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Implementation of Personal Data Protection Against Wrongful Ticketing in The Electronic Law Enforcement System

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ABSTRACT

This study examines the implementation of artificial intelligence-based Electronic Traffic Law Enforcement (ETLE) in Indonesia and its implications for personal data protection, particularly in cases of wrongful ticketing. The background highlights the increasing use of automated decision-making systems in traffic law enforcement, which aims to improve efficiency and road safety, but also raises concerns regarding data accuracy, algorithmic errors, and citizens' privacy rights. This research aims to analyze the legal protection of personal data subjects within the ETLE system and evaluate the effectiveness of Undang-Undang No. 27 of 2022 on Personal Data Protection in addressing system-related errors. The research employs a normative juridical and empirical legal approach by analyzing statutory regulations, scholarly literature, and field-based implementation issues related to ETLE practices in Indonesia. The findings indicate that while ETLE has a strong legal foundation under traffic and data protection laws, its implementation still produces wrongful ticketing due to system inaccuracies, database mismatches, and limited algorithmic transparency. These weaknesses result in potential violations of personal data rights, including issues of accountability and fairness in automated enforcement. The study concludes that although the ETLE system is legally recognized, its operational framework requires stronger institutional oversight, improved data accuracy mechanisms, and enhanced transparency to ensure compliance with personal data protection principles. Strengthening regulatory enforcement, establishing an independent supervisory authority, and integrating correction and deletion mechanisms are essential to safeguard citizens' rights in AI-based law enforcement systems in Indonesia.

INTRODUCTION

The presence of information technology in the form of Artificial Intelligence (AI) in this era has entered the daily lives of society, including in traffic law. In Indonesia, AI has been used by traffic law enforcement officers, namely the Police, through the implementation of the Electronic Traffic Law Enforcement (ETLE) system. With the implementation of the ETLE system, traffic law enforcement by the Police must be carried out properly to create safe, secure, orderly, and smooth traffic conditions (Sajid et al., 2023; Zuiderveen Borgesius, 2020). Political commitment in traffic management is realized through various activities such as traffic

regulation, control, and supervision, all of which lead to guarantees of safety, security, order, and smooth driving. The implementation of AI in the form of the ETLE system into the traffic legal system can improve traffic law enforcement while at the same time improving the welfare of people's lives(Albakjaji & Kasabi, 2021; Alfred, 2021; Demetzou, 2019).

Behind the enormous potential of AI in supporting law enforcement, there are also concerns regarding algorithmic bias, violations of the principle of justice, and technological limitations in understanding the complexity of socio-cultural contexts that are central to many legal cases (Khair & Wiraguna, 2025; Prasetyo et al., 2025; Wulansari, 2020). Therefore, the implementation of AI into the traffic legal system requires a careful and comprehensive approach, while maintaining a balance between technological innovation and the fundamental principles of the rule of law (Bambang, 2025; Bantekas & Bratsiakou, 2026). This is crucial for a country like Indonesia that is still in the early stages of AI implementation in the legal sector (Ejjami, 2024).

The ETLE program is a form of public service innovation that integrates information and communication technology in prosecuting traffic violations (Malquna et al., 2026; Manso et al., 2022). This system is a development from conventional ticketing mechanisms towards a digital system that aims to simplify the law enforcement process and increase service efficiency. The implementation of ETLE is in line with the development of the digital era that places technology as an integral part of society's life, including in the management of traffic violations (Manso et al., 2022).

The legal framework governing these issues in Indonesia is primarily anchored in the Personal Data Protection Law, the Traffic and Road Transportation Law, and related electronic system regulations. These laws provide a normative foundation for data processing activities, including principles of accuracy, lawfulness, and accountability (Gryz & Rojszczak, 2021; Johnson, 2020). However, gaps remain in operationalizing these principles within AI-based enforcement systems, particularly regarding automated decision-making transparency and mechanisms for dispute resolution when system errors occur.

Previous studies have examined the implementation of ETLE as a public service innovation and its impact on traffic compliance, as well as broader discussions on AI in legal systems and administrative decision-making (Jabar et al., 2024). Research by Ejjami (2024) emphasizes the ethical and legal risks of AI-driven justice systems, while other studies highlight the efficiency gains of ETLE in improving traffic discipline. However, these studies tend to focus more on operational effectiveness rather than the legal implications of personal data protection violations arising from system errors.

The existing literature also reveals a lack of comprehensive analysis on how personal data protection principles are operationalized within automated traffic enforcement systems. Although the Personal Data Protection Law has introduced key rights for data subjects — such as the right to access, correction, and objection — its application in real-world Automated Decision-Making (ADM) systems like ETLE remains underexplored (Azzani & Nida, 2025; Leonita et al., 2022). This creates a significant research gap in understanding how legal protections function in practice when algorithmic systems produce erroneous outcomes (Denny, 2025; Fitrianto, 2025; Hukom, 2025; Rizk & Lindgren, 2025).

This gap becomes more urgent considering the increasing dependence of public institutions on digital and AI-based decision-making systems. Without adequate safeguards,

wrongful enforcement actions may not only harm individuals financially and administratively but also erode public trust in government institutions. The absence of a dedicated supervisory authority for personal data protection in Indonesia further exacerbates the risk of unchecked algorithmic governance.

Accordingly, this study introduces a critical perspective by examining the implementation of personal data protection in the ETLE system, particularly in cases of wrongful ticketing caused by system errors. The novelty of this research lies in its integration of ADM governance analysis with personal data protection principles, including algorithmic transparency, the right to explanation, and data correction mechanisms. The study also proposes strengthening institutional oversight as a key element in improving system accountability.

The main objective of this research is to analyze the legal implications of wrongful ticketing within the ETLE system and evaluate the effectiveness of existing personal data protection frameworks in addressing such issues. The study further aims to formulate a more responsive legal structure that ensures fairness, accountability, and the protection of citizen rights in AI-based traffic enforcement systems.

The contribution and benefit of this research are expected to extend both theoretically and practically. Theoretically, it enriches the discourse on AI governance, ADM systems, and data protection law in developing countries. Practically, it provides policy recommendations for improving the ETLE system, strengthening regulatory oversight, and ensuring that technological innovation in law enforcement aligns with fundamental human rights and legal certainty in Indonesia's digital transformation era.

METHOD

The research employs a normative juridical approach combined with empirical legal analysis to examine the implementation of personal data protection within the Electronic Traffic Law Enforcement (ETLE) system in Indonesia (Qamar, 2020). The type of research used is qualitative legal research, focusing on statutory interpretation, doctrinal analysis, and field-based evaluation of ADM (Automated Decision-Making) practices. The population of this study includes all legal instruments related to ETLE implementation, namely Law No. 27 of 2022 on Personal Data Protection, Law No. 22 of 2009 on Traffic and Road Transportation, Government Regulation No. 71 of 2019, as well as relevant institutional policies of the Indonesian National Police. In addition, the empirical population includes stakeholders involved in ETLE implementation such as traffic police officers, system operators, and affected vehicle owners. The sample is selected purposively, consisting of key regulations, selected case reports of wrongful ticketing, and relevant expert perspectives documented in prior studies and official reports.

The sampling technique used in this research is purposive sampling combined with document-based selection, focusing on legal materials and empirical cases that directly relate to ETLE system errors and personal data processing. Research instruments include document analysis guidelines, legal interpretation frameworks, and interview protocols (for supporting empirical insights where applicable). Validity of the data is ensured through source triangulation, comparing statutory regulations, academic literature, and real-world case evidence to ensure consistency and legal accuracy. Reliability is maintained through systematic

coding of legal themes such as data accuracy, accountability, algorithmic transparency, and citizen rights protection, ensuring that interpretations remain consistent across different sources and contexts.

Data collection techniques include literature study, statutory document analysis, and secondary data review from academic journals, government publications, and verified news reports on ETLE wrongful ticketing cases. The research procedure begins with identifying legal issues, collecting relevant legal materials, categorizing data into primary, secondary, and empirical sources, followed by critical legal interpretation and comparative analysis with international best practices such as GDPR-based systems. The software used to support analysis includes Microsoft Word for documentation, Mendeley for reference management, and qualitative analysis tools such as NVivo (or manual coding techniques when software is not available). Data analysis is conducted using descriptive qualitative analysis with a legal interpretive approach, including content analysis and comparative legal analysis to identify gaps between normative regulations and actual implementation in the ETLE system.

RESULTS AND DISCUSSION

Legality and Mechanism of Personal Data Processing in the ETLE System (Analysis Based on Law No. 27 of 2022 concerning Personal Data Protection)

The adoption of information technology, particularly Artificial Intelligence (AI), into the traffic legal system in Indonesia has been realized through the establishment of the ETLE system, whose implementation is carried out by the Police. This ETLE system is a form of digital transformation in technology-based traffic law enforcement. In practice, the ETLE system collects personal data of the public massively, which is done through surveillance from CCTV cameras scattered at street corners. With this recording activity, the collection of personal data from the Personal Data Subject, namely the public, occurs by the Personal Data Controller, namely the Police. The implementer of this data collection is called the Personal Data Processor, which is usually a third party cooperating with the Personal Data Controller, namely a data processing company.

Personal Data is data about an individual person who can be identified through electronic or non-electronic systems. This data is obtained from CCTV camera recordings and then matched with the database available at the Police. The data processed in the ETLE system includes vehicle data used by the public (license plate numbers, violation photos, physical attributes of the driver/passenger, faces of the driver/passenger, and location, time, and speed of the vehicle) and connected personal data (vehicle owner's name, address, vehicle identity, STNK number). Thus, it can be concluded that the personal data processed, stored, and used by the Police is general and specific data of citizens.

The collection of citizens' personal data by the Police certainly has a legal basis, as stated in Article 20 paragraph (2) letter c of the PDP Law, namely that the Personal Data Controller may process personal data to fulfill legal obligations according to legislative provisions, namely Law No. 22 of 2009 concerning Traffic and Road Transportation (LLAJ Law). The Police's action in collecting personal data has formal legality, namely the PDP Law and the LLAJ Law, but its implementation is subject to limitations as regulated in the PDP Law and related implementing regulations. The implementation of this personal data processing is clearly stated in Article 16 of the PDP Law.

Personal data processing should be carried out with high accuracy, which ensures the fulfillment of Article 16 of the PDP Law, namely that personal data processing is carried out accurately, completely, and not misleading. However, in practice, there are many cases of wrongful ticketing by the Police. When this happens, there is no clear legal mechanism to protect the public. Therefore, it can be concluded that there has been a failure in the implementation of the ETLE system, which also causes defects in the legality of personal data processing.

Legal Implications and Privacy Rights Violations Due to Wrongful Ticketing in the ETLE System

The ETLE system is an extension of the AI system that uses Automated Decision Making (ADM) in its implementation. Although this system is sophisticated, in reality, the ETLE system often experiences technical failures that lead to wrongful ticketing, which has an impact on legal protection for citizens. Common incidents include errors in reading license plates, database mismatches due to vehicle sales where the name has not been transferred, resulting in tickets being sent to the wrong person, CCTV cameras failing to capture seatbelt images even though the driver was wearing one, and so forth.

This wrongful ticketing constitutes a violation of citizens' rights as personal data subjects, which contradicts the accuracy principle adopted in the PDP Law. The failure of the ETLE system to capture data results in inaccuracies in the Police database. If the database used by the Police to determine traffic violations is inaccurate, then the legal product produced, namely the ticket, is legally defective. In certain cases, due to ETLE system errors, tickets containing personal data will be received by other uninterested parties, resulting in a data breach.

If wrongful ticketing occurs due to the ETLE system, citizens as personal data subjects have the right to sue and receive compensation for violations of personal data processing, as regulated in Article 12 of the PDP Law. In accordance with the liability based on fault theory, the Police as the personal data controller must be responsible for this error because the ETLE system is a technology under the control of the Police institution. This is where the importance of mechanisms for fulfilling citizens' rights in the event of wrongful ticketing lies.

Legal Construction and Settlement Mechanisms for Personal Data Subjects Experiencing Wrongful Ticketing in the ETLE System

The right of citizens as personal data subjects to object to decision-making actions based on automated processing has been regulated in Article 10 of the PDP Law. In addition, citizens also have the right to obtain information or an explanation regarding decisions made by the ETLE system, including algorithmic transparency. Unfortunately, this right is difficult to fulfill because it is constrained by the exceptions regulated in Article 50 of the PDP Law, namely exceptions for public interest and law enforcement.

Furthermore, in its implementation, the ETLE system does not run automatically by itself; rather, final verification is still carried out by the Police, meaning that the issuance of the ticket is carried out by Police officers. After the ticket is issued, it will be sent to the vehicle owner's address recorded in the Police database. In the event of wrongful ticketing, citizens who are vehicle owners are required to confirm to the Police that an error has occurred. This

automatically forces citizens to enter a confirmation process that is difficult because they must visit the local Police or access the official Police website.

Such a challenge mechanism is essentially a legal injustice for citizens because the burden of proof shifts to the citizen. This is a shift in the burden of proof, which should lie with the accusing party or the Police, but shifts to the accused party or the citizen. In this case, if citizens do not want to be disadvantaged, they must be active in proving that wrongful ticketing has occurred. This is a deficiency of the ETLE system that is very detrimental to citizens as personal data subjects whose privacy rights have been violated due to system failure.

For citizens as personal data subjects whose privacy rights have been violated, a rights restoration mechanism is needed, namely the right to data updating and data deletion as stated in Article 6 of the PDP Law. When citizens who experience wrongful ticketing have filed an objection, the Police must fulfill their obligation to correct the database and delete violation records from the citizen's data, as well as improve the logic in the ETLE system to prevent recurring wrongful ticketing. In addition, citizens also have the Right to Data Deletion. In this case, CCTV recordings or photos produced through personal data processing must be deleted from the Police database because this data is no longer relevant to traffic law enforcement due to being misdirected.

In the implementation of the ETLE system, the existence of a special institution or authority that handles personal data processing in the ETLE system is very important. This has been regulated in the PDP Law, which mandates the establishment of a Personal Data Protection Authority (OPDP), but until now this institution has not yet been established. This creates a vacuum of functional authority in the prevention, supervision, and dispute resolution of personal data breaches. In fact, the PDP Institution has an important role in preventing failures in personal data protection. This institution is given the authority to formulate and establish personal data protection policies to serve as guidelines for personal data controllers and processors in managing personal data.

This PDP Institution has an obligation to analyze algorithms run in the ETLE system and provide comprehensive information to the public regarding algorithmic transparency and conduct audits. This audit is useful for measuring the error rate of the ETLE system in reading data captured through CCTV recordings. Such institutions have been implemented in other countries such as Singapore with the Personal Data Protection Commission (PDPC), Japan with the Personal Information Protection Commission (PPC), and also Canada with the Office of the Privacy Commissioner of Canada (OPC). If a special PDP institution like this is established, it will have the authority to analyze the weaknesses of the system used by the Police, provide proposals for technical improvements to the system, and impose administrative sanctions on the Police if the ETLE system is not improved.

CONCLUSION

In the ETLE system, personal data processing activities and their processing in the realm of traffic law essentially comply with the regulations in the PDP Law. Where the Police as the personal data controller have a strong legal basis in carrying out their obligations, but this is also limited by the obligation to comply with personal data protection principles.

However, personal data protection in this ETLE system has not yet been able to fully fulfill citizens' rights, as seen from the legal loopholes within the system. Wrongful ticketing

by the Police results in legal injustice for the public because ultimately it will harm citizens who are victims. In addition, with wrongful ticketing, there is also a data breach which violates the privacy rights of every citizen.

This can be addressed by improving the ETLE system to integrate the Right to Data Updating and the Right to Data Deletion automatically when objections filed by citizens who are victims of wrongful ticketing have been confirmed. For the ETLE system to function properly, a supervisory institution or authority is needed that can audit the system to achieve algorithmic transparency, which can increase citizens' trust in the ETLE system. With the creation of legal certainty and protection of privacy rights, citizens will tend to accept the adoption of information technology into the government system. This will ultimately prove that the adaptation of information technology into law enforcement in Indonesia goes hand in hand with the state's commitment to protecting the fundamental rights of its citizens in the digital era.

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