under the influence of marijuana.

■ Daily User (n = 1,549) ■ Regular User (n = 739) ■ Infrequent User (n = 83)



Deeper Analysis

Respondents would drive high less often if they knew police were just as capable of catching high drivers as drunk drivers were more likely to:

- Use less often
- Live outside Region 2 (Southeast)

The Cannabis Conversation Survey

Non-Users

Base: respondents who have not consumed cannabis in the past year, including those who have never consumed cannabis

Among non-users, riding with a high driver was more common for those who had consumed cannabis before.

- A majority (67%) of respondents who have never used marijuana said they have not been a passenger to someone driving high.
- In contrast, a slim majority (57%) of those who have not used marijuana in the past year said they have ridden with someone driving high.



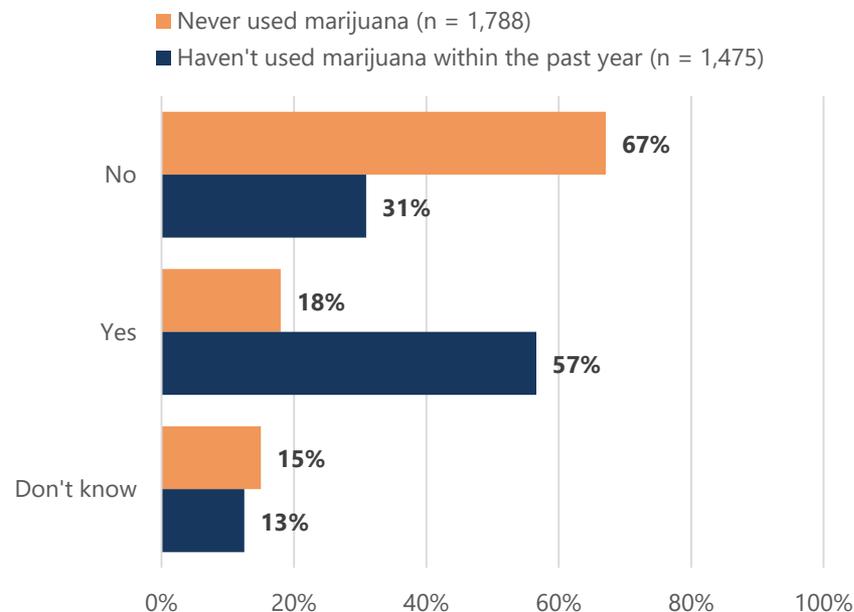
Deeper Analysis

Respondents who have been a passenger of a driver under the influence were more likely:

- People who haven't used marijuana within the past year (eight times more likely)
- People of color
- Not Retired
- Male
- Less formally educated
- Non-Latinx
- Outside Region 1 (Denver area)
- Lower income
- Younger

Have you ever been a passenger with a driver who is under the influence of marijuana?

Base: all non-users.

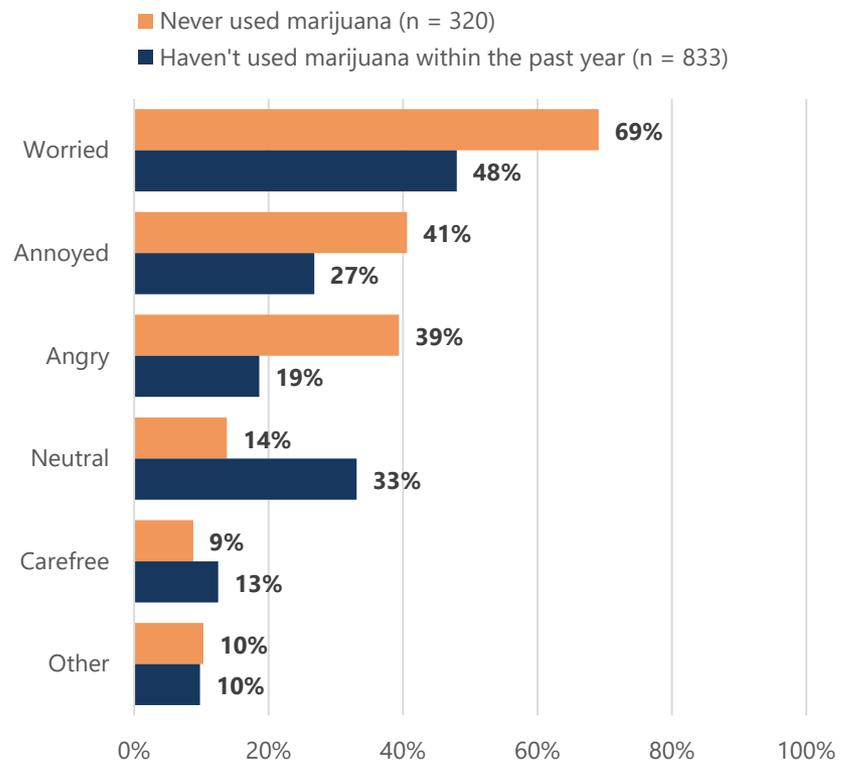


Respondents who had never used cannabis tended to be worried or annoyed as a passenger of a high driver.

- More respondents who have never used marijuana reported feeling worried, annoyed, or angry when riding with someone driving under the influence, compared to those who have not consumed within the past year.
- Worry is the most commonly reported feeling for both groups of non-users (69% among those who have never used, 48% among those who have not used in the past year).

How do you feel when you are the passenger with a driver who is under the influence of marijuana?

Base: non-users who have been a passenger with a driver under the influence. Multiple responses allowed. Percentages add to more than 100%.



Deeper Analysis

People who were *worried* about a high driver were likely:

- Latinx (over two times more likely)
- Older
- Respondents who have never used

Passengers who were *annoyed or angry* with a high driver were likely:

- Students (over two times more likely)
- Older
- Respondents who have never used

People who were *neutral or carefree* with a high driver were likely:

- People who haven't used in past year (at least two times more likely)
- Younger
- Outside Region 1 (Denver area) 3 (Northwest) (for carefree only)
- Less formally educated (for neutral only)

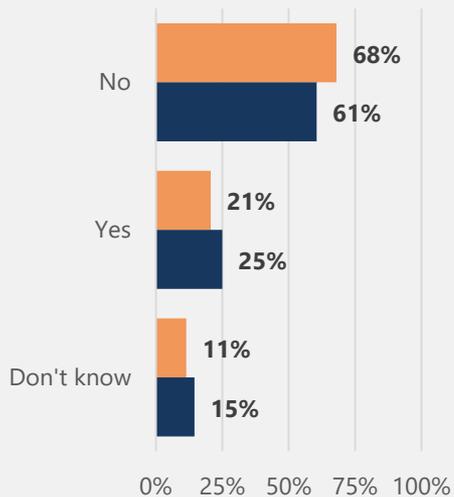
Arguments about safety and legal consequences have convinced people not to drive high.

- About a quarter of non-users have convinced someone not to drive high (21% of those who have never used marijuana, 25% of those who haven't used within the past year).
- Among non-users who have successfully convinced someone not to drive under the influence, a majority relied on safety arguments or a discussion of the legal or criminal consequences.

Have you ever convinced someone not to drive under the influence of marijuana?

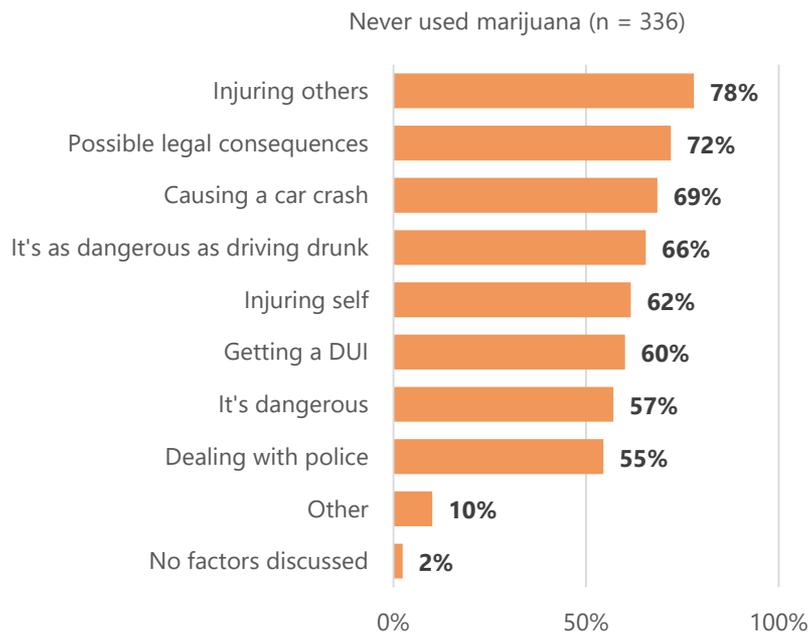
Base: all non-users.

- Never used marijuana (n = 1,629)
- Haven't used marijuana within the past year (n = 1,419)

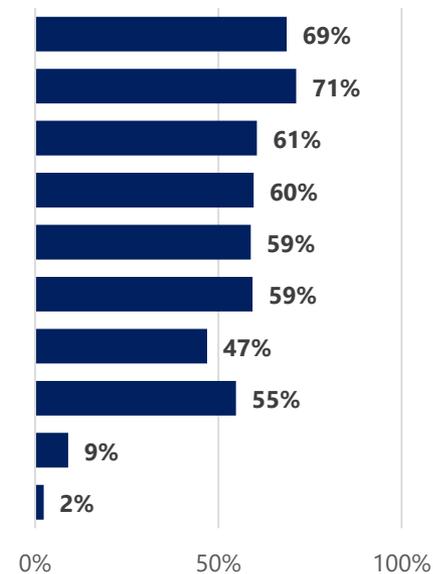


Please select all of the factors that have been successful in convincing someone not to drive under the influence.

Base: non-users who have convinced someone not to drive under the influence of marijuana.
Multiple responses allowed. Percentages add to more than 100%.



Haven't used marijuana within the past year (n = 354)

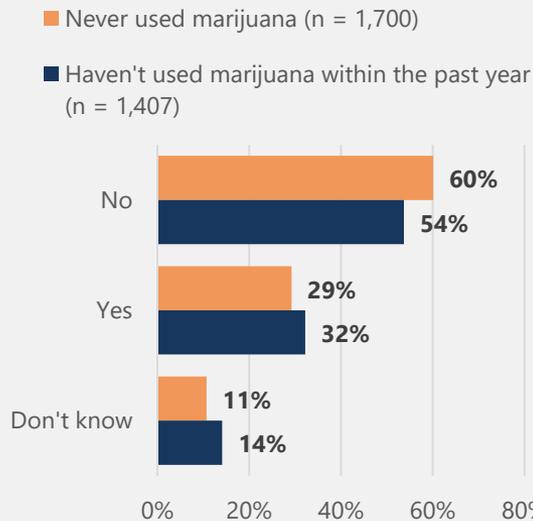


When non-users declined a ride from a high driver, they tended to choose a sober driver or to drive themselves.

- A third of non-users (29-32%) had declined a ride from someone under the influence of marijuana.
- People who had not consumed in the past year were more likely to drive the vehicle of the person who was under the influence. They were also more likely to stay put rather than accept a ride from a high driver.

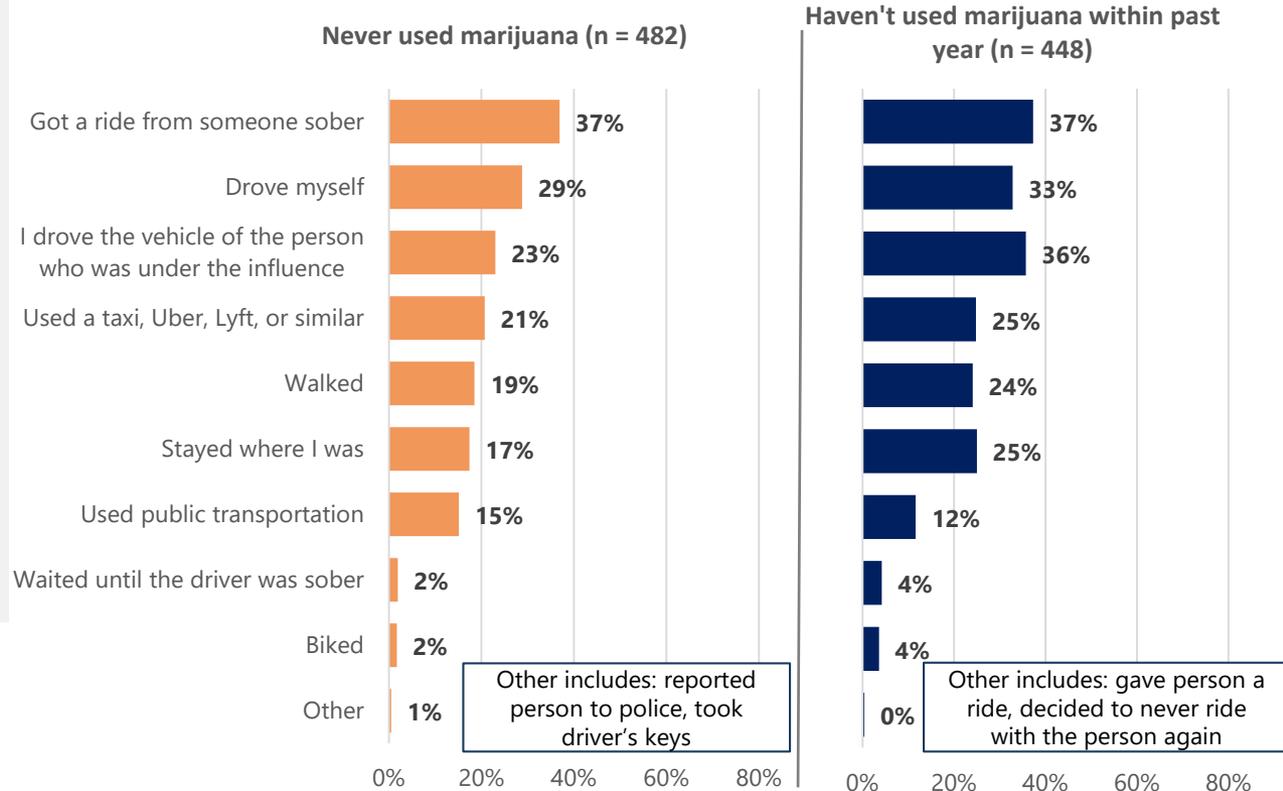
Have you ever declined a ride from someone under the influence of marijuana?

Base: all non-users.



When you declined the ride(s), what did you do instead?

Base: non-users who have convinced someone not to drive under the influence of marijuana. Multiple responses allowed. Percentages add to more than 100%.



Open-Ended Responses: How and why did you decide to take a ride as a passenger with a driver who was under the influence of marijuana?

Some were **regretful** of past experiences, but **most were unconcerned** about their experience.

- Most said that they did not think much of it, felt safe, or have not had a negative experience with high drivers.
- Many said they knew the driver well and were confident in the driver's abilities.
- Some said that "knowing what I know now" they would not have taken the ride or said they were "lucky to be alive".



Some insisted that **high drivers were slower and more cautious**.

- A few considered some sober drivers to be scarier drivers, saying they drove faster and more recklessly.



They had **mixed reactions to not knowing the driver was high**.

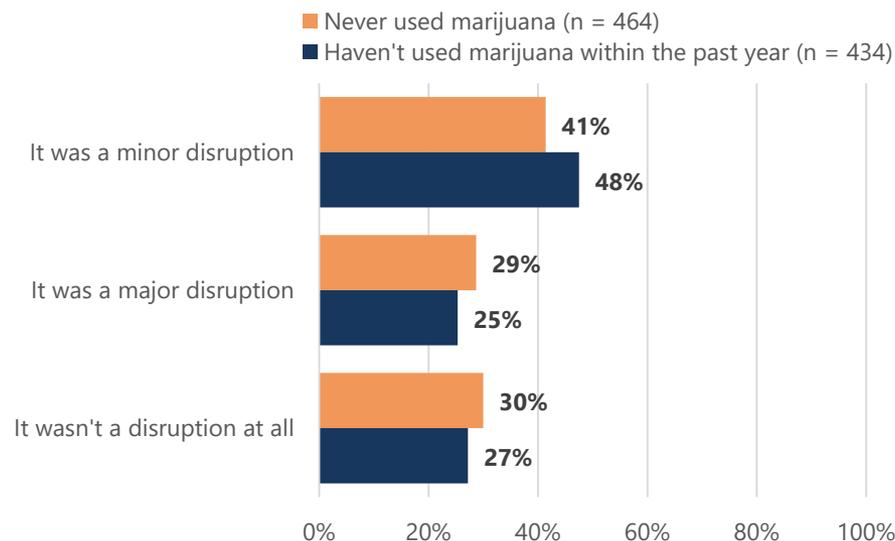
- After learning later that the driver was high, some respondents took it as a sign of the driver's competence.
- However, others reacted angrily or were scared in retrospect.

Most who declined a ride from a high driver found it disruptive.

- Of respondents who have never used marijuana, 41% said it was a minor disruption to decline a ride from a high driver, while 29% said it was a major disruption.
- Of respondents who have used marijuana, but not within the past year, declining a ride was a minor disruption for just less than half of respondents (48%) and a major disruption to 25% of respondents.
- Just less than a third of respondents in both groups said it wasn't a disruption at all to decline a ride from a high driver.
- There are no correlations for this question.

How disruptive was this change?

Base: non-users who have declined a ride from someone driving under the influence of marijuana.



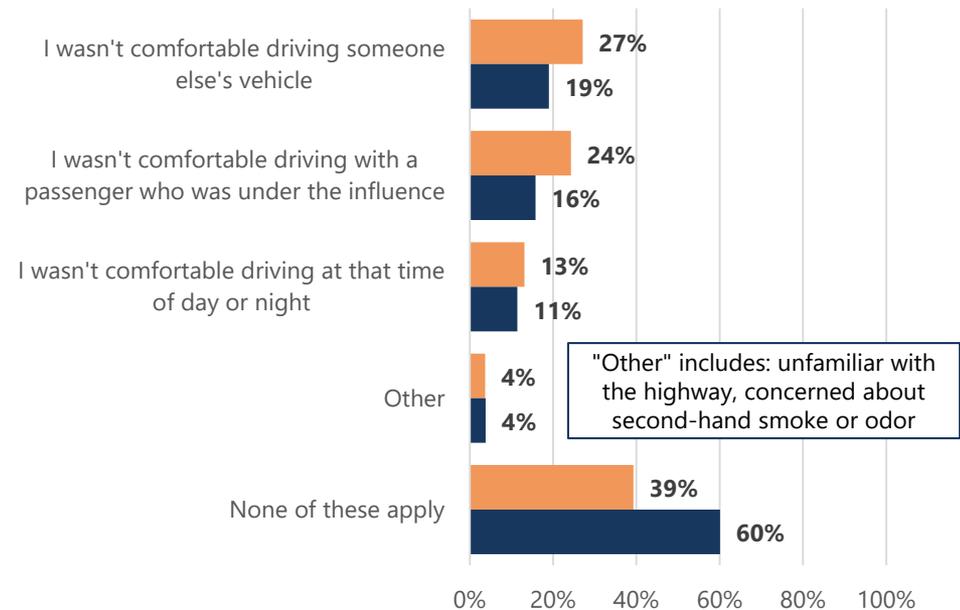
People who had never used marijuana tended to be less comfortable driving a high driver's vehicle.

- Some (27%) respondents who have never used marijuana were not comfortable driving someone else's vehicle, only 19% of people who have not used within the past year felt the same way.

Did any of the following make you uncomfortable driving someone else's vehicle because they were under the influence of marijuana?

Base: non-users who have declined a ride and who drove the vehicle of the person who was under the influence of marijuana.

- Never used marijuana (n = 107)
- Haven't used marijuana within the past year (n = 158)



Deeper Analysis

Respondents who weren't comfortable *driving someone else's vehicle* were more likely to be:

- Latinx (three times more likely)

Respondents who weren't comfortable *driving with a passenger* under the influence were more likely to be:

- People of color (two times more likely)
- Latinx (three times more likely)

Respondents who weren't comfortable driving at that time of day or night were more likely to be:

- More formally educated (two times more likely)
- Spanish-language respondents
- Latin X

People who said none of these options applied to them were more likely to be:

- English-language respondents
- Less formally educated
- Non-Latinx

"I very much enjoyed participating in this research. I felt that my input was respected and listened to, and that is important for this conversation."

- In-the-Moment study participant