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# GPS tracker technology as evidence of compensation according to the provisions of applicable legislation

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**Abstract**
The development of information and communication technology has encouraged the use of GPS Tracker in the transportation sector to monitor the location, time, and activity of vehicles in real-time. This technology is important in monitoring compliance with the rules of operational hours of tronton transportation that have been regulated in Law Number 19 of 2016 concerning Electronic Information and Transactions, Law Number 22 of 2009 concerning Traffic and Road Transportation, Ambon City Regional Regulation Number 5 of 2011 concerning the Implementation of Traffic and Road Transportation, Ambon Mayor Regulation Number 51 of 2018 concerning Regulation of Operational Hours of Heavy Equipment Vehicles, Container Transportation, and Similar Large Vehicles, as well as Regulation of the Director General of Land Transportation Number KP.2081 / AJ.801 / DRJD / 2019 concerning Technical Instructions for Electronic Vehicle Movement Monitoring Devices in Public Motorized Vehicles **.** However, violations of operating hours in Ambon City still frequently occur and cause losses to the community, such as the case in Hative Kecil in February 2025 when a truck allegedly caused a power cable to break, resulting in a power outage, damage to residents' homes, disruption of community social activities, and losses to kiosks around the location of the incident.
This study aims to examine the role of GPS tracker technology as evidence of compensation and a form of liability for carriers in violation of operating hours. This study uses a normative legal research method with a statutory regulatory approach and literature review.
The results of the study show that the GPS Tracker is a valid electronic evidence based on Article 5 paragraph (1) of the Electronic Information and Transactions Law because it is able to record location data, time, and vehicle activity in real time so that it can prove violations of operating hours. In addition, the form of liability of the carrier in this case is liability based on fault as regulated in Article 1365 of the Civil Code, because the carrier is proven to be negligent by continuing to operate the vehicle outside the specified hours, resulting in losses for the public.

**Keywords:** GPS tracker, violation of operating hours, carrier liability

## Introduction

### Background

The development of information and communication technology has brought significant changes to various fields, including transportation and law enforcement. GPS Trackers such as telematics systems, Global Positioning Systems (GPS), and vehicle tracking in the context of fleet management have become an integral part of vehicle tracking systems. In general, this technology can help monitor the location, time, and behavior of vehicles accurately (in real-time) by combining telecommunications systems and vehicle location data via GPS in a centrally accessible operating system. GPS is a satellite navigation system that uses a network of satellites in Earth orbit to determine location, speed, and time with high accuracy on the Earth's surface or its surroundings. GPS was originally developed for military purposes by the United States Department of Defense, but is now widely used in various civilian applications. Fleet management (Fleet Management System) is a series of aspects implemented at all organizational levels, including tactical, operational, and coordination levels, carried out by private and public companies that provide transportation services. Fleet management systems are oriented towards software, technology, and the use of tools that function to help improve distribution and logistics performance so that it remains optimal. This system is able to reduce vehicle operating costs, increase efficiency, and ensure that each vehicle complies with the standards set by the company. The digitalization of fleet management is realized in the development of a freight transportation fleet management system. Through a fleet management system, it is hoped that efficiency will occur in fleet management, especially minimizing costs. The freight transportation discussed is road freight transportation which includes vans, trucks, trailer trucks, semi-trailer trucks, low loader trucks, tank trucks, and dump trucks.
Therefore, the fleet management system becomes a bridge between technology-based fleet management and an integrated, sustainable transportation system, and supports orderly traffic and effective transportation services. Through the GPS system, operational activities of tronton can be monitored accurately (real-time) and historically so that violations of operating hours can be clearly identified based on vehicle movement records. This data serves as reliable electronic evidence to show the existence of violations, as well as being a legal basis in determining responsibility and calculating compensation for the impacts caused, such as damage to road infrastructure or traffic disruptions. Specifically, the implementation of operational hours for goods transportation including large-tonnage trontons has been regulated in various regional and national regulations, Chapter IV Article (4) of Ambon Mayor Regulation Number 51 of 2018 concerning operational hours for heavy

equipment transportation vehicles, container transportation, large trucks such as trontons, and similar vehicles in the Ambon City area. This regulation aims to reduce traffic congestion, maintain road safety, and reduce the risk of accidents in urban areas.

The legal basis for using GPS Tracker as evidence for compensation lies in Article (5) and Article (6) of Law Number 19 of 2016 concerning Information and Electronic Transactions, hereinafter referred to as the ITE Law, which officially recognizes electronic information and documents as valid evidence, equivalent to other evidence such as letters or instructions. Then the Regulation of the Director General of Land Transportation Number KP.2081/AJ.801/DRJD/2019 concerning Technical Instructions for Electronic Vehicle Movement Monitoring Devices for Public Motorized Vehicle Transportation is a regulation that regulates technical instructions for using electronic vehicle movement monitoring devices (GPS) for passenger transportation using public motorized vehicles. This regulation was issued as part of the government's efforts to improve the safety, security, and quality of land transportation services, in line with the mandate of Law Number 22 of 2009 concerning Road Traffic and Transportation. In essence, this regulation requires every public transportation company to install GPS devices. on their vehicles, whether operating on or off-route. The GPS device must have certain capabilities, such as monitoring the vehicle's position in real time, recording the route, speed, duration of the trip, and driver behavior (working hours, rest periods, and fatigue warnings). This system must also be able to store travel data and be integrated with the Ministry of Transportation's information system, thus facilitating government oversight. In a legal context, this regulation has important implications as a basis for the use of GPS technology as a monitoring tool as well as evidence**.** Thus, this regulation strengthens the position of electronic evidence in the transportation sector, including in proving responsibility and compensation.

**Article 1365 of the Civil Code (KUHPerdata) stipulates that**

"Every act that violates the law and causes harm to another person, requires the person who caused the loss due to his fault to compensate for the loss." This article is the legal basis for someone to demand material or immaterial compensation for actions that are detrimental and unlawful, whether in the form of violations of laws, the subjective rights of others, or contrary to compliance in society. In order for an action to be sued under this article, the following 5 (five) elements must be met:

1. The existence of an act (active or passive or negligence)
2. The act is against the law (contrary to written and unwritten laws or legal norms)
3. There is an error (intentional or negligent)
4. There is a loss (material or immaterial)
5. There is a causal relationship (cause and effect) between the act and the loss.

Article 106 of Ambon City Regional Regulation Number 5 of 2011 stipulates that, in addition to transportation vehicles as referred to in Article 102, heavy vehicles to be mobilized and/or moved are only permitted to pass through designated roads within the city and must use transport trains from 22.00 (twenty-two empty-empty) to 05.00 (zero five empty-empty).

In the realities of life, violations of operating hours for tronton vehicles in Ambon continue to occur. These violations can have negative impacts such as infrastructure damage, increased pollution, traffic disruptions, and even accidents. Violations of operating hours for tronton vehicles in Ambon not only pose a traffic safety risk but also have the potential to cause damage to vital information infrastructure (IIV), such as the power cable that broke in the Hative Kecil area in February 2025 at 6:20 PM WIT. As a result, power outages in several areas became a reality, directly disrupting economic and social activities. Several residents' homes were damaged and goods in nearby kiosks were scattered. Monitoring technology such as GPS is a modern approach that can help business actors, traffic supervisors, and law enforcement officers to accurately monitor and record vehicle operational activities.

With this data, violations of operating hours can be objectively reconstructed as evidence in claims for compensation or dispute resolution.

**Discussion**

**GPS Tracker Technology as Evidence of Compensation according to the Provisions of Applicable Legislation**

**A GPS Tracker technology in transportation**

The development of digital technology has driven significant transformation in various fields, with the current development of globalization, all types of community activities cannot be separated from the help of technology likewise in the field of transportation, GPS Tracker technology is a satellite-based tracking system used to determine the position of a vehicle accurately through latitude and longitude coordinates. In the transportation system, a GPS device is installed on a vehicle and connected to a communication network (such as GPRS or the internet) so that location, speed, and time data can be sent in real-time to the server or user. GPS integration with other technologies such as GIS and cellular networks allows for direct and continuous vehicle monitoring. In addition, GPS Tracker is also able to record travel data such as routes, travel time, and vehicle speed, so that it can be used for transportation operational analysis. GPS Tracker technology is composed of several main components that are integrated with each other, namely the GPS module (receiver)**,** communication module (GSM / GPRS / 4G)**,** microcontroller**,** and power source (battery or vehicle battery).

GPS module receives signals from satellites to determine position coordinates (latitude and longitude), while the communication module transmits this data to a server or user via a cellular network. A microcontroller processes the received data before sending it, and a power source ensures the device can operate continuously. Some modern systems also feature additional sensors such as speed, vibration, and fuel sensors to enhance vehicle monitoring.

The GPS Tracker system begins with the GPS module receiving satellite signals, which are then calculated to accurately determine the vehicle's position using the trilateration method. Once the location coordinates are obtained, the data is processed by a microcontroller and combined with other information such as time, speed, and direction of movement. The data is then sent via a communication network (GPRS/Internet) to a central server which can then be accessed by the user through an application or web-based monitoring platform.

The GPS Tracker function in transportation plays a strategic role in supporting modern transportation systems, particularly in terms of vehicle monitoring and control. One of its main functions is real-time vehicle location tracking**,** where this technology allows users to know the vehicle's position directly through digital devices. With this feature, companies can ensure that vehicles are on the correct distribution route and can immediately takeaction if problems occur in the field. The GPS system is able to provide accurate and continuous vehicle position information through integration with communication networks.

In addition, GPS trackers function to monitor vehicle travel routes**.** This system not only displays the vehicle's current position but also records travel history (tracking history) which can be used for operational evaluation. With this data, companies can assess the effectiveness of the routes used and identify any deviations. This explains how GPS tracking data is very useful in analyzing vehicle movements and making decisions related to transportation route optimization. Another function is monitoring vehicle speed and operational time**.**

**Legal Position of GPS Tracker as Evidence**

Article 1865 of the Civil Code is the primary basis for determining the burden of proof in civil cases. This provision emphasizes that every party claiming a right or alleging a legal event is obliged to prove the truth of that claim. In other words, the burden of proof is not on the judge, but on the disputing parties. This principle is known as the principle of actori incumbit probatio, which means that the one who claims must prove it. In civil litigation, this provision serves as a guideline for judges in determining which party must submit evidence first and assessing whether the proposed claim is admissible based on the evidence presented.

Furthermore, Article 1866 of the Civil Code regulates the types of valid evidence in civil law, namely written evidence, witnesses, allegations, confessions, and oaths. These five types of evidence form the basis of the evidentiary process in court and determine how a legal fact can be legally proven. However, Article 1866 of the Civil Code remains the primary reference for classifying evidence in civil practice in Indonesia, so judges continue to rely on this provision in assessing the strength of a case's evidence.

GPS trackers as electronic evidence have an increasingly important role in modern legal systems, particularly in the context of transportation. The data generated by GPS trackers, in the form of digital information regarding a vehicle's location, time, speed, and route, can be used to reconstruct an event. In practice, this data is often used to prove violations, such as violations of operating hours, route deviations, or late deliveries. Thus, GPS trackers not only function as monitoring tools but also have evidentiary value in legal proceedings. The position of GPS data as electronic evidence can be categorized as part of electronic evidence. recognized by law. In the Indonesian evidentiary system, electronic evidence has received legal recognition and can be equated with written evidence, as long as it meets certain requirements. GPS data stored in a digital system, whether in the form of travel logs or real-time recordings, can be submitted as evidence to demonstrate relevant facts in a dispute or legal case.

In relation to the law of evidence in Indonesia, the use of GPS Trackers as electronic evidence is regulated in Law Number 19 of 2016 concerning Electronic Information and Transactions (UU ITE)**.** Article 5 of the ITE Law states that electronic information and/or electronic documents and their printouts constitute valid legal evidence. This provides a strong legal basis for the use of GPS data in the evidentiary process in court, as long as it meets the formal and material requirements stipulated by the laws and regulations. The relationship between GPS Tracker technology and Law Number 19 of 2016 concerning Electronic Information and Transactions (ITE Law) as evidence of compensation lies in the legal recognition of electronic data as valid evidence. GPS Tracker produces data in the form of location, time, speed, and vehicle travel history information which is categorized as electronic information. Based on Article 5 paragraph (1) of the ITE Law, electronic information and/or electronic documents along with their printouts are valid legal evidence, so that GPS data can be used in the evidence process to support claims for compensation in transportation disputes.

GPS Tracker data can be used to prove unlawful acts (onrechtmatige daad) or negligence that result in losses. For example, violations of operating hours, route deviations, or excessive speeding that cause damage to goods or public facilities. GPS data can objectively demonstrate facts regarding the time and location of the incident, allowing it to establish a causal relationship between the carrier's actions and the resulting losses. This aligns with the principle of proof in civil law, which requires clear evidence of a legal event.

Furthermore, Article 6 of the ITE Law stipulates that electronic information is considered valid as long as it can be accessed, displayed, its integrity guaranteed, and can be accounted for. Therefore, GPS Tracker data must meet the elements of reliability and integrity, such as being stored in a secure system, not being manipulated, and its authenticity can be verified. In practice, the use of servers, automatic log systems, and Internet of Things (IoT) -based technology strengthens the validity of GPS data as electronic evidence. Furthermore, in proving compensation, GPS Tracker data plays a crucial role in strengthening the claim of loss submitted by the injured party. This data can show a detailed chronology of events, including the time of the violation and the location of the incident, thus assisting the judge in objectively assessing legal facts. With accurate electronic evidence, the evidentiary process becomes more transparent and efficient.

Thus, GPS Tracker technology is closely related to the ITE Law in terms of its legality as electronic evidence for claiming compensation. The legal recognition of electronic information, coupled with GPS's ability to record data in real time and objectively, makes this technology a crucial instrument in modern evidence. Therefore, the use of GPS Trackers is not only relevant in the technical aspects of transportation, but also has legal force in supporting law enforcement and fair dispute resolution.

**The Probative Power of GPS Trackers as Evidence of Compensation**

GPS Tracker has the power of proof as electronic evidence because it is included in the information or document category. electronic recognized by law. Based on Article 5 paragraph (1) of Law Number 19 of 2016, electronic

information and/or electronic documents along with their printouts constitute valid legal evidence. Thus, GPS data such as recorded location, time, and travel route have a legal standing that can be equated with written evidence in the legal process. In addition, GPS Tracker data has an objective and automatic nature**,** because it is generated directly by a satellite-based system without direct human intervention. This makes the data relatively free from subjective engineering or manipulation, thereby increasing its evidentiary value.

Compared to evidence such as witness testimony, which can be influenced by perception or memory, GPS data tends to be more consistent and reliable as a representation of the actual facts. From a technical perspective, GPS Trackers also have a high level of data accuracy, especially in recording the location and time of an incident. The GPS system is able to determine the position of a vehicle based on latitude and longitude coordinates precisely, as well as record the time in real-time. Additional information such as speed and travel route can also be recorded in detail. This level of accuracy is very important in evidence, because it can clearly show when and where a legal event occurred. The evidentiary strength of GPS Trackers is also determined by the integrity and security of the data (data integrity)**.** To be used as evidence, the data must be guaranteed to be unchanged since it was first recorded. Modern GPS systems generally use storage servers and system logs. Automatically, data can be stored securely and authenticated. This aligns with Article 6 of the ITE Law, which requires that electronic information be accessible, displayed, guaranteed to be intact, and accountable. Furthermore, the GPS Tracker has the ability to display a complete chronology of events. Through the tracking history feature. This data allows for a systematic reconstruction of the sequence of events, from the starting point of the journey to the occurrence of a specific event. In the context of compensation, this capability is crucial for proving a causal relationship between the carrier's actions and the resulting loss, thus strengthening the case in a civil lawsuit.

In relation to the element of legal responsibility, GPS data can help prove unlawful acts or negligence, losses, and the causal relationship between the two. GPS data can reveal violations of operating hours or route deviations that result in damage to property or public facilities. However, the Indonesian civil law system adheres to the principle of independent evidence, where judges assess the overall strength of the evidence. Therefore, GPS trackers generally serve as strong supporting evidence and will be assessed alongside other evidence such as documents and witness statements.

**The Role of GPS Trackers in Proving Accountability**

In a legal context, proving a violation requires clarity regarding the elements of time, place, and action. GPS Trackers are able to record this data simultaneously through an integrated electronic system, thus providing an accurate picture of vehicle activity at a given time. This makes GPS a very effective tool in identifying violations, including violations of operating hours. In terms of proving the time element, GPS Trackers automatically record when a vehicle starts operating, stops, and completes a trip. This data is crucial for determining whether the vehicle is operating in accordance with applicable regulations or is violating established time restrictions. With real-time data that is systematically recorded, proving the time element becomes more objective and accountable.

Furthermore, GPS also plays a role in proving the place or location of the violation. Through the coordinate data generated, the exact position of the vehicle at a certain time can be determined. This information allows law enforcement to assess whether the vehicle is in a prohibited area or passing through a certain route that has operational restrictions. The place element in a violation can be proven more accurately, in addition to the time and place elements, GPS Trackers also help prove the element of action. Recorded vehicle movement data shows the actual activities carried out by the carrier, such as continuing to operate during prohibited hours or using certain restricted routes. With this recording, the act of violation is no longer based solely on assumptions or witness statements, but is supported by concrete electronic evidence. The role of GPS Trackers is also very important in supporting modern law enforcement, especially in digital-based evidence systems (digital evidence). Based on Article 5 of Law Number 19 of 2016 concerning Electronic Information and Transactions (ITE Law), electronic information and/or electronic documents are recognized as valid legal evidence. This shows that GPS data has legal legitimacy to be used in judicial proceedings as part of electronic evidence.

In relation to losses incurred, GPS data also plays a crucial role in establishing a causal link between violations and losses. For example, if a vehicle is proven to have operated outside operating hours based on GPS data and subsequently causes an accident, the data can be used to demonstrate that the violation contributed to the loss. Therefore, the use of GPS trackers to prove violations and hold carriers accountable is part of the transformation of the legal system in the digital era. This technology not only simplifies the evidentiary process but also increases transparency and accountability in the organization of transportation. Therefore, the use of GPS as electronic evidence is highly relevant in supporting more effective and modern law enforcement.

**Conclusion**

1. GPS Tracker technology is included in the category of electronic evidence in civil law. This position is based on legal recognition of electronic information and documents as regulated in Article 5 paragraph (1) of Law Number 11 of 2008 concerning Electronic Information and Transactions as amended by Law Number 19 of 2016, which states that electronic information and/or electronic documents and their printouts are valid legal evidence. In the context of this case, the GPS Tracker produces electronic data in the form of location recordings, travel time, vehicle speed, and vehicle operational history in real time which can indicate whether the tronton vehicle is operating outside permitted hours. Thus, the GPS Tracker not only functions as a vehicle monitoring tool, but also as electronic evidence that strengthens the proof of elements of unlawful acts based on Article 1365 of the Civil Code.
2. Regarding the carrier's liability, it can be concluded that the carrier's liability is liability based on fault. This principle is based on Article 1365 of the Civil Code, which states that any unlawful act that causes harm to

another person requires the party whose fault caused the loss to compensate for the loss. In this case, the carrier's fault is evident in the act of continuing to operate the tronton vehicle outside the established operating hours. This violation constitutes a form of unlawful act because it violates traffic and road transportation regulations that are made to maintain public safety, traffic order, and the protection of public infrastructure. The element of fault is the main basis for the birth of responsibility because the loss that occurs does not arise by itself, but rather as a result of the carrier's negligence or non-compliance with applicable regulations. Thus, there is a clear causal relationship between the carrier's actions and the losses experienced by the public, so that the elements of liability based on fault have been legally fulfilled.

**Reference**


1. Abdulkadir Muhammad. Commercial Transportation Law. Citra Aditya Bakti, 2013.
2. Anita Dyah Ayu Setyorini. Digitalization of Transportation in the Freight Transport Fleet Management System. Yustisia Journal, 2022, 3(2).
3. Edmon Makarim. The Validity of Electronic Evidence in the Legal Evidence System in Indonesia. Journal of Law & Development, 2018, 4(6).
4. Haliwela NS, Sunarno S, Masum A. The Relevance of Financial Services Authority Policy Direction on Fintec Lending in Realizing Sustainable Development Goals. Indonesian Legal Development Journal,2025:7(3):471.
5. Hanifah I, & Prastowo, BN. GPS Tracking Test on an Inter-City Transportation Scale. IJEIS UGM, Yogyakarta, 2016.
6. Nugroho Sigit Sapto and Hilman Syahrial. Indonesian Transportation Law. Itizam Library, Solo, 2019.