

# Research Brief

Understanding Motorcyclists' Risk Perceptions, Knowledge,  
Attitudes, and Norms on Road Safety, Bogotá

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# Understanding Motorcyclists' Risk Perceptions, Knowledge, Attitudes, and Norms on Road Safety, Bogotá



Motorcyclist during peak hours on one of the main roads in Bogotá, Colombia.

Road traffic deaths and injuries remain a significant global health and development challenge, with an estimated 1.19 million road traffic deaths worldwide in 2021.<sup>1</sup> In Colombia alone, over 8,000 road users were killed in traffic collisions in 2022, with motorcyclists accounting for 60% of all road deaths in the country.<sup>2</sup>

Motorcycle riders are at particularly high risk of fatalities and injuries due to their minimal physical protection compared to people riding in vehicles. They are 22 times more likely to die in a crash and four times more likely to be injured than car occupants.<sup>3</sup>

The growing popularity of motorcycles, driven by affordability, mobility, and the need to navigate rising traffic congestion, has increased motorcycle-related crashes. The COVID-19 pandemic further fueled a surge in demand for delivery services, significantly increasing the number of motorcyclists on the roads. These factors, compounded by imperfect regulation, have heightened the risks associated with motorcycle use.

Key factors contributing to motorcycle crashes and the severity of outcomes include human behaviors and risky practices, such as speeding, driving under the influence of alcohol, improper helmet use, and distracted driving.

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1 Global Status Report on Road Safety 2023. Geneva: World Health Organization; 2023. Licence: CC BY-NC-SA 3.0 IGO. [Link](#)

2 Road Safety Country Profile 2023. Colombia: International Transport Forum, 2023. [Link](#)

3 National Highway Traffic Safety Administration, part of the U.S. Department of Transportation. Motorcycle Safety. [Link](#)



Psychological factors, such as attitudes, social norms, and environmental and vehicular-related conditions, also significantly shape riding behavior.

This research brief presents findings from a 2024 exploratory study in Bogotá, Colombia, by Vital Strategies and Los Andes University, with support from Target Insights, a Bogotá-based marketing research agency. The study focused on motorcycle safety, primarily speeding, among other factors.

## Key Findings

- Both practical and emotional factors—such as time savings, cost, comfort, flexibility, and a sense of freedom—emerged as significant motivators for motorcyclists. Specifically, 85% chose motorcycles to avoid traffic congestion, 76% to bypass public transportation, and 73% to save money.
- While 76% of participants recognized road traffic fatalities as a serious concern, only 18% perceived themselves as at risk of crash involvement.
- Crash risks were often attributed to external factors, such as road conditions, weather, and the behavior of other road users, rather than to motorcyclists' own actions. While 36% cited imprudence and reckless driving as the leading cause of collisions, 15% blamed excessive speed, and another 15% poor road conditions.
- Participants were confident in managing risks, often citing their skill and experience as protective factors. Half considered themselves expert riders, and 61% were confident in avoiding crashes.
- Half of the participants found speed limits on main roads too low, while 33% felt the same about residential roads. Although speed limits were generally seen as reasonable, some riders struggled to comply, opting instead for a self-determined “comfortable” and “safe” speed—often exceeding the posted limits.
- Acceptance of driving under the influence (DUI) of alcohol was generally low, with only 5% believing they could drive well after a few drinks. Risk perception was lowest among younger riders.
- Helmet use was consistent among all participants. However, some admitted to occasionally wearing their helmets improperly (e.g., unstrapped) when in a hurry. Some also stressed that high-quality helmets were essential for safety.
- While enforcement, particularly cameras, was seen by 83% as revenue-driven rather than safety-focused, the fear of fines remained a strong deterrent for 69%.

## Research Objectives

This study investigated the human and psychological factors contributing to risky actions among motorcyclists, including speeding, driving under the influence of alcohol, improper helmet use, and carrying extra passengers. The objectives were:

- To explore motorcyclists' experiences, knowledge, attitudes, risk perceptions and social norms related to risky road safety practices.
- To gain insights about effective road safety interventions, including developing targeted communication materials, mass media campaigns, and messaging strategies for social and behavior change programs.
- Apply behavioral insights to guide policy recommendations and enforcement strategies for improved road safety.

## Methodology

This study used a concurrent mixed-methods design, combining quantitative online surveys with qualitative online focus group discussions (FGDs), conducted in Bogotá, Colombia, from June to August 2024. The survey included 419 motorcyclists aged 18 to 55, all of whom had lived in Bogotá for at least six months and rode motorcycles at least three days per week. Eight semi-structured FGDs involved 45 participants aged 18 to 40 who met similar eligibility criteria as of the quantitative survey. [Additional methodological details, including data collection and analysis procedures, are outlined in the full report.<sup>4</sup>]

## Study Results

### The Motorcycle Experience

Most study participants across both survey and FGDs used motorcycles as their primary mode of transportation. Almost all had a motorcycle license. Survey participants learned to ride motorcycles at a driving school (54%), from family members or friends (30%), or by practicing independently (16%).

The driving experience of survey participants varied, with 44% reporting 1 to 5 years of experience, 23% having 6 to 10 years of experience, and 28% reporting more than 10 years of experience.

### Key Factors Influencing Motorcycle Use

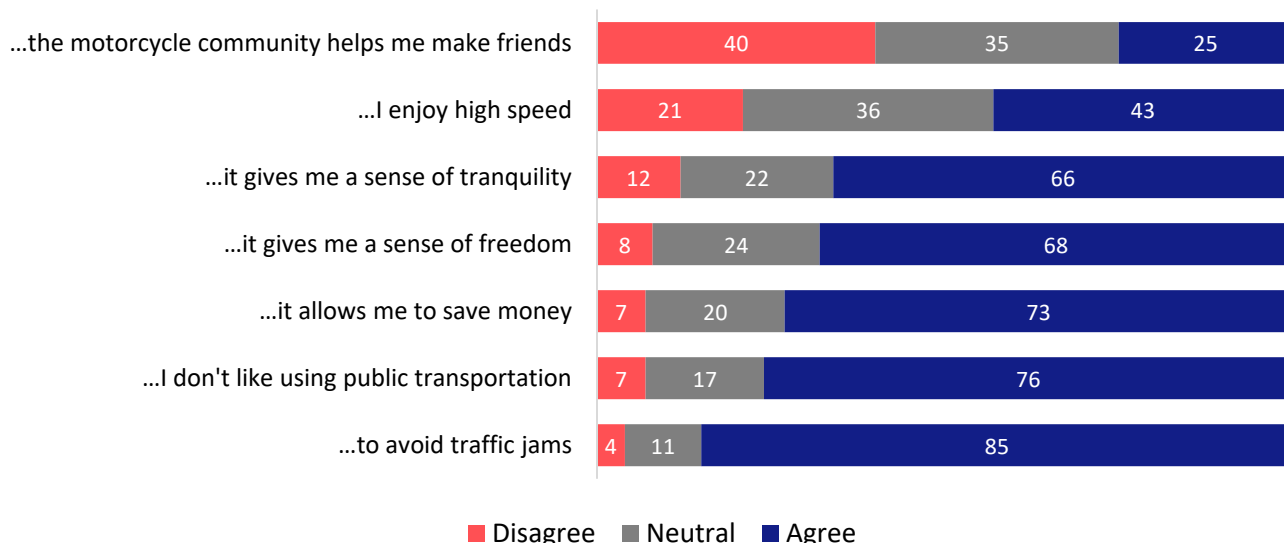
A combination of practical reasons, emotional factors, and personality traits influence motorcycle use.

Survey participants reported that motorcycles saved time, reduced costs, and eliminated the need for public transportation (Figure 1).

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<sup>4</sup> Understanding Motorcyclists' Risk Perceptions, Knowledge, Attitudes, and Norms on Road Safety, Bogota. Los Andes University & Vital Strategies, 2024. [Link](#)

**Figure 1. Primary Reasons for Motorcycle Use (% of respondents, N=419)**



FGDs supported these findings. Many also mentioned that motorcycles offered greater comfort and flexibility than public transport, where they often had to stand and were concerned about potential robberies. Motorcycles enabled them to reach their destinations faster by maneuvering around obstacles—such as filtering through traffic, weaving in and out, or using sidewalks.

Cost savings were also significant, with motorcycles being more affordable than cars and allowing riders to avoid tolls and restrictions such as peak hour driving limitations.



“I was tired of being late for work and waiting for buses that either came late or were full. So the motorcycle was a solution—first for saving time and second for being more economical.”

DELIVERY WORKER

Participants, particularly younger riders and women, also mentioned feelings of freedom, independence, autonomy, and the thrill of high speeds. Female participants noted riding a motorcycle felt empowering, giving them greater control and confidence.

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“It’s very exciting to get on the bike and feel that sense of freedom—feeling the wind is absolutely refreshing. Plus, you have the flexibility to go wherever you want, whenever you want.”

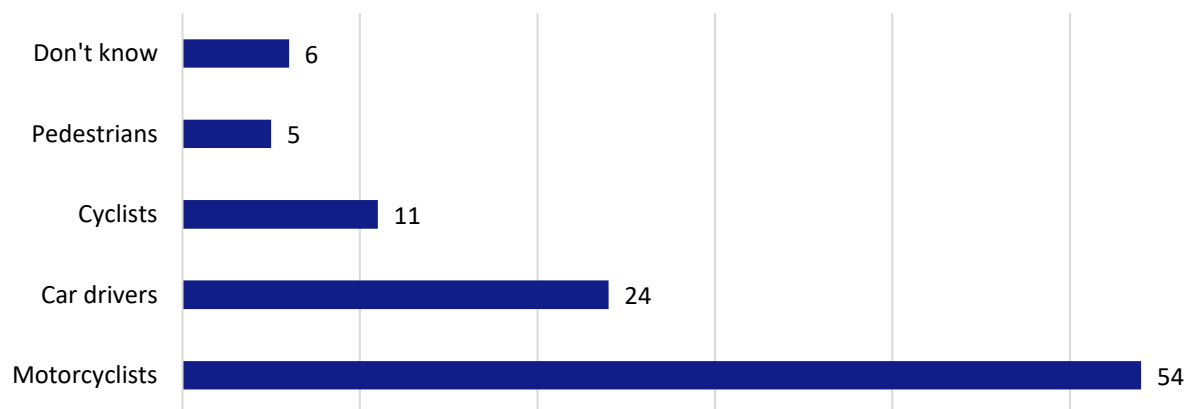
WOMAN, 18-24 YEARS OLD

## Understanding Risks of Motorcycle Riding

Riders generally exhibited a strong awareness of the risks associated with motorcycle riding. About 81% of survey respondents recognized road traffic fatalities as a serious concern in Bogotá. Notably, 77% identified motorcyclists or motorcycle passengers as among the road users with the highest fatality rates, followed by cyclists (9%) and pedestrians (6%).

Over half of the survey respondents attributed responsibility for these crashes to riders themselves (Figure 2).

**Figure 2.** Perceptions of Groups Responsible for Traffic Crashes (% , N=419)



FGDs supported these findings, with many riders highlighting the irresponsibility of many drivers—as a significant factor contributing to crashes.

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“The irresponsibility of many drivers, both motorcyclists and car drivers, is evident; it is seen all the time, and if one is not cautious and enjoys speed, there are obviously many risks when driving.”

### MEN, 18-24 YEARS OLD

While 74% of survey respondents expressed concerns about the possibility of being injured in a road traffic crash—aligning with qualitative findings where riders frequently cited crashes as a primary risk—group discussions revealed that riders largely attributed these risks to external, uncontrollable factors, such as road conditions, weather, and other road users' behavior, rather than their own actions.



“People who do not respect traffic lights or do not respect where they can cross. For instance, at busy intersections like Calle 26, many pedestrians and vehicles disregard the rules, which creates dangerous situations for motorcyclists.”

DELIVERY WORKER, 25-40 YEARS OLD

Notably, riders did not spontaneously mention helmets, protective gear, or the risks of drinking and driving as key safety concerns. Although speeding was mentioned, it was not emphasized as a primary risk.

## Riders' Knowledge and Perception of Speed Limits

In FGDs, participants demonstrated knowledge of the regulated speed limits—50 km/h on main roads and 20–30 km/h on residential streets or near schools. Most believed these limits were grounded in scientific studies, though a few expressed skepticisms, suggesting that other motives, including potential corruption, might have influenced them.

Survey data revealed that 40% of respondents believed the speed limit on the ‘main roads’ in Bogotá was too low, while 33% held the same view for the ‘residential roads’. About 25% of survey respondents agreed that Bogotá’s speed limits were appropriate and reasonable. In focus group discussions, many participants acknowledged speed limits as clear and rational from a regulatory standpoint. However, they admitted to struggling emotionally to adhere to these limits, highlighting a personal standard of “comfortable” and “safe” speeds that often exceeded officially posted limits.

Participants from FGDs frequently suggested an “internal” speed limit—shaped by their own skills and confidence—believing it allowed them to drive at speeds they felt were neither irresponsible nor risky. The



average self-reported comfortable speed was around 80 km/h, although some, particularly men over 25, said they drive between 50 and 60 km/h. Younger men and women reported higher self-imposed speed limits.

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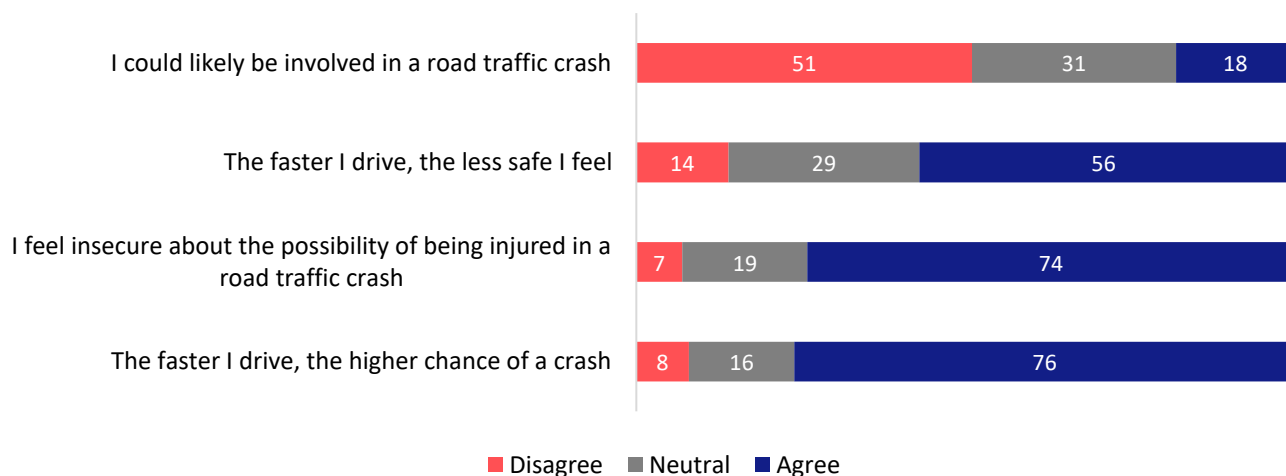
“Because a motorcyclist has the mindset of going fast, going at full speed, getting everywhere quickly, so that’s what made it difficult for me to follow the rule.”

WOMAN, 20-40 YEARS OLD

## Riders' Attitudes Toward Speed-Related Risks

Seven out of 10 respondents from the survey agreed that driving faster increased the likelihood of a crash, and over half reported feeling less safe when driving at high speeds. Differences emerged notably across age groups, with younger riders (ages 18–29) consistently showing more permissive attitudes toward speeding than older riders (ages 30+). Interestingly, only 18% of survey participants believed they were personally likely to be involved in a crash (Figure 3).

**Figure 3. Speeding Risk Perception (% , N = 419)**

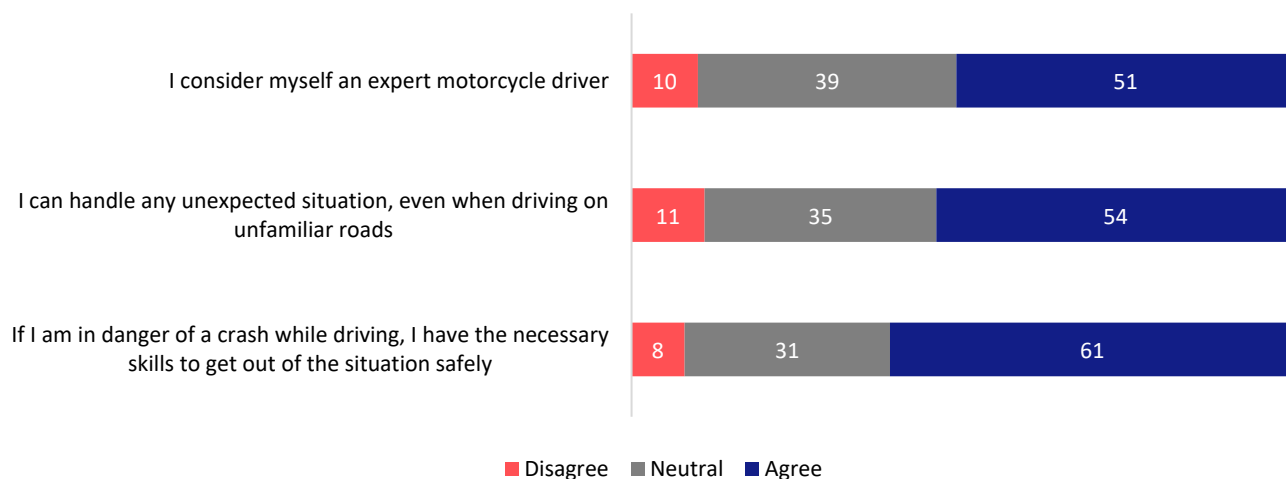


## Confidence in Riding

Study participants across both survey and FGDs displayed high confidence in their driving abilities. For instance, while riders acknowledged high crash probability, many believed this risk could be mitigated through smart driving skills. About 51% of survey respondents identified themselves as expert motorcycle riders, and 60%

asserted they possessed the skills to avoid crashes in dangerous situations. They reported high confidence in specific driving abilities, particularly speed control (notably among delivery workers). This sentiment was expressed through statements like, “The greater the skill, the greater the control over risk.” The survey results demonstrated that riders, particularly those over 30, were less likely to be involved in severe crashes. This was aligned with qualitative discussions suggesting that individuals adopt more cautious driving habits as they age, leading to less severe outcomes (Figure 4).

**Figure 4. Perception of Driving Skills (% , N = 419)**



## Conditions That Promote Speeding

Regardless of the purpose of motorcycle use—whether for work, routine or entertainment—speeding was a consistent behavior.

In discussions, participants shared insights into the reasons behind their tendency to speed, with “being in a hurry” emerging as the most common factor. This was particularly emphasized by delivery workers, who frequently drove under multiple pressures—such as customer demands, pressure from delivery platforms, and the need to maximize earnings—encouraging higher speeds.

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“If you don’t accept a delivery quickly, the order is relisted for others, and you face financial penalties. This pressure to act fast forces you to speed, risking safety just to avoid losing money.”

DELIVERY WORKER, 25-40 YEARS OLD

Focus group participants also identified additional factors contributing to speeding, including:

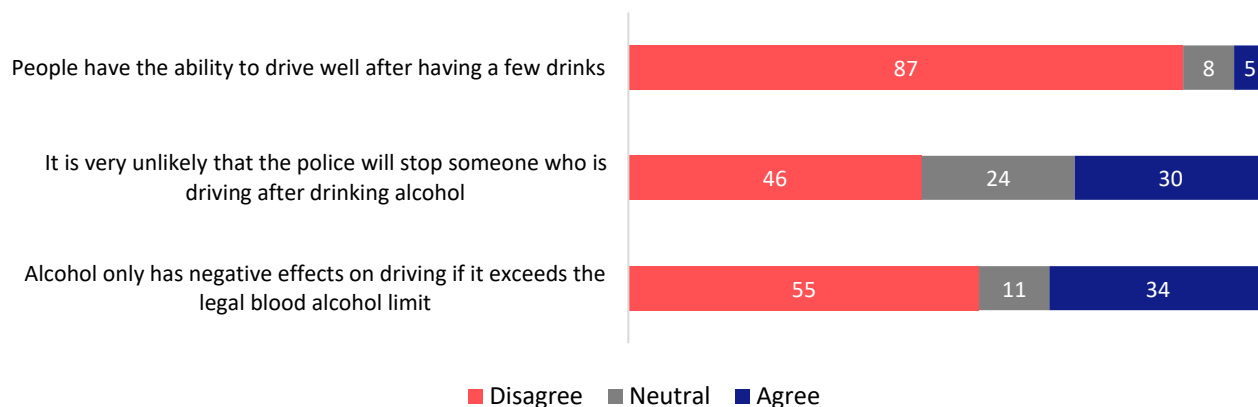
- **Empty roads:** Low traffic density encouraged speeding, as participants felt more comfortable driving faster on less congested roads.
- **Normative behavior:** A sense of "everyone does it" emerged, with some noting that driving slowly on certain avenues might even feel more dangerous.
- **Highway conditions:** On highways, participants described driving "as fast as the motorcycle can go" if road conditions permitted, often reaching speeds between 120 and 150 km/h.
- **Nighttime driving:** Participants reported driving up to 100 km/h at night for reasons of personal security and clearer roads.
- **Motorcycle maintenance:** Some riders noted that keeping their motorcycle in good condition encouraged them to speed comfortably.
- **Emotional state:** Among some male participants, emotions played a role, with feelings of anger sometimes leading to impulsive speeding and reduced concern for potential crashes.

## Riders' Attitudes Toward Drinking and Driving

The study showed generally low acceptance of driving under the influence of alcohol (DUI), with only 5% of respondents agreeing that one can drive well after consuming a few drinks. In focus group discussions, the perceived risk associated with drinking and driving varied across demographic groups. Women generally expressed a high perception of risk related to DUI. In contrast, younger men (18-24 years old) reported the lowest level of perceived risk, categorizing DUI as medium risk—an attitude that mirrored the survey findings.

Most survey and FGD respondents recognized that alcohol impairs senses and reaction times, with some associating drinking and driving with potentially fatal consequences for themselves or others. Approximately 88% of survey respondents disagreed that people could drive well after consuming a few drinks. There was also a sense of social responsibility, as many FGD participants recognized that DUI is widely seen as irresponsible and negatively affects how others perceive people who drive after drinking.

Additionally, about 46% of respondents believed that drivers were likely to be stopped by the police after drinking alcohol (Figure 5). Legal consequences, such as fines, motorcycle confiscation, and even jail time, were mentioned as deterrents to DUI behaviors.

**Figure 5. Drink Driving Attitudes (% , N = 419)**

Despite this awareness, some participants—particularly younger men—admitted to occasionally making exceptions in specific situations, such as spontaneous outings or short trips close to home or in nearby towns. They reported that they might allow themselves a few drinks (typically one to three beers rather than stronger liquors). They believed they could manage it by implementing certain measures, such as waiting a couple of hours after their last drink, driving more slowly or carefully, or attempting to counteract the effects by drinking coffee or eating before riding.

## Riders' Attitudes Toward Helmet Use

Survey and FGD participants admitted to consistently wearing a helmet, with approximately 89% of survey respondents reporting wearing a helmet very frequently. Only a few admitted to occasionally wearing the helmet improperly (e.g., unstrapped) when in a hurry. Some participants emphasized the importance of high-quality helmets for safety, noting that while most riders wear helmets, many neglect quality, putting themselves at risk.



“I always wear a helmet, and I think that having a good helmet is very important, so I have a very good brand, and the same goes for gloves.”

MALE, 18-24 YEARS OLD

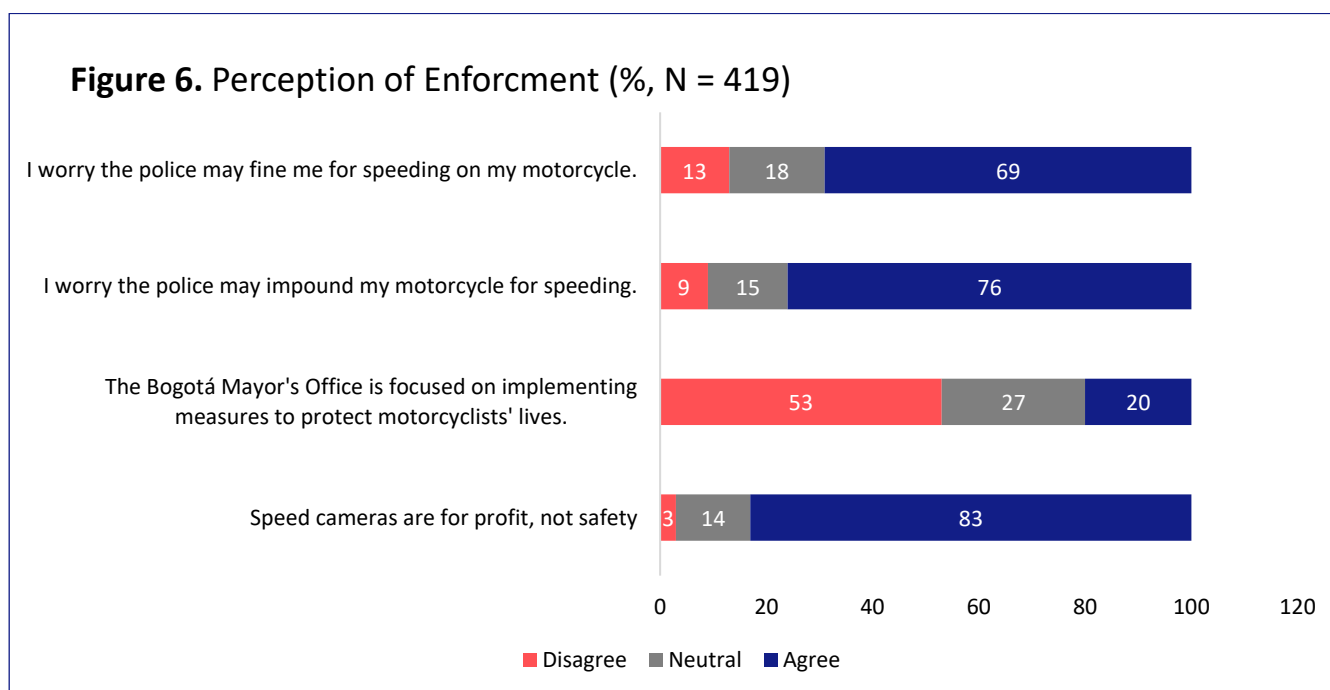
Key reasons for helmet use included:

- **Visibility and enforcement:** Not wearing a helmet is highly noticeable, making it easy for police to issue fines.
- **Social awareness and penalties:** Participants cited strong social consciousness and awareness of the punitive consequences, such as fines, for not wearing a helmet.

- **Personal safety:** Many expressed an internalized commitment to helmet use, stating they would wear it even if it weren't mandatory. Some riders also used additional protective gear, such as gloves and jackets, recognizing their heightened vulnerability as they described themselves as "the chassis" of the motorcycle.
- **Contextual allowances:** Some riders admitted they might occasionally forego protective gear in small towns, where the weather is hotter and distances shorter

## Enforcement

The survey results reflected a general distrust in enforcement methods, with many respondents agreeing that traffic cameras primarily serve as a revenue source. Only a few believed that the mayor's office in Bogotá was genuinely concerned about motorcyclists' safety. However, many survey participants expressed concern over the regulatory consequences of not adhering to speed limits (Figure 6).



## Factors Facilitating Safer Riding Behavior Among Motorcyclists

FGD participants identified several factors encouraging them to ride within speed limits and practice safer driving. These included having experienced previous "scares" or minor crashes, although women mentioned such experiences less frequently.

Participants highlighted the following conditions as influential in promoting safer riding:

- **Riding with passengers:** Carrying passengers increased participants' sense of responsibility, leading them to drive more cautiously.



- **Reminders about negative health consequences:** Witnessing crashes or encountering crash scenes on the road prompted riders to be more mindful of their speed.

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“I spend a lot of time with Harley enthusiasts and classic motorcycle riders. They’re people who are, I don’t know, 60 or 70 years old, riding motorcycles of 1,200 or 1,500 cc, and they talk to others because they want everyone to be safe.”

MAN, 18-24 YEARS OLD

Study participants also acknowledged the influence of advice from riders with many years of experience (10–20 years), including friends, family members, or even influencers within the motorcycle community.

Participants also mentioned that the advice from non-motorcyclists was less effective; they felt only another motorcyclist could fully understand their perspective.

Some participants suggested bike-lead courses and public health campaigns.

## Recommendations

This study highlights key insights into the knowledge, attitudes and behaviors of motorcyclists in Bogotá, providing a foundation for developing effective road safety strategies tailored to the unique challenges faced by motorcycle riders.

Based on its findings, we recommend that the city:

- Integrate knowledge, attitude and behavior-related indicators as a component of existing road safety data collection efforts. Use analysis to inform policies, initiatives and strategic communication.
- Sustain media campaigns paired with enforcement to gradually change drivers’ attitudes, behaviors and norms related to risk factors, compliance of traffic laws and the safety features of quality protective equipment.
- Consider improving the enforcement agency's image, e.g., through media campaigns for the public and “procedural justice” training for the enforcement agents. Enhance these efforts with public relations.
- Consider addressing young drivers’ safety by implementing mandatory trainings rather than relying on family and friends for instruction and putting responsibility on parents/guardians for new drivers’ safety.
- Consider reviewing and regulating business practices, e.g., to reduce pressure on delivery motorcyclists and prioritize safety, to prevent “Waze” or similar navigation systems from announcing the presence of speed cameras.

- Invest in infrastructure and public transportation improvements and announce positive changes to encourage a shift in more affordable and accessible transportation modes.
- Establish working rapport with key influencers and strategically engage them in amplifying road safety messages.
- Promote the Vision Zero approach to road safety with the message “We all share the road,” emphasizing collective responsibility and inclusivity. This approach helps avoid stigmatizing or placing blame on specific groups.