

## Optimization of Electronic Traffic Monitoring in Traffic Violations (Case Study in Demak Police Area)

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**Abstract.** *The increasing need of the community for motorized vehicles as a support for social mobility activities has resulted in a high number of motorized vehicle use on the road. The high number of motorized vehicles has not been significantly comparable to the awareness of traffic ethics, this often results in a high number of traffic violations which leads to an increasing number of motor vehicle accidents, including in the Demak City area. Electronic Traffic Law Enforcement (ETLE) is a new effort made by the Police as a way to reduce the number of violations and motor vehicle accidents in today's traffic system. However, this has not been optimally felt its positive impact on society. This paper uses a qualitative method. Based on the study conducted, it can be seen that the implementation of electronic traffic supervision in an effort to reduce traffic violations in the Demak Police area has not been effective. Because after installing the CCTV program as a surveillance camera and a warning camera for traffic violators on the highway, the number of traffic violations at red lights in the jurisdiction of the Demak Police is still high.*

**Keywords:** *Electronics; Traffic; Optimization; Monitoring.*

### 1. Introduction

Law enforcement against traffic violators using evidence in its development is carried out based on the ETLE implementation mechanism which is carried out through stages which include, the device automatically captures the face, type and license plate number of the vehicle and the form of traffic violation committed by the violator through CCTV cameras that have been installed at five points in the jurisdiction of the Demak Police, namely at the Demak Police Intersection, Kandang Intersection, Bank Indonesia Intersection, Ujung Gurun

Intersection and Ujung Gurun Intersection. Then the system automatically sends evidence of the violation to Regional Traffic Management Centre (RTMC) Polresta Demak as the control room. Furthermore, vehicle data identification is carried out by officers using Electronic Registration & Identification (ERI). Where each vehicle data is registered in the system, in accordance with the obligation of every vehicle owner to carry out Motor Vehicle Registration and Identification, hereinafter abbreviated as Regident Ranmor, which is a function of the Police to provide legitimacy of the origin and eligibility, ownership and operation of Ranmor, control functions, Police forensics and services to the community through verification, recording and data collection, numbering, issuing and providing proof of registration and identification of Ranmor, archiving and providing information as regulated in the Regulation of the Chief of Police of the Republic of Indonesia Number 5 of 2012 concerning Registration and Identification of Motor Vehicles.

The power of motor vehicle registration is in a data system called ERI or electronic registration and identification which is connected to the STNK and TNKB, as well as Gakkum so that it can support the implementation of ETLE to realize and maintain safe, orderly and smooth traffic, improve safety quality, reduce the fatality rate of accident victims, build a culture of orderly traffic, and provide excellent service in a one gate system. Officers send a confirmation letter to the violator's address as a request for confirmation of the violation that occurred. The confirmation letter will include a photo of evidence of the violation.

Delivery can be done through several alternatives, including a confirmation letter sent via PT. Pos Indonesia, via the vehicle owner's email, and via the vehicle owner's cellphone number. The process is carried out for 3 (three) days since the violation was committed. Then the violator will confirm and clarify via the website <https://etlesumbar.info/id> or can come directly to the Gakkum Post of the Demak Police as scheduled in the letter if there is an objection regarding the violation, it can be submitted on this occasion. Violators are given a time limit of 8 (eight) days since the confirmation letter is sent to confirm and clarify who the subject of the violation is, including vehicles that have been sold to other parties and have not been transferred. After confirmation, officers will issue a blue ticket as evidence of the violation and send a Bri virtual account code for Briva for each verified violation for law enforcement with a payment method via Bank Rakyat Indonesia (BRI). In this payment process, violators will be given a deadline for paying the fine for 7 (seven) days after the ticket and BRI virtual account code are sent. If the violator does not make the payment within the specified deadline, the STNK of the violator's vehicle will be temporarily blocked until the fine is paid. Vehicle owners who do not pay the fine within the specified deadline will result in the STNK being temporarily blocked until the payment is made by the violator before the STNK extension. If the violator still does not pay until the

STNK extension, it will be billed when the STNK is extended. Provisions regarding the blocking of the STNK are contained in the Regulation of the Chief of Police Number 5 of 2012 concerning the Blocking of Motor Vehicle Registration in Article 115 paragraph (5) which states that the STNK based on electronic data committing traffic violations can be blocked. During the blocking period, the vehicle owner is considered not to have a valid document under the law because the STNK is considered dead.

In relation to the use of CCTV as evidence in law enforcement against traffic violations, in this case it is a form of the benefits of the development of information technology that can help the work of the police, especially in traffic violations. The Head of Traffic Police of Demak Police also explained that the use of CCTV as evidence is valid, as stipulated in Article 272 of Law Number 22 of 2009 concerning Traffic and Road Transportation. Article 272 paragraph (1) of Law Number 22 of 2009 concerning Traffic and Road Transportation states that to support the action of violating traffic and road transportation, electronic equipment can be used. Furthermore, Article 272 paragraph (2) of Law Number 22 of 2009 concerning Traffic and Road Transportation states that the results of the use of electronic equipment as referred to in paragraph (1) can be used as evidence in court. In addition, the basis for implementing ETLE using CCTV, in the context of law enforcement is based on Article 5 paragraph (1) and paragraph (2) of Law Number 19 of 2016 concerning Amendments to Law Number 11 of 2008 concerning Information and Electronic Transactions. Article 5 paragraph (1) states: that Electronic Information and/or Electronic Documents and/or printouts thereof constitute valid legal evidence.

Even though electronic traffic monitoring, however, this cannot be said to be completely effective. The problem is the lack of knowledge and awareness of some Demak residents regarding traffic discipline and the lack of related facilities and infrastructure. Electronic Traffic Law Enforcement (ETLE). Until now it has been a separate problem.<sup>1</sup> This is indicated by the number of traffic violations in Demak City. AKP Lingga Ramadhani, Head of the Demak Police Traffic Unit, revealed that the most common violations found were not wearing a helmet when riding a motorbike and going against the flow of traffic. According to Lingga, the number of violations of not wearing a helmet has increased sharply, with 1,355 violators caught compared to only 672 violators last year. Meanwhile, violations against the flow of traffic were recorded at 244 cases, jumping from 73 cases in 2023.

Not only two-wheeled drivers, violations by four-wheeled drivers have also increased. In 2023, there was 1 case of a four-wheeled driver going against the

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<sup>1</sup>Rully Trie Prasetyo, Umar Ma'ruf, and Anis Mashdurohatun, Corporate Crimes in the Perspective of Criminal Law Formulation Policy, *Khaira Ummah Law Journal* Vol. 12.No. December 4, 2017, p. 729-730.

flow, while this year the number has increased drastically to 40 cases, an increase of 99 percent.<sup>2</sup>

A policy or action that is not entirely based on law is something that can be justified as long as the policy or action does not conflict with the law. So in essence, the implementation of law does not only include law enforcement, but also peace maintenance, because the implementation of law is actually a process of harmonizing values and real behavioral patterns that aim to achieve peace. In relation to the implementation of Electronic Traffic Law Enforcement (ETLE) in enforcing traffic violations in Demak City by the Demak Police Traffic Unit, it is the implementation of Article 5 paragraph (1) of Law Number 11 of 2008 concerning Information and Electronic Transactions and; Article 249 paragraph (3), Article 272 paragraph (1) and (2) of Law Number 22 of 2009 concerning Traffic traffic and Road Transportation, and PP Number 80/2012 concerning Motor Vehicle Inspection on the Road. According to the Attachment to the Decree of the Head of the Traffic Corps of the Indonesian National Police Number: KEP/ 12/2016 concerning Standard Operating Procedures and Procedures for Handling Traffic and Road Transportation Violations with Manual and Electronic Ticketing Systems, it states that the ETLE application is an android-based program used by officers together with a web application by the Ticketing Administration Section (Banim) to record ticketing data digitally and provide online non-payment to the designated Bank. In law enforcement, the personality of law enforcement officers plays an important role, if the regulations are good, but the quality of officers is poor, there is a problem. One of the keys to success in law enforcement is the mentality or personality of the law enforcers themselves. In the context of law enforcement by every law enforcement agency, justice and truth must be stated, felt, seen and actualized.<sup>3</sup>

Implementation Electronic Traffic Law Enforcement (ETLE) in enforcing traffic violations in Demak City by the Demak Police Traffic Unit is also influenced by the legal structure, which determines whether or not the law can be implemented properly so that in carrying out its duties and responsibilities it is free from the influence of power and other influences. Members of the Demak Police Traffic Unit in implementing Electronic Traffic Law Enforcement(ETLE) in order to enforce the law against traffic violators in accordance with their duties and responsibilities as inspection officers as regulated in Government Regulation of the Republic of Indonesia Number 80 of 2012 concerning Procedures for Inspection of Motor Vehicles on the Road and Enforcement of Traffic and Road Transportation Violations, where the inspection officers are Officers of the Republic of Indonesia National Police and Civil Servant Investigators in the field

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<sup>2</sup>Personal interview with AKP Lingga Ramadhani as Head of Traffic Police of Demak Police on May 12, 2024.

<sup>3</sup>Personal interview with AKP Lingga Ramadhani as Head of Traffic Police of Demak Police on May 12, 2024.

of Traffic and Road Transportation. In enforcing the law against traffic violations in Demak City using Electronic Traffic Law Enforcement (ETLE), members of the Demak Police Traffic Unit coordinate with related agencies so that enforcement The law can be implemented effectively. The use of Electronic Traffic Law Enforcement (ETLE) in enforcing traffic violations in Demak City is also a step to reduce extortion by police officers and minimize corruption, collusion and nepotism during law enforcement against traffic violations in Demak City. In the enforcement of traffic violations, it is resolved based on a court decision, violators will be sentenced to a number of fines deposited in a bank designated by the government. However, in practice, the practice in the field can be different from what is in the law or regulations. In practice, many traffic violations are resolved outside the trial than in court. The settlement of criminal acts of traffic violations outside the trial is often carried out by officers with traffic violators on the road. This is often done by the violator by offering a sum of peace money to the officer or vice versa, the officer who scares the violator with a high fine if the trial is carried out in court. In addition, there is also concern by the violator that it will take a long time and a long procedure if it is resolved through a trial in court. Thus, E-Tilang is implemented in handling traffic violations, because in reality law enforcement cannot run or be upheld if there are no credible, competent and independent law enforcement officers. No matter how good a law is if it is not supported by good law enforcement officers, justice is just a dream. In addition, society also has a strong influence on the implementation of law enforcement, because law enforcement comes from society and aims to achieve in society. The higher the legal awareness, the more possible good law enforcement will be. Law enforcers come from society and aim to achieve peace in society.<sup>4</sup>

However, ETLE has not been fully implemented optimally in Demak City, this is due to the culture of violating traffic rules in society which has not been eliminated.

## **2. Research Methods**

The research method used in this paper is qualitative research. Qualitative research is often also called ethnographic method, phenomenological method, or impressionistic method, and other similar terms. Qualitative research is research that intends to understand the phenomenon of what is experienced by the research subject, for example behavior, perception, motivation, action.

Holistically, and by means of description in the form of words and language, in a specific natural context and by utilizing various natural methods.<sup>5</sup>

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<sup>4</sup>Location, cit.

<sup>5</sup>2006. Legal Research Methodology, Jakarta: PT Grafindo Persada, p. 116.

### 3. Results and Discussion

#### 3.1. Implementation of Electronic Traffic Supervision in an Effort to Reduce Traffic Violations in the Demak Police Area

Electronic traffic monitoring or Electronic Traffic Law Enforcement It is still new to Demak City. This system began to be tested in Demak City in April 2021. The system, which in its operation uses CCTV owned by the Department of Transportation, this uses a system ANPR or Automatic Number Plate Recognition which is one of the methods relied on for motor vehicle identification in the modern era today. As described above, ETLE This is intended to reduce illegal levies from police officers and help regulate road users or motor vehicle drivers, and the center for operating and monitoring traffic tickets. CCTV or ETLE This is located at the Demak City Patrol Post.

The presence of this optical device reduces the workload of police officers in the field. They no longer need to monitor drivers who violate traffic regulations. CCTV also makes surveillance more effective, because it can be operated 24 hours a day.<sup>6</sup>

The mechanism for implementing electronic traffic monitoring in the Demak City Police area uses the ETLE system. based on Article 1 paragraph (2) of the Regulation of the Supreme Court of the Republic of Indonesia Number 12 of 2016 is as follows:<sup>7</sup>

##### 1. CCTV Installation Stage

CCTV is Closed Circuit Television, a digital video camera device used to send signals to a monitor screen in a certain room or place. This aims to be able to monitor the situation and condition of a certain place, so that it can prevent crime or can be used as evidence of a crime that has occurred. In general, CCTV is often used to monitor public areas such as: Banks, Hotels, Military Warehouses, Factories and Warehouses.

In addition to security purposes, CCTV is also used to support police performance, namely to help ensure smooth traffic and help detect traffic violations. Indirectly, CCTV is also used for educational purposes, such as in shaping the social behavior of road users who violate traffic regulations by giving them warnings or appeals until they are given strict

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<sup>6</sup><https://tirto.id/efektifkah-cctv-untuk-tilang-pelanggar-lalu-lintas-cZX7>, accessed on June 25, 2021.

<sup>6</sup><https://tirto.id/efektifkah-cctv-untuk-tilang-pelanggar-lalu-lintas-cZX7>, accessed on June 25, 2021.

<sup>7</sup>Results of the interview with the Head of Traffic Police of Demak Police AKP Thoriq Aziz, June 10, 2024.

sanctions in the form of fines.

a. CCTV is installed in various places for drivers who violate the CCTV record. Installation of CCTV in the jurisdiction of Demak City as much as 1 CCTV Camera Unit installed on Jl. Sultan Fatah Bogorame Demak. The way CCTV works at red lights initially was to check and monitor traffic conditions (busy, smooth or dense), but currently CCTV also works as a surveillance camera for road users, especially motorized vehicle users who violate traffic regulations, such as not wearing helmets, overloading and motorized vehicle users who stop outside the lane, such as motorized vehicle users who stop at zebra crossing which should be used by pedestrians to cross the road.<sup>8</sup>

b. Patrol officers using Kopek (cameras placed on traffic police helmets to monitor highways. The number of Kopek available is five which are operated for several accident-prone areas in the sub-districts located in Demak City, namely Onggorawe, Sayung District, Batu Village, Karangtengah District, Buyaran Market, Gajah District, Karanganyar District and the southern route, namely Mranggen-Karangawen.<sup>9</sup>

The police said that they had conducted direct socialization a month before the installation of CCTV and the transportation department said that they had conducted socialization on social media and had made appeals through loudspeakers installed near CCTV every morning and evening. They socialized that now CCTV has been installed to monitor road users at every red light. CCTV helps the police to monitor traffic violations in improving the traffic behavior of road users for the sake of order, comfort and safety of traffic together.

## 2. Violator Data Recording Stage

If an ATCS transportation officer finds a motorized vehicle user violating, the officer will speak through a loudspeaker installed near the CCTV by stating the type of motorbike and the license plate number of the offender and then give an appeal to the violator in the form of a warning according to the violation. Then it will be followed up with the action of taking the key by the traffic police who are on duty at the TKP (Crime Scene), even to the point of issuing a ticket.

However, because now CCTV ticketing has begun to be implemented, namely ticketing actions monitored by the ATCS transportation service through surveillance cameras (CCTV) to assist the police in maintaining

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<sup>8</sup>Results of the interview with the Head of Traffic Police of Demak PoliceAKP Thoriq Aziz, June 10, 2024.

<sup>9</sup>Location, location.

security and supervising the orderly behavior of road users. First of all, CCTV surveillance officers at ATCS will see, monitor and check road users who commit traffic violations if someone is found to have committed a violation, the ATCS officer will clarify the image in the recording and then cut the image until the police number (motorcycle plate number) of the vehicle is clearly visible, then the cut image becomes evidence that is given to the police and will be checked at Samsat to find out the identity of the driver. After the address is known, the police will come and give a ticket.

According to the Head of Traffic Police of Demak PoliceAKP Thoriq Aziz<sup>10</sup> explained that the most frequent violations from the results of electronic traffic monitoring were that motorcyclists often did not

wear helmets, other violations found were playing with cellphones

while driving, not turning on lights at night, not using seat belts for four-wheeled vehicles and going against the flow of traffic.

Traffic violators data can be recorded with the type of violation and the violator's license plate according to the address listed on the STNK. Based on data from the Demak Police Traffic Unit, the number of traffic violation cases is as follows:<sup>11</sup>

Indicator	Unit	Condition of the Year				
		2020	2021	2022	2023	2024
Number of cases traffic violation cross	Time	550	786	667	614	646

### 3. SRC Identification Stage

The offender data is then identified through SRC (Smart Registration Center) which is located at the Demak Patwal post. Things that are done at the identification stage through SRC include:

- a. Violators recorded by the camera are then processed by officers by looking at the vehicle license plate;
- b. After the vehicle number plate is visible, data on the ownership of the number plate will appear;

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<sup>10</sup>Results of the interview with the Head of Traffic Police of Demak PoliceAKP Thoriq Aziz, June 10, 2024.

<sup>11</sup>Location, location.



c. Next, the officer will make a confirmation letter to the driver who committed the violation.

Based on the description above, it can be understood that the implementation of electronic traffic supervision in an effort to reduce traffic violations in the Demak Police area has not been effective. Because after installing the CCTV program as a surveillance camera and a warning camera for traffic violators on the highway, the number of traffic violations at red lights in the Demak Police jurisdiction is still high.

## 2. Obstacles in the Implementation of Electronic Traffic Supervision in an Effort to Reduce Traffic Violations at the Demak Police

Based on the results of the interview with the Head of Traffic Police of Demak Police, AKP Thoriq Aziz, he said that the obstacles faced by officers along with their solutions in implementing electronic traffic supervision are:<sup>12</sup>

### a. Inadequate facilities.

In the implementation of traffic supervision Electronic Traffic Law Enforcement In the jurisdiction of Demak City, there are obstacles in the form of infrastructure in the implementation that is not optimal. In the implementation Electronic Traffic Law Enforcement in the jurisdiction Demak City is recorded as having only 1 CCTV unit. Therefore, seen from the facilities and infrastructure that are less than optimal, the implementation is also not optimal. In addition, patrol officers use Kopek (cameras placed on traffic police helmets to monitor highways. The number of Kopek available is only 5 (five) units which are operated for several areas in sub- districts in Demak City, namely Onggorawe, Sayung District, Batu Village, Karangtengah District, Buyaran Market, Gajah District, Karanganyar District and the southern route, namely Mranggen-Karangawen. Given that the area of Demak Regency reaches 1,976 km<sup>2</sup> and with a population of 1,351,000 people, it is not possible with 1 CCTV unit and 6 units operated for 6 areas in Demak, namely Onggorawe, Sayung District, Batu Village, Karangtengah District, Buyaran Market, Gajah District, Karanganyar District and the southern route, namely Mranggen-Karangawen.

In connection with the constraints on the implementation of supervision Electronic Traffic Law Enforcement in the jurisdiction of Demak City in the form of facilities and infrastructure that are less than optimal, in this case efforts can be made to overcome this by expanding the operational area

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<sup>12</sup>Results of an interview with the Head of Traffic Police of Demak Police, AKP Thoriq Aziz, June 20, 2024.

by using CCTV in various areas installed, not just 1 unit CCTV only, it is attempted by installing CCTV in each area so that it can be used optimally.

b. The Violator's Vehicle Has Changed Ownership.

Apart from the constraints of less than optimal facilities and infrastructure, in the implementation of supervision, Electronic Traffic Law Enforcement in the jurisdiction of Demak City there are also obstacles in the form of violators' vehicles that were driven at the time of the violation, have changed ownership or been traded, so when a confirmation letter was sent by the police officer according to the address listed in the STNK it was not found. And the new vehicle owner did not know that his vehicle's STNK was blocked by officers.

In connection with the implementation constraints Electronic Traffic Law Enforcement in the jurisdiction of Demak City in the form of a violating vehicle that has changed ownership or been sold, then in this case an effort can be made to overcome this by notifying the new owner that the vehicle under the name of the STNK has committed a traffic violation. This notification is submitted to the new owner when making annual motor vehicle tax payments. This was confirmed by Sandy Nuswanto when paying taxes at the Demak Samsat Jl. Sultan Trenggono, Demak City.

c. The name of the violating vehicle has not been changed.

Apart from the constraints of less than optimal facilities and infrastructure, vehicles that have changed ownership or have been bought and sold, there are further constraints in the implementation of supervision. Electronic Traffic Law Enforcement in the jurisdiction of Demak City, namely the violating vehicle has not been transferred to another name. If the violating vehicle has not been transferred to another name, this causes the process of sending a confirmation letter to the traffic violator who is the new vehicle owner not to be delivered, because the police will send a confirmation letter of violation to the name of the STNK. While the maximum period for confirmation is 4 days after the letter is sent to the violator. After 4 days of no confirmation, a blocking will be carried out. This means that the new vehicle owner in this case does not know that the vehicle he just bought has been blocked by the officer.

In connection with the implementation constraints Electronic Traffic Law Enforcement in the jurisdiction of Demak City in the form of a traffic violating vehicle that has not been transferred to another name, then in this case an effort can be made to overcome this by requiring the new

vehicle owner to transfer the name of the motor vehicle. Notification is made when the new vehicle owner pays the annual motor vehicle tax. Vehicle owner

The new motorized vehicle owner will then be notified to fill in personal data, vehicle number, cellphone number and email, as a replacement for information if the new STNK bearer has not changed his name.

#### d. Illegal Vehicles

Obstacles in implementation Electronic Traffic Law Enforcement in the jurisdiction of Demak City, the next is bodong vehicles. Bodong vehicles are vehicles that do not have valid documents. These bodong vehicles can be identified from their vehicle license plates. When the violator commits a traffic violation, CCTV can record the license plate, which will then be identified through the SRC. If it cannot be identified, it means that the vehicle is not registered, and the vehicle is declared bodong.

In connection with the obstacles in implementation Electronic Traffic Law Enforcement in the jurisdiction of Demak City in the form of illegal vehicles or vehicles that do not have complete legal documents, then in this case efforts can be made to overcome this by conducting raids on the highway. In this operation, the completeness of motor vehicle ownership documents will be checked.

#### e. Violators do not confirm to officers.

Obstacles to the implementation of supervision Electronic Traffic Law Enforcement in the jurisdiction of Demak City, the next is that violators do not confirm to officers. When violators commit traffic violations, most of the violators who have been sent a confirmation letter do not immediately confirm with officers, either via SMS or WhatsApp, or come directly to the Simpang Lima patrol post. The delay in confirming the violators is because many people still do not know about the existence of Electronic Traffic Law Enforcement in the jurisdiction of Demak City. This was confirmed by a statement from one of the Traffic violator Mr. Mugi Marjoko stated that, "At first I was shocked and didn't know, I received a letter from the post office which was from the police, it turned out that the letter contained evidence of the violation that I had committed, I only had one rearview mirror installed, I think this is better than being chased by the police, usually asking for peace on the spot or extorting money."<sup>13</sup>

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<sup>13</sup>Interview with Mugi Marjoko on June 10, 2024, address Jl.

#### 4. Conclusion

ETLE has not been fully implemented optimally in Demak City, this is due to the culture of violating traffic rules in the community that has not been eliminated. This is indicated by the number of traffic violations in Demak City. AKP Lingga Ramadhani, Head of the Demak Police Traffic Unit, revealed that the most common violations found were not wearing a helmet when riding a motorbike and going against the flow. According to Lingga, the number of violations of not wearing a helmet has increased sharply, with 1,355 violators caught compared to only 672 violators last year. Meanwhile, violations against the flow were recorded at 244 cases, jumping from 73 cases in 2023. Not only two-wheeled drivers, violations by four-wheeled drivers have also increased. In 2023, there was 1 case of a four-wheeled driver going against the flow, while this year the number has increased drastically to 40 cases, an increase of 99 percent.

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Interview with Mugi Marjoko on June 10, 2024, address Jl. Anggrek Baru, Wijaya Kusuma Housing Complex, Demak