



## **Mopeds and Scooters in Urban Areas: Inspection Challenges and Risks to Road Safety**

*Mopeds and Motorcycles in Urban Areas: Challenges of Surveillance and Road Safety Risks*

**Helio Freires da Silva Junior**

### **Summary**

This article analyzes the challenges faced by public safety and traffic enforcement agencies in the face of the rapid growth of the moped and scooter fleet in Brazilian urban areas. These vehicles, increasingly used by informal workers, delivery drivers, and young drivers, have emerged not only as an affordable means of transportation but also as a cause of a growing number of accidents and traffic violations. The study highlights the relationship between drivers' lack of licenses, lack of registration, and informal use—factors that hinder the work of enforcement authorities and compromise road safety. Furthermore, it discusses the operational limitations of traffic officers, gaps in current legislation, and the social impact of these irregularities. Based on statistical data, practical experience, and legal guidelines, the article proposes measures to improve enforcement, encourage regularization, and improve regulations, with the aim of reducing risks and promoting greater safety in urban traffic.

**Keywords:** mopeds, scooters, traffic control, unlicensed drivers, road safety.

### **Abstract**

This article analyzes the challenges faced by public safety and traffic enforcement agencies in the face of the rapid growth of the moped and scooter fleet in Brazilian urban areas. These vehicles, increasingly used by informal workers, delivery drivers, and young drivers, have emerged not only as an affordable means of transportation but also as a cause of a growing number of accidents and traffic violations. The study highlights the relationship between drivers' lack of licenses, the lack of registration, and the informality of their use, factors that hinder the work of enforcement authorities and compromise road safety. Furthermore, it discusses the operational limitations of traffic officers, gaps in current legislation, and the social impact of these irregularities. Based on statistical data, practical experience, and legal guidelines, the article proposes measures to improve enforcement, encourage regularization, and improve regulations, with the aim of reducing risks and promoting greater safety in urban traffic.

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## **2. Introduction**

In recent decades, the use of mopeds and scooters has grown significantly in Brazilian urban areas, especially in medium and large cities. These vehicles, generally low cost and easy to maintain, they have become a popular alternative to daily commute, especially among informal workers, young people and delivery professionals.

This expansion is driven by socioeconomic factors such as unemployment, precariousness of work and the need for agile mobility in congested urban centers.

However, this phenomenon has brought with it a series of challenges for road safety. Among the most common problems are driving without the proper license (category A or Authorization to Drive Mopeds – ACC), the lack of registration and licensing of vehicles, and failure to comply with basic traffic regulations, such as the use of helmets and driving on prohibited roads. These violations compromise not only the safety of drivers themselves, but also that of pedestrians, cyclists and other drivers.

In this scenario, traffic control agencies, especially the Military Police and municipal departments face operational and legal difficulties in ensuring the compliance with legislation. The lack of effective oversight, combined with social resistance to regularization, intensifies the problem and contributes to the trivialization of infractions.

This article aims to analyze the impacts of irregular circulation of mopeds and scooters in urban road safety, highlighting the main obstacles faced by the supervisory authorities. We also seek to discuss legislative measures and operational that can contribute to the qualification of inspection and the reduction of risks in urban traffic.

### **3. Theoretical Foundation**

#### **3.1. Definition and Classification**

A precise understanding of the legal and technical concepts involving mopeds, scooters and motorcycles is essential for the correct application of traffic legislation and for the definition of inspection powers. The Brazilian Traffic Code (CTB), established by Law No. 9,503/1997, establishes clear distinctions between these categories of vehicles, with implications direct legal requirements for driving, registration and licensing.

According to article 96 of the CTB, a moped is a two or three-wheeled vehicle, equipped with internal combustion engine with a displacement not exceeding 50 cm<sup>3</sup> (or 4 kW in the case of engines electric), whose maximum speed does not exceed 50 km/h. These vehicles require, for their driving, the Moped Driving Permit (ACC) or the National Driving License Driving license (CNH) in category A.

A scooter is defined as a two-wheeled vehicle with a motor, in which the driver positioned seated, with feet resting on a platform between the axles. Although they have compact design similar to that of mopeds, scooters generally have a larger

power and speed, being classified as motorcycles for licensing purposes and requiring CNH category A, in addition to mandatory registration and licensing with the traffic authority. Finally, the motorcycle is the two-wheeled vehicle, with or without a sidecar, also requiring a driver's license. category A. The main technical difference is in the position of the driver (mounted, not seated as in the scooter) and in the power and speed capacity, being commonly used in longer distance urban and road routes. The distinction between these vehicles is crucial for defining drivers' legal obligations. and for planning inspection actions. Inspections must correctly identify the category of the vehicle to apply the relevant standard, which is not always simple due to of design variations, irregular modifications and lack of regular documentation.

### **3.2. Fleet Growth and Current Scenario**

In recent decades, there has been significant growth in the moped fleet in Brazil. and scooters, especially in small and medium-sized urban areas. This phenomenon is driven by several socioeconomic factors, such as the reduced cost of these vehicles, the ease of acquisition, fuel economy and agility in urban travel. In addition, addition, the growth of the urban delivery and logistics sector, mainly with the expansion of delivery apps, contributed significantly to the popularization of these vehicles among informal workers.

According to data from the National Department of Transit (DENATRAN) and statistics updated from the Brazilian Institute of Geography and Statistics (IBGE), the number of mopeds registered in Brazil exceeds 2 million, with the highest concentration in the Northeast and Southeast. Scooters, which are part of the motorcycle category in the RENAVAM system, also show an upward curve in records, especially in capitals and regions metropolitan.

In the State of Paraná, information from DETRAN-PR reveals a growth of more than 50% in the moped fleet between 2015 and 2023. Municipalities such as Londrina, Maringá, Cascavel and Foz do Iguaçu stand out for the high number of records and, consequently, due to higher rates of incidents related to these vehicles, including accidents with injuries and violations due to irregular driving.

It is important to highlight that the increase in the fleet has not been accompanied, in equal proportion, for the regularization of vehicle documentation and the qualification of their drivers. According to surveys by the Paraná Public Security Secretariat (SESP-PR), many mopeds circulate without registration, plates or licensing, which makes inspection and liability in the event of accidents or violations.

This scenario highlights the need for integrated public policies that combine education in traffic, effective monitoring and measures to encourage regularization, in order to mitigate the risks associated with the increasing circulation of these vehicles on urban roads.

#### **4. Inspection-Related Issues**

##### **4.1. Unlicensed Drivers and Irregular Vehicles**

One of the main challenges faced by traffic enforcement agencies in the context of increasing use of mopeds and scooters in urban areas is the high rate of non-motorized drivers licensed. Many users of these vehicles, especially young people and informal workers, travel daily without having a National Driver's License (CNH) or, when required, the Authorization to Drive a Moped (ACC), in clear violation of the provisions of Brazilian Traffic Code (CTB), especially in articles 162 and 232.

In addition to the lack of a license, the circulation of unregistered vehicles is common and licensing with DETRAN, or even with irregular structural changes, such as modifications to the exhaust, removal of speed limiters, alteration of fairings or engine replacement. Such unauthorized changes compromise vehicle safety and constitute serious infractions, as provided for in article 230 of the CTB.

The informality that characterizes the use of many of these vehicles, often acquired from irregular form or without adequate documentary origin, makes it difficult for security agents to act traffic. In routine approaches, it is common for drivers to not have any type of vehicle documentation, which makes the process of citation, seizure and accountability administrative more complex and time-consuming.

Furthermore, the recurrence of infractions by unlicensed drivers, combined with the lack of control over unregistered vehicles, compromises the effectiveness of inspection actions, generating a feeling of impunity and contributing to increased traffic insecurity urban. Such aspects therefore require coordinated institutional responses, which include educational, repressive and regulatory measures aimed at regulating the use of mopeds and raising drivers' awareness of road safety risks.

##### **4.2. Operational Barriers**

Effective monitoring of the use of mopeds and scooters in urban areas faces several challenges. operational barriers that compromise the performance of the responsible bodies, especially the Military Police and municipal traffic authorities.

One of the main obstacles is the lack of specific personnel dedicated to patrolling urban with a focus on smaller vehicles. In many medium and large cities, the

number of available agents is insufficient to meet the growing demand for inspection, especially in peripheral regions, where the use of mopeds is more intensive. This limitation compromises the constant presence of public power and favors the perpetuation of irregular circulation.

Another significant obstacle lies in the weakness of the legislation applicable to retention, removal and seizure of these vehicles. Although the Brazilian Traffic Code provides for penalties for infractions involving lack of qualification, lack of registration and unauthorized modifications, the practical applicability of these sanctions is often hampered by regulatory gaps, delaying administrative resources and logistical limitations for the storage and transportation of seized vehicles. In many cases, the lack of adequate infrastructure for removal and storage prevents the effective punishment of offending drivers.

Furthermore, social resistance is a reality often faced during approaches. There are reports of hostility from drivers and locals, especially when supervision is perceived as excessively repressive or selective. This factor increases the complexity of operations, requiring police officers to be technically and psychologically prepared to conflict mediation and proportional use of force.

These operational barriers, when added together, make the inspection of mopeds and scooters a multifaceted challenge, requiring inter-institutional solutions that contemplate from increasing staff and improving legislation to educational campaigns to mitigate social resistance and encourage voluntary adherence to regularization.

## 5. Road Safety Risks

The disorderly growth in the use of mopeds and scooters in urban areas has generated significant impacts on road safety, especially when associated with non-compliant drivers. licensed, irregular vehicles and lack of effective supervision.

Studies and statistical bulletins from agencies such as **DENATRAN, state DETRANs and city halls** point out a **direct correlation between the high circulation of these vehicles and the increase in urban accident rates**. Cases of **run-overs are recurrent in pedestrian crossings**, collisions at intersections and accidents caused by irregular maneuvers or **disregarding road signs**. Many of these accidents involve **young drivers and inexperienced**, who do not have a National Driver's License (CNH) or Authorization for Driving Mopeds (ACC).

Another risk factor identified is the **frequent evasion of police checkpoints and barriers**, due to the ease of maneuvering mopeds in traffic, which contributes to the

impunity and encourages risky behavior. This behavior directly affects the traffic management and weakens the authority of public officials.

The **profile of the victims** of these accidents is also worth highlighting. Most of them are **young people. aged between 16 and 25**, many working as **delivery drivers for apps or informal workers**, who use mopeds as a means of subsistence. The precarious driving, combined with the lack of use of safety equipment, such as helmets and proper footwear increases the severity of injuries in the event of an accident. In addition to human losses, accidents involving mopeds generate **high costs for public health system**, both due to the volume of emergency care and the long duration of treatments and rehabilitation. The increase in accident rates also impacts the **flow urban**, with temporary blockages, congestion and overload of services emergency.

Given this scenario, it becomes clear that the irregular use of mopeds represents a **factor critical for road safety**, requiring coordinated actions between public entities to inspection, traffic education and regularization of these vehicles in urban areas.

- **6. Practical Experiences and Control Initiatives**

- Several initiatives have been implemented at local and state levels to address the challenges posed by the irregular use of mopeds and scooters in urban centers. Such actions range from awareness campaigns to repressive operations, seeking balance **traffic education** with **effective enforcement**.

- In the field of **road safety education**, regional programs such as "*Pilote Legal*" stand out , developed in partnership with municipal departments and traffic departments, whose focus is guidance for drivers on the legal requirements for driving mopeds, use adequate protective equipment and compliance with traffic regulations. Another initiative relevant is the "*Conscious Driver*" campaign, which promotes lectures, distribution of informative materials and integrated actions in schools, street markets and community centers, aiming to reach mainly young people and informal workers.

- In the **repressive-operational** aspect , the Military Police and municipal traffic agencies have promoted **specific inspection operations**, focusing on approaching drivers of mopeds and scooters. These actions aim to identify irregularities such as lack of qualification, unregistered vehicles or vehicles with illegal modifications, in addition to preventing risky practices, such as driving without a helmet or on sidewalks. In many cases, operations are integrated



with the support of agents from DETRAN, the Municipal Guard and municipal councils of security.

- Some **municipalities in Paraná have stood out in adopting measures innovative**. Cities such as Maringá, Londrina and Cascavel have implemented **agreements with the DETRAN-PR** to intensify inspection and facilitate vehicle regularization, including inspection drives, scheduling of registration and guidance on obtaining the Authorization to Drive Mopeds (ACC). These partnerships have allowed us to expand our reach of actions and ensure greater effectiveness in identifying and holding offenders accountable.
- Such experiences demonstrate that, despite structural limitations, it is possible **develop effective local strategies to combat the irregular use of mopeds**, provided there is **institutional coordination, regulatory support and community involvement**. Strengthening these practices, combined with permanent public policies, represents a step forward. fundamental in building safer, more orderly and inclusive traffic.

- **7. Improvement Proposals**

- Given the growing number of incidents involving mopeds and scooters in urban areas, it is essential to formulate strategies that combine prevention, qualified supervision and regulatory adequacy. In this context, the following are proposed: measures to improve the performance of traffic agencies and strengthen road safety:
  - Development of specific operational protocols for approaching mopeds, with standardized guidelines regarding identification, document verification and conduct of public agents. These procedures aim to reduce subjectivity in approaches, check greater legal certainty for actions and promote effectiveness in controlling irregularities.
  - Integration of inspection forces, through agreements and joint actions between Military Police, Municipal Guards, State Traffic Departments (DETRANs) and urban oversight bodies. Interinstitutional cooperation favors the exchange of information, optimizes human and logistical resources and expands the territorial coverage of operations.
  - Promoting regularization through inclusive public policies, such as free education in obtaining the Authorization to Drive Mopeds (ACC), especially for young people and low-income workers, in addition to campaigns to encourage the legalization of vehicles. Social programs focused on training and education in traffic can reduce informality and promote citizenship in traffic.

- Investments in technology and operational intelligence, such as the implementation of systems Automatic License Plate Reading System (ALPR), use of urban monitoring cameras and applications for anonymous reporting, which allow the tracking of irregular vehicles and the preventive action in critical areas.
- Updating traffic legislation, focusing on simplifying traffic procedures monitoring and toughening of penalties for repeat offenses, adulterations and driving without qualification. Legislative proposals must be accompanied by social impact studies and budgetary, in order to ensure effectiveness without unfairly penalizing the population most vulnerable.
- These proposals converge towards a systemic approach to the problem, based on combination of education, efficient supervision and technological innovation, with a view to reducing accidents and the promotion of safer, fairer and more sustainable urban traffic.

- **8. Final Considerations**

- The growing use of mopeds and scooters in Brazilian urban areas reflects a mobility dynamics marked by economic accessibility, informality and vulnerability. Although these vehicles represent a viable alternative for travel daily lives and professional activities, especially among young people and informal workers, their insertion into urban traffic has occurred, to a large extent, outside of current legislation.
- Given this scenario, it becomes imperative **to systematically address the challenges related to the irregular circulation of mopeds**, especially with regard to the absence driver's licenses, lack of vehicle registration and non-compliance with regulations basic road safety practices. **Visible and well-structured monitoring** plays a key role central to this process, not only as an instrument for repressing infractions, but as **pedagogical and preventive mechanism**, capable of inducing safer and more responsible in traffic.
- However, for such actions to be effective and sustainable, it is essential to **development of intersectoral public policies** that integrate the axes of **education, supervision and encouragement of regularization**. Such policies must consider the particularities social and economic aspects of the population using these vehicles, avoiding merely superficial approaches punitive and promoting citizen inclusion in the transit system.
- Finally, it is worth highlighting that the construction of a safer and more balanced urban environment depends on a **shared responsibility** between the federative entities — Union, States and Municipalities — and civil society. Coordinated action between transit agencies, institutions educational institutions, legislative power and the population is an indispensable condition for the consolidation of



a road safety culture that encompasses all modes of transport, including the most popular and affordable, such as mopeds and scooters.

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