



Implementation of Regulation of the Minister of Transportation Number 45 of 2020 on the Use of Electric Bicycles on Highways in Cirebon Regency

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Abstract

Background. The rise in the use of electric bicycles on the highways of Cirebon Regency has caused unrest among other road users, mainly due to the difference in speed, the use of inappropriate lanes, and the absence of engine noise, which often surprises other motorists. To regulate this, the Minister of Transportation issued Regulation of the Minister of Transportation (Permenhub) No. 45 of 2020 concerning Certain Vehicles Using Electric Motor Drives, which regulates technical requirements, lanes, and the minimum age of electric bicycle users, as well as requiring the use of helmets and other safety equipment. However, the Regulation has been unable to address the above problems due to a lack of thorough socialization, resulting in a limited public understanding of the applicable regulations and inadequate supporting infrastructure. The purpose of this research is to provide the public with an understanding of the regulations and technical rules governing the use of electric bicycles.

Aims. This study addresses the issue of implementing Permenhub No. 45 of 2020 regarding the use of electric bicycles on highways in Cirebon Regency.

Methods. Using an empirical juridical research method, this study demonstrates that the implementation of regulations is still suboptimal. It is characterized by low public awareness of the rules, limited infrastructure, and the absence of derivative regulations at the regional level.

Conclusion. In conclusion, the effectiveness of Permenhub No. 45 of 2020 in Cirebon Regency is influenced by factors such as a lack of socialization, inadequate supporting facilities, and weak law enforcement. Therefore, collaborative efforts are needed between the local government and the community to create safer and more orderly traffic.

Keywords: Electric bicycles, Legal regulation, Law implementation, Public Awareness



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INTRODUCTION

The use of electric bicycles that are not in compliance with the rules, especially by children, causes public unrest because it has the potential to endanger the safety of road users. The increase in this issue, particularly in Indonesia, related to its use, is starting to evoke both pros and cons within the community (Anisa et al., 2025). Some support the initiative to save, driven by lower operational costs, environmental friendliness, and ease of use that attracts public attention (Lesmana et al., 2023). However, not a few also disagree because the use of electric bicycles among children is widespread. The use of electric bicycles by minors raises concerns because they often lack an understanding of traffic rules, which can compromise safety and public order (Lesmana et al., 2023).

In practice, it is often found that many people use electric bicycles on highways without paying attention to and complying with the rules and safety aspects. Of course, this is a problem that requires special attention because it has the potential for accidents involving electric bicycle users and other riders. Furthermore, the use of electric bicycles can also give rise to several issues, including the need for regulation of the type of transportation, the rights and obligations that consumers must fulfill, licensing requirements, and the application of approved laws governing the use of electric bicycles (Pramudya, 2024).

Regulations related to the use of electric bicycles in Indonesia are stipulated in the Minister of Transportation Regulation Number 45 of 2020 concerning Vehicles Using Motor Drives, which outlines technical and operational requirements. The regulation was issued to provide legal certainty for the use of electric bicycles by emphasizing safety aspects through maximum speed limits and the obligation to use helmets (Regulation of the Minister of Transportation Number 45 of 2020 concerning Vehicles Using Motor Drives).

However, the implementation of the policy faces legal challenges, including a lack of public awareness and understanding of the regulation, particularly regarding user safety (Tendean, 2025). In addition, the regulation of electric bicycle use can be further studied because effective regulations can create and increase public awareness among electric bicycle users about cycling safety, as well as the importance of supervision and education from institutions authorized to provide education to the public. The implementation of this regulation will face challenges related to socialization and supervision, as well as legal gaps regarding sanctions for violating users (Siregar & Amalia, 2022). Many of the electric bicycle users do not comply with the rules, such as not wearing a helmet and riding over the specified speed limit, which can lead to accidents (Tendean, 2025).

The phenomenon of electric bicycles being used has increased significantly in Cirebon Regency, attracting the author's attention due to concerns related to safety and order. On April 16, 2025, the author made observations on several highways in Cirebon Regency, namely Jalan Fatahilah Weru Sumber, Jalan Nyi Ageng Serang, and Jalan Raya Sumber-Cirebon. Where the author made observations for 2 (two) hours with time intervals of every 15 (fifteen) minutes on the source-weru road, in this case, there were as many as 25 (twenty-five) electric bicycle users passing on the highway, with the average user being minors and housewives. Many of them are always electric bike users who get on the highway without using safety tools such as helmets. Then on Nyi Ageng Serang street, in the same interval for 15 (fifteen) minutes in the same period, saw as many as 20 (seventeen) users with the same case, namely, on average, not using helmets, and there are still minors. After that, on the third highway, namely the Sumber-Cirebon highway, with the same method as before, the use of electric bicycles was found by 10 (ten) users, where the violation was the same as in the previous two places. From these three roads, the author can conclude that electric bicycle users in Cirebon Regency are evident in a reasonably large volume of vehicles, and they commit violations such as not wearing helmets, as well as using vehicles by underage users. Violations are acts that do not comply with existing regulations or societal norms, either intentionally or unintentionally, resulting in acts of disobedience to the law (Putri, 2020). This is undoubtedly contrary to article 4 paragraph (1) letters a and b of the Regulation of the Minister of Transportation Number 45 of 2020 which emphasizes "Every person who uses a certain vehicle as per article 2 paragraph (1) must meet the following provisions: a. use a helmet; b. the minimum age of the user is 12 (twelve) years." This incident is detrimental and interferes with the comfort and safety of other motorists while driving on the highway.

Many electric bike riders are unaware of or ignore applicable rules, such as speed limits, designated lane use, and safety requirements. This lack of knowledge and awareness can increase the risk of accidents and conflicts with other road users. Therefore, the author conducted research related to regulations and community compliance in the use of electric bicycles. The formulation of the problem in this study is how to implement Regulation of the Minister of Transportation Number 45 of 2020 regarding the use of electric bicycles on the roads of Cirebon Regency.

METHODS

This study uses an empirical juridical legal approach. Empirical legal research is a method that examines the applicable legal rules and real conditions in society. Researchers collect facts in the field as data and then analyze them to identify and solve legal problems (Atikah, 2022). Empirical juridical law research typically employs an approach that focuses on the study of law in society (Muhaemin, 2020). The researcher conducted an empirical study in juridical law to investigate the application of the Regulation of the Minister of Transportation Number 45 of 2020 in the social life of the people of Cirebon Regency, particularly about the use of electric bicycles on highways. In its implementation, this research combines two approaches: the statutory *approach* and the *socio-legal approach*. The legislative approach is used to examine the legal norms contained in the Regulation of the Minister of Transportation Number 45 of 2020 and other relevant regulations. Meanwhile, a sociological approach is employed to examine how the implementation of the rule unfolds within the community.

DISCUSSION

The use of electric bicycles in Indonesia has increased in recent years. This increase is influenced by government policies, technological advancements, and growing public awareness of environmental issues.

The operation of electric bicycles is designed as an environmentally friendly means of transportation that prioritizes renewable energy. This reflects the high enthusiasm of the public for increasingly modern technology. In this context, various new problems have arisen that need to be overcome related to the influence of technology on social life. The human desire to continually develop technology is driven by the goal of making daily life easier. The use of electric bicycles has a range of significant impacts, both positive and negative, on individuals, the environment, and society as a whole. Electric bikes use electric power as an energy source, which reduces greenhouse gas emissions and air pollution generated by combustion engine vehicles by smaller amounts than conventional cars or motorcycles.

The new mobility approach, driven by the advent of electric bicycles, is a special concern for the current government. Electric bicycles are designed for specific reasons, one of which is that they offer an environmentally friendly means of electric transportation, while also encouraging the use of renewable energy. The growth and progress of electric bicycles in the

economic, infrastructure, social, and cultural fields can only be achieved through effective government regulations (Komalasari et al., 2024).

Electric bicycles have numerous advantages that make them a compelling choice for many users. In addition to environmentally friendly and energy-efficient factors, financial advantages are the main reason people choose electric bicycles. Electric bikes require no fuel, have low maintenance costs, and are exempt from taxes and registration fees. However, the ease of access to purchases without the requirement of papers raises legal concerns. Electric bicycles can be purchased and used on the highway without an administrative process, so the authorities do not have ownership data for supervision or enforcement.

Implementation of Regulation of the Minister of Transportation No. 45 of 2020

Electric bicycles have become an increasingly popular mode of transportation in Indonesia. With the ability to reduce pollution and provide an energy-efficient transportation alternative, electric bicycles are gaining public attention. However, the rapid growth of electric bicycles on highways cannot be separated from several challenges related to regulatory optimization, public awareness, and compliance.

In the context of implementing the Regulation of the Minister of Transportation (Permenhub) No. 45 of 2020, which regulates vehicles with electric motor drives, including electric bicycles, various implementation obstacles remain at the regional level. One of the case studies from Bojonegoro shows that the enforcement of this regulation has not been optimal, primarily due to the absence of clear sanctions for violations and the limitations of supporting infrastructure. Similar conditions are also found in Cirebon Regency (Rohman & Kholilur, 2025).

Through an interview with Arif Tyas Mady Saputro, S.Tr. Tra, as the land traffic supervisor from the Cirebon Regency Transportation Office, it is known that the implementation of Permenhub No. 45 of 2020 in this area still faces various challenges. Some of the challenges include low public awareness of the regulation's content, the lack of supporting facilities such as special electric vehicle lanes, and the absence of regional-level policies that can facilitate effective implementation.

This is also under the findings of Lisdayanti (2025), that several factors hinder related to the regulation of the Minister of Transportation number 45 of 2020, including:

1. Absence of strict and appropriate legal sanctions to be applied

2. Absence of Standard Operating Procedures (SOPs)
3. There are still many electric bicycle users who do not use helmets and are still minors

Although the Regulation of the Minister of Transportation No. 45 of 2020 has been enforced nationally, its implementation in the regions, including Cirebon Regency, has not run as expected. This is influenced by several factors, including the limitation of infrastructure facilities such as special roads for electric bicycles and the absence of supporting regulations at the regional level that specifically regulate electric vehicles. This is also in accordance with Nurhadinata's (2024) findings, which indicate that the law has not yet established specific guidelines for regulations.

One of the important aspects that needs attention is public education. The limited understanding of road users regarding the traffic rules governing electric vehicles highlights the need for a more comprehensive and sustainable socialization program. An education-based persuasive approach can be an effective strategy in increasing public compliance.

The findings of field observations in Cirebon Regency corroborate indications of non-compliance with Permenhub No. 45 of 2020. At three observation locations (Jalan Fatahillah Weru Sumber, Jalan Nyi Ageng Serang, and Jalan Raya Sumber-Cirebon), the majority of electric bicycle users do not use helmets, and most are minors. This violates Article 4 paragraph (1) letters a and b of the Minister of Transportation Regulation No. 45 of 2020, which requires the use of helmets and limits the age of users to at least 12 years. This condition not only endangers the safety of electric bicycle users themselves, but also has the potential to interfere with the safety and comfort of other road users.

The phenomenon of using electric bicycles in Cirebon Regency reveals a discrepancy between the provisions in the Minister of Transportation Regulation Number 45 of 2020 and the community's actual behavior in the field. Based on the results of observations carried out on several main roads, it is evident that many electric bicycle users still disregard safety rules, such as not wearing helmets and allowing minors to ride electric bicycles on highways. This low level of compliance is inseparable from the lack of socialization and education about the importance of complying with regulations, as well as inadequate supervision from the authorities. In addition, the ease of obtaining an electric bicycle without administrative requirements also encourages rampant violations, leading people to overlook safety and legal aspects when driving.

No.	Street names	Number of violators	Number of users
1.	The Path of Fatahilah	22	25
2.	Cirebon Source Highway	8	10
3.	The Battle of the Bulge	20	20

*Data taken from Direct observation on April 16, 2025

This situation demonstrates that efforts to implement regulations at the regional level continue to face various complex challenges. The high number of violations reflects the suboptimal role of local governments, law enforcement officials, and related institutions in building a culture of orderly traffic among the community. The lack of supporting facilities, such as special electric bicycle lanes, and the lack of strict sanctions against violators, further aggravate this condition. For this reason, concrete steps are necessary, including increased socialization, stricter supervision, and the establishment of supporting rules at the local level, so that the primary goal of the regulation, which is to maintain safety and order on the highway, can be effectively achieved in Cirebon Regency.

The inadequate supervision and enforcement of laws regarding the use of electric bicycles in Cirebon Regency exacerbate this lack of safety awareness.

This incident is detrimental and disturbs the comfort and safety of other motorists on the highway. In addition to the results of field observations, an interview with an ordinary 24-year-old woman provides an overview of the perception of electric bicycle users in Cirebon Regency. He said that many electric bicycle users choose this vehicle because of its convenience and lower operational costs. However, awareness of the importance of complying with rules, such as wearing helmets, is still lacking, mainly due to a lack of socialization from the authorities. This statement confirms that compliance with road safety regulations is still a significant issue among electric bike users in the area.

In addition, economic and social factors should also be considered as factors that influence the use of electric bicycles. Electric bicycles are a more affordable alternative to conventional motor vehicles for some individuals, particularly in challenging economic times. However, safety and order risks can overshadow these economic benefits if adequate education and supervision are not provided. Therefore, a holistic approach involving various related parties (government, community, and electric bicycle manufacturers) is needed to ensure that

the implementation of Permenhub No. 45 of 2020 runs effectively and provides optimal benefits for the people of Cirebon Regency.

The lack of derivative regulation from Permenhub No. 45 of 2020 in Cirebon Regency is the primary obstacle to practical implementation. The absence of more specific regional regulations (Perda) or regent regulations (Perbup) makes law enforcement difficult. Without a strong legal basis at the local level, the Transportation Department and police struggle to impose sanctions or take strict action against violators of the rules governing the use of electric bicycles. This also causes ambiguity in terms of responsibilities and authority between related agencies. This condition was exacerbated by the findings of field observations on April 16, 2025, in Cirebon Regency, where most electric bicycle users did not use helmets and most were minors, which violated the provisions of Permenhub No. 45 of 2020.

Observation data shows that violations of Permenhub No. 45 of 2020 occur sporadically and are systemic problems. The high rate of violations in three different locations (Jalan Fatahillah Weru Sumber, Jalan Nyi Ageng Serang, and Jalan Raya Sumber-Cirebon) indicates that e-bike users in Cirebon Regency lack awareness and compliance with regulations.

In addition to economic factors, social aspects also play an important role in using electric bicycles. Electric bicycles are often considered a status symbol or a modern lifestyle, especially among teenagers and children. This can encourage them to use electric bikes without paying attention to safety aspects and applicable rules. Therefore, the socialization and education approach must consider the psychological and social aspects of electric bicycle users.

Efforts made by law enforcement

Violation of the use of electric bicycles on the highway. Until now, there have been no specific regulations in Law Number 22 of 2009 concerning Road Traffic and Transportation or Permenhub No. 45 of 2020 that expressly regulate administrative and criminal sanctions for electric bicycle users who violate the rules. This condition prevents the police from having a strong legal basis to take action, so their actions are limited to providing education or reprimands to violators, without the ability to impose formal ticket sanctions or fines.

According to the results of an interview with AKP Hesty Kristi Wahyudi, S.H, M.H., as the Head of the Turjagwali Satlantas Cirebon Police, said that if you look at Law No. 22 of 2009 concerning Road Traffic and Transportation, electric bicycle users who violate the highway cannot be ticketed by the police because this type of vehicle has not been classified

as a motor or non-motorized vehicle. He also explained that the use of electric bicycles has been regulated in the Regulation of the Minister of Transportation Number 45 of 2020 concerning Certain Vehicles Using Lyric Drives. Although the rules for using electric bicycles have been established, many users still violate these regulations, such as riding electric bicycles on highways.

Until now, the police have prioritized preventive measures through counseling and appeals to electric bicycle users not to cross the highway. The absence of regulations detailing procedures for handling the presence of electric bicycles on public roads causes misunderstandings and a lack of coordination between the public and the police. According to the statement by AKP Hesty Kristy Wahyudi, S.H., M.H., the police do not have the authority to issue tickets because electric bicycles used on the highway have not been regulated in the Traffic Law. He also emphasized the need to enforce stricter rules regarding the use of electric bicycles, suggesting that they should only be allowed in residential areas, residential complexes, and bicycle lanes. And not for use on the highway. This is, of course, done to avoid conflicts with other users that could potentially cause accidents. In this case, the police can only provide education related to the use of electric bicycles. AKP Hesty Kristy Wahyudi, S.H., M.H. emphasized the importance of educating electric bicycle users about traffic safety, so that the public can better understand the applicable rules. He also emphasized the need for more explicit rules and the application of stricter sanctions for violations of the rules by electric bicycle users.

The lack of compliance among electric bicycle users can certainly harm them and other road users. Traffic accidents can have the worst impact caused by these events. This is certainly detrimental and interferes with the comfort and safety of motorists or other road users. AKP Hesty Kristi Wahyudi, S.H., M.H. stated that the use of electric bicycles on public roads has the potential to cause accidents due to their quiet and low-speed characteristics, making them often unnoticed by other riders.

Thus, the legal vacuum and weak enforcement, resulting from the lack of specific regulations, are the primary challenges to implementing electric bicycles on the road. It is hoped that lawmakers can immediately design more comprehensive and specific regulations regarding sanctions, law enforcement officials' authority, and aspects of legal protection for all road users. Firm and clear regulations are needed to close legal loopholes, increase public compliance, and ensure traffic safety and order in the future. Additionally, infrastructure development is a supporting factor, such as providing a dedicated lane for electric bicycles that

is separate from other large vehicles. This can reduce the risk of accidents due to the limitation of interaction between electric bicycle users and other road users. This special lane becomes a safe lane, creating a safe riding environment for electric bike users.

CONCLUSION

Based on the results of the research and discussions that have been carried out, it can be concluded that the implementation of the Regulation of the Minister of Transportation Number 45 of 2020 regarding the use of electric bicycles on the highways of Cirebon Regency is still not optimal, which is characterized by a low level of public compliance with rules such as the obligation to use helmets and the age limit of users, as well as the number of violations committed by minors; This is exacerbated by the lack of socialization and education from the authorities, the lack of supporting infrastructure such as special electric bicycle lanes, the absence of derivative regulations or SOPs at the regional level, and weak law enforcement due to the absence of strict sanctions, thus potentially increasing the risk of accidents and unrest in the community; Therefore, collaborative efforts are needed between the central government, local governments, and the community through strengthening regulations, increasing socialization, providing infrastructure, and consistent law enforcement so that the goals of safety and order in the use of electric bicycles on the highway can be achieved effectively.

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Interview Results on May 5, 2025 with the Head of the Turjagwali Satlantas Cirebon Police AKP Hesty Kristi Wahyudi, S.H., M.H. at 13.00 WIB