

Implementation of the Approval Decree on the Results of Traffic Impact Analysis to Realize Welfare for Road Users in Surakarta City

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ABSTRACT

Keywords: Traffic Impact Analysis, Welfare, Decision.

Surakarta is one of Central Java province's cities with much development potential, which often causes traffic jams on several roads. This condition hurts the welfare of road users. This research aims to discover and analyze the urgency and implementation of the decision to approve the Traffic Impact Analysis (ANDALALIN) results to create prosperity for the road user community. This research uses an empirical juridical approach. The research results show the importance of implementing the Andalalin approval decision to realize welfare for road users based on various traffic problems in Surakarta. The implementation of the decision to approve the results of Andalalin to realize welfare for road users was issued based on the results of the considerations of the Andalalin evaluation technical team from the Class II Land Transportation Management Center of Central Java Province. The Class II Land Transportation Management Center for Central Java Province is expected to coordinate with various related agencies to implement the Andalalin results approval policy in Surakarta City effectively and efficiently.



Introduction

Roads, as transportation infrastructure, have an essential role in realizing development targets such as equitable development and its results, economic growth, and the realization of social justice for all Indonesian people (Kartono, 2017). Therefore, the road and the development of an area in a city must be arranged and supervised, and control must be controlled to anticipate the development of community activities. Over time, urban development and land use have evolved and changed, following the needs of policymakers within the local and central governments (Saragih, 2017). One of the developments of land use in urban areas is a change in the designation of areas that turn into activity centers (Rahman, 2017). Changes in the designation of areas that turn into centers of activity usually turn into centers of activities that are commercial services or centers of activities that are services to the community. The construction of a primary

activity center in an urban area will be able to change the structure of urban space in the area where the construction of the center of activity is carried out (Mulyadi, 2021).

Changes in the structure of urban space will affect movement patterns and ultimately burden an area's existing road network (Mulyadi, n.d.). The construction of activity centers and the development of activity center areas on national roads will be dominated by certain activities and services, which will undoubtedly cause a large enough new movement to pull that will burden the national road network in urban areas; this new movement pulls not only comes from the city area but also comes from outside the city (Yulianyaha & Kasikoen, 2024). This can be interpreted as the fact that every change in the field will also result in changes in the traffic system. Thus, a Traffic Impact Analysis (ANDALALIN) is needed.

Surakarta City is a strategic area and is the center of the district and surrounding activity nodes, namely Sukoharjo, Wonogiri, Klaten, Sragen, Boyolali, and Karanganyar. This strategic position needs to be supported by adequate roles and functions to be a lifeblood in the development process of Surakarta City (Nurandi & Setyorini, 2023). One of the traffic problems in Surakarta City is increasing congestion. Congestion in Surakarta City is caused by the growth of road infrastructure, with the unbalanced growth of vehicles in Surakarta City being one of the causes. Traffic problems caused by an activity, such as development that ends in congestion, can cause losses to the community. From the observations, it can be seen that the welfare of the community is also affected by congestion (Santoso, 2023). Congestion can drain time, reduce working/study hours, reduce stress, waste fuel (Fuel Oil), and reduce income. The number of problems caused by congestion is essential for the government to make a traffic-related policy to improve road users' welfare.

The problems in Surakarta City show a need to optimize the implementation of administrative policies related to Andalalin in every development process. Andalalin documents submitted by developers must get Approval based on Consideration of the Elements of the Andalalin Transportation Evaluation Technical Team (Rantung, Sompie, & Jansen, 2015). Andalalin Results Approval is one of the requirements for developers to obtain development permits from the Central Government and Regional Government by laws and regulations. Andalalin is one of the studies used to identify traffic impacts due to land use. This results in the generation and attraction of travel, affecting traffic on road sections (Prasetyo, 2016).

Studies on andalalin have been regulated in laws and regulations, including Law Number 22 of 2009 concerning Road Transport Traffic, Perpu Number 2 of 2022 concerning Job Creation, Perpu Number 30 of 2021 concerning the Implementation of the Field of Traffic and Road Transportation, Minister of Transportation Regulation Number 17 of 2021 concerning the Implementation of Traffic Impact Analysis, Government Regulation Number 22 of 2021 concerning the Implementation of Environmental Protection and Management. Any decision-making regarding Andalalin's results must be based on the legal politics of the law on traffic and road transportation, which explains that traffic and road transportation have a strategic role in supporting

national development and integration as part of efforts to promote general welfare as mandated by the 1945 Constitution of the Republic of Indonesia (Rakhmani, 2019).

Andalalin documents submitted by developers must get Approval based on Consideration of the Elements of the Andalalin Transportation Evaluation Technical Team. Andalalin Results Approval is one of the requirements for developers to obtain development permits from the Central Government and Regional Government by laws and regulations. Andalalin's supervisory authority and document approval are carried out jointly by elements of Transportation, PUPR, and the police. Elements of Transportation are supervisors and supervisors regarding traffic and road transportation facilities and infrastructure, PUPR coaches and supervisors regarding road administration, and the Police are coaches and supervisors regarding security, safety, and smooth traffic. Andalalin's document assessment team is carried out according to the authority of road status: a) Directorate General of Land Transportation for National Roads; b) Governor for Provincial Roads; c) Mayor for City Roads; or d) Regent for District Roads.

Research Methods

The method used in this study is empirical juridical. The meaning of the empirical approach is that research aims to obtain empirical knowledge about the relationship and influence of law on society. You do this by conducting research or going directly into the community or field to collect objective data, which will later become the primary data source. This research can be descriptive and analytical because it explains, describes, or reveals applicable laws and regulations associated with applicable legal theories. This research also uses literature studies where legal materials can be in-laws and regulations, documents, books, reports, archives, and literature related to the problem under study, which will later become a secondary data source.

Sumber Data Primer

Obtained from field studies (field research) using interview methods or interviews directly with respondents. The interview is a questioning process in research that takes place orally, where two or more people meet face-to-face, and researchers can listen to information or statements from respondents. The primary data used in this study came from the Central Java Class II Land Transportation Management Center and the Surakarta City Transportation Office.

Secondary Data Sources

The Constitution of the Republic of Indonesia of 1945, Law No. 2 of 2022 concerning Roads, Law NO. 26 of 2007 concerning Spatial Planning enhanced by Perpu No. 2 of 2022 Job Creation, Law No. 22 of 2009 concerning Road Traffic and Transportation enhanced by Perpu No. 2 of 2022 Job Creation, Law No. 32 of 2009 concerning Environmental Protection and Management enhanced by Perpu No. 2 of 2022 Job Creation, Government Regulation No. 34 of 2006 concerning Roads, Government Regulation of the Republic of Indonesia No. 32 of 2011 concerning Management and Engineering, Impact Analysis, and Management of Traffic Needs, Government Regulation No. 30 of 2021 concerning the Implementation of Traffic and Road

Transportation, Minister of Transportation Regulation No. 75 of 2015 concerning the Implementation of Traffic Impact Analysis, which has been amended to the Regulation of the Minister of Transportation No. 75 of 2016 concerning the Second Amendment, as well as Regulation of the Minister of Transportation No. 75 of 2015 concerning the Implementation of Traffic Impact Analysis, which has been amended to Regulation of the Minister of Transportation No. 11 of 2017 concerning the Third Amendment of the Regulation of the Minister of Transportation No. 75 of 2015 concerning the Implementation of Traffic Impact Analysis.

In addition to being sourced from applicable laws and government regulations, secondary data sources are official documents, including papers, textbooks, legal journals, and commentaries on court decisions.

Results and Discussion

The Importance of the Approval Decision of ANDALALIN Results to Realize Welfare for Road Users in Surakarta City.

a. Surakarta City Traffic Conditions

Surakarta City is classified as a secondary or medium city that continues growing. With an area of 44.04 km², Surakarta City is inhabited by 514,171 or, with a density of 11,674.93 people / km² (BPS, 2017). The high population growth in Surakarta City certainly has an impact on the high mobility of the community. This means that the space for movement in Surakarta City is getting narrower, and congestion can arise. Increased development has the potential to make this city a destination area that can improve the city's economy. Another impact of the above increase is the increasing number of human movements by private and public vehicles. If this increase in movement is not balanced with increased facilities, it can cause problems, including congestion. Traffic jam-prone locations in Solo City include Klewer Market, Singosaren Area, Legi Market, Solo Square Mall, Solo Wholesale Center, Simpang Komplang, Nusukan, and Joglo. The Solo City Government has several ways to overcome the congestion mentioned above. One of them is the one-way system (SSA) applied on Jl. Agus Salim Road. Traffic problems on road sections regulated by this system sometimes must be fully resolved. In addition to the above, congestion in Solo is also caused by railway crossings such as Jebres, Racing, and Manahan.

From the observations, it can be seen that the welfare of the community is also affected by congestion. Congestion can drain time, reduce working/study hours, reduce stress, waste fuel (Fuel Oil), and reduce income. To respond to this, the government must be able to present laws in the context of traffic so that public welfare can be realized. One is increasing supervision of Andalalin's results so that road users and the community will not be harmed by development.

b. The Importance of Andalalin Results Decisions to Realize Welfare for Road Users in Surakarta City

Decisions are legal acts, where the quality of decisions is essential for society. For example, several reasons make bankruptcy necessary when officials make decisions that

must treat citizens according to their rights, including the right to be treated relatively to obtain legal certainty. Likewise, third parties who suffer from administrative decisions must also be protected; for example, third parties must receive adequate compensation due to the impact of administrative decisions.

The decision also includes a decision regarding the approval of Andalalin's results. Andalalin is regulated in Law No. 22 of 2009 concerning Road Traffic and Transportation. Legal politicians must make every decision related to Andalalin's results of the law on traffic and road transportation as part of efforts to promote general welfare as mandated by the 1945 Constitution of the Republic of Indonesia. According to Article 5, paragraph 3 of Law Number 22 of 2009 concerning traffic and road transportation, the development of the field of Traffic and Road Transportation is carried out jointly by all relevant agencies (Stakeholders) from the Ministry of Transportation, PUPR, Environment, and the Police.

Implementing the Approval Decree on the Results of Traffic Impact Analysis to Realize Welfare for Road Users in Surakarta City.

a. The Flexibility of Granting Approval Decisions for Andalalin Results on Surakarta City Roads

Andalalin's approval authority is issued based on considering the Elements of the Andalalin Transportation Evaluation Technical Team. Meanwhile, the authority to supervise approval is jointly carried out by the Transportation Element, PUPR, and the Police. The assessment of Andalalin results is carried out according to the authority of the road status, so that for Andalalin, which is on the National road of Surakarta city, the authority of approval by the Director General of Land Transportation. In contrast, for Surakarta city roads, the authority of approval by the Mayor is by the Minister of Transportation Number 75 Regulation of 2015 concerning the Implementation of Traffic Impact Analysis.

Based on the Decree of the Director General of Land Transportation Number: KP / DRJD / 6344 of 2023 concerning the Assessment Evaluation Team of the Document Results of Traffic Impact Analysis on National Roads, consisting of:

1. Head

Provide direction and guidance to the Document Assessment Evaluation Team of the Results of Traffic Impact Analysis on National Roads Directorate General of Land Transportation.

2. Secretary

- a. Execute instructions delivered by the Head;
- b. Coordinate the implementation of document evaluation activities resulting from traffic impact analysis; and
- c. Prepare administrative documents.

3. Member

- a. Assess the results of the Traffic Impact Analysis in the form of Traffic Impact Analysis documents for activities with a high Traffic Generation scale;

- b. Assess the feasibility of proposed approvals in the Traffic Impact Analysis results for activities with a high Traffic Generation scale and
- c. Report the results of evaluation activities to the Chairman

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Minister of Transportation Regulation No.PM 75 of 2015 stipulates that plans for constructing activity centers, settlements, and infrastructure can be in the form of new development or development. The activity center is in the form of buildings for trade activities, offices, industry, education (schools, universities, khursus), public services (rummage sakit, knit bersama, banks), public fueling stations (gas stations), hotels, meeting halls, restaurants, sports facilities (indoor and outdoor), motor vehicle workshops, car washes, other buildings.

Each activity space will generate and attract movements whose intensity depends on the land use. If there is a development or development of a new area, it will undoubtedly cause additional traffic generation and attraction. In this regard, the movement of people, vehicles, and goods must be able to estimate how much impact the new traffic movement has on the existing transportation network system and the magnitude of the effect on air pollution due to emission gases released by motor vehicles.

Table 1

Mandatory Size Criteria Traffic Impact Analysis

No.	Types of Development Plans	Mandatory Andalalin
1.	Trade centers, offices, industries, and conference halls.	Calculated based on the floor area of the building.
2.	Educational Facilities.	They are calculated based on the number of students who can be accommodated or accepted to be educated and those who can be accommodated in a given time.
3.	Public service facilities.	They are calculated based on the number of sick home beds, clinic doctor's office rooms, or bank Building areas.
4.	General refueling station.	Calculated based on the number of dispensers.
5.	Hotel	Calculated based on the number of rooms.
6.	Restaurant	Calculated based on the number of seats.
7.	Motor vehicle repair shops and car washes.	Calculated based on land area.
8.	Housing and settlements, flats and apartments.	Calculated based on the number of units.
9.	Shop	Calculated based on the floor area of the building.

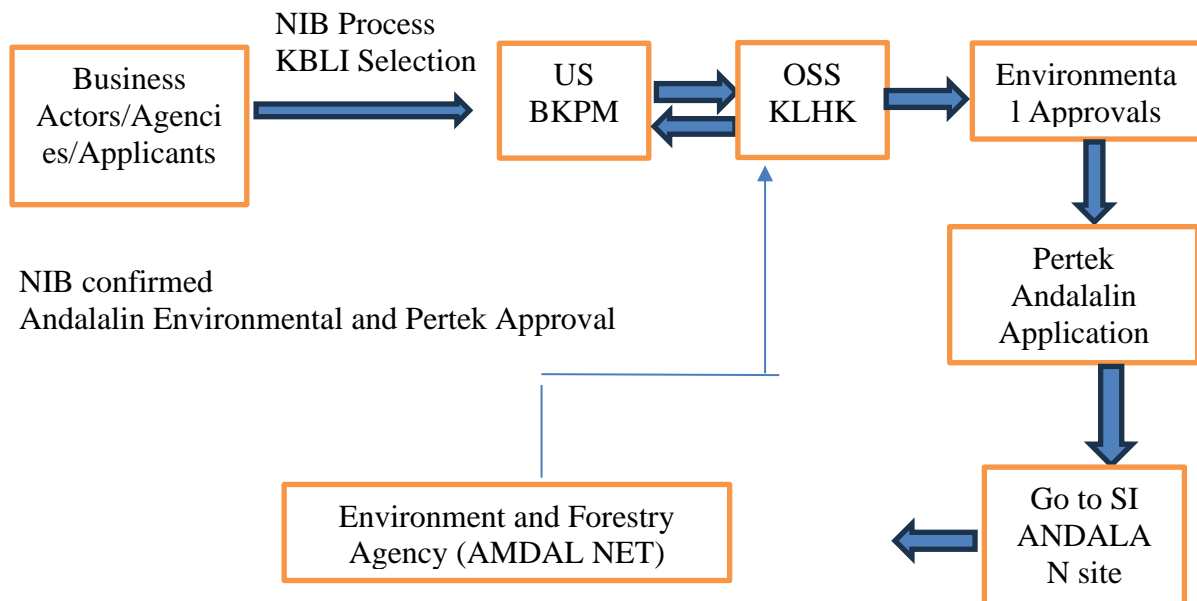


Figure 1: Andalalin Approval Licensing Flow (SI ANDALAN)

The results of the traffic impact analysis on Surakarta City National Roads have been approved by the Ministry of Transportation, Directorate General of Land Transportation for Surakarta City National Roads, and Surakarta City Transportation Office for City Roads.

Table 2
2022/2023 Andalalin Consent Filing Data Caption

No	Document	Address	Yes. With the hands of the	Pemrak arsa	Tanggal	Constituent
1.	Mother's Love Hospital	Jalan Slamet Riyadi No. 404, Purwosari Village, Laweyan District, Surakarta City	HB. 00/1710/V20 22	Dr. Yulius Widyarda, M.Kes	13 May 2022	CV. Balakosa
2.	Bhayangkara Hospital	Jalan Adi Sucipto No. 2, Kel. Manahan Kec. Banjarsari Surakarta City	HB. 00/2229/V20 22	Dr. dr. Sumy Hastri Purwanti, SP. F, D.F.M	6 may 2022	Dr. dr. Sumy Hastri Purwanti, SP. F, D.F.M

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3.	Housing RTLH HP. 00001	Mojo Village in HP Area. 16 RW.003, Mojo Village, Pasar Kliwon District, Surakarta City	HB.00/1603/ V/2022	Ir. Taufan Basuki Superdi	13 May 2022	PT. Astama Andal Laksana
4.	SPBU/Pert ashop	Jalan Samudera Pasai RT.002, RW.14, Kadipiro Village, Banjarsari District, Surakarta City	HB.00/2062/ VI/2022	Wilianto Husada	2 June 2022	Wilianto Husada
5.	Passer Nataharya	Jalan Sungai Serang I No. 313, RW. 4, Kel. Mojo, Kec. Pasar Kliwon Kota Surakarta	HB.00/2464/ VI/2022	Ir. Heru Sunardi, MM	20 June 2022	CV. Father
6.	Vastenber g Fortress Developm ent	Jalan Jend. Sudirman Surakarta City	HB.00/2833/ VII/2022	Noor Basuki, ST	12 July 2022	CV. Father
7.	Constructi on of JPO Manahan	Manahan Village, Banjarsari District, Surakarta City	HB.00/4451/ IX/2022	Noor Basuki, ST	Sep 14, 2022	CV. Athar
8.	Pasar Jongke	Dr. Radjiman Street, Pajang Village, Laweyan District, Surakarta City	HB.00/4776/ X/2022	Ir. Heru Sunardi, MM	Oct 5, 2022	CV. Athar
9.	Constructi on of JPO Purwosari	Purwosari Village, Laweyan District, Surakarta City	HB.00/5531. 1/XI/2022	Noor Basuki, ST	Nov 10, 2022	CV. Athar
10.	Constructi on of	Jalan Raya Solo –	KP.166/LT.4 08/DJPD-	Made	April 8, 2022	Directorate of Bridge

	Jurug A Bridge Replacement	Sragen (Section Number 058), Jebres District, Surakarta City, Central Java Province	Andalalina/2022			Construction
11.	Construction of MC Donald's Manahan Restaurant PT Rekso Nasional Food	Jalan Adi Sucipto No.37, (Section number:056 14K), Kerten Village, Laweyan District, Surakarta City	KP.379/LT.4 08/DJPD- Andalalina/2022	SALMA N AL FARIZI	Aug 11, 2022	PT Rekso Nasional Food
12.	Construction of PT Adem Ayem Restaurant	Jalan Adi Sucipto No. Section 056.14.K, No 180, RT 003, RW 008, Kelurahan Karangasem, District Laweyan, Surakarta City, Central Java Province	KP.391/LT.4 08/DJPD- Andalalina/2022	Ervan	Aug 15, 2022	PT Adem Ayem
13.	Development of Lokananta Museum	Jalan A. Yani Section Number 056.12.K (Surakarta), Kerten Village, Laweyan District, Surakarta City	KP.422/LT.4 08/DJPD- Andalalina/2023	Endang Supriyandi	August 11, 2023	State Printing Company of the Republic of Indonesia Solo Branch

Examples of recommendations for the results of the High Generation Andalalin issued by the Directorate General of Land Transportation on National Roads are the Construction of the Lokananta Museum Surakarta, based on proposals to handle the

impact of the development of the Lokananta Museum Surakarta at the operational stage including:

1. Prohibit vehicles from parking on the road body (in front of the activity location) by placing one parking prohibition sign in front of the area;
2. Prohibit the activities of street vendors (PKL) in front of the location with the installation of information boards "Ban on Trading of Five Times Traders";
3. Provide access to vehicle entrance and exit openings at least 7 m wide (3.5 m for each entrance and exit) with openings canalized to facilitate driver visualization and increase bend radius capacity;
4. Provide sufficient parking space and circulation to accommodate the operational parking generation of Lokananta Museum activities, totaling at least 63 SRP Cars and 162 SRP Motorcycles equipped with signs as needed;
5. Placing certified parking attendants and traffic control officers in the operational mass whose function is to accommodate vehicles in and out of Lokananta Museum visitors;
6. Provide a place to raise and lower passengers for public transportation in the form of portable stops (without roofs and seats);
7. Provide parking ambush facilities and disaster mitigation signs in internal activities such as evacuation route signs and gathering points;
8. Provide sufficient parking space and adequate circulation to accommodate vehicles within the site by being equipped with markings within the activity site;
9. Installing street lighting in front of the location to support operational activities at night;
10. Provide CCTV at least placed at 4 points and facing the street;\
11. Provide security Posts connected to CCTV installed inside and outside the building as needed;
12. To minimize disruption to traffic smoothness and traffic safety on Jalan A. YANI (in front of the activity location), the builder is required to place security officers (12 people) who are in charge of managing vehicles in and out of the area;
13. Provide gathering point signs, guide signs, tourist site signs, and careful signs by the technical drawing report;
14. Installing APJ (Street Lighting Equipment) with points by the Recommendations of the Technical Drawing Annex, with provisions by the Regulation of the Minister of Transportation of the Republic of Indonesia Number 27 of 2018 concerning Street Lighting Equipment;
15. Provide security and safety facilities in the form of apparatus or hydrants, gathering points, and evacuation routes as needed;
16. Provide particular pedestrian lanes/paths within the activity area equipped with separate paramount and markings on the road;
17. Provide crossing facilities in the form of zebra crossing/pelican crossing at road crossing points;
18. Provide online vehicle waiting facilities/areas within the area;

19. Provide a taper before entry and exit with a minimum width of 2.5 meters, making it easier to move in and out of the vehicle, minimizing travel delays and movement conflicts;
20. Providing facilities that pay attention to people with special needs, including pedestrian path flexibility, special parking facilities for disabilities with signs close to the entrance of the building, guiding blocks/road signs, and so on;
21. The manager is expected to enter into a cooperation agreement or land lease with surrounding activities to meet parking needs when there are supporting activities outside normal activities;
22. Procurement and installation of Internal traffic signs and road equipment.

Constraints on the Implementation of the Approval Decision on the Results of Traffic Impact Analysis in Surakarta City

According to Nirwan Ardhi Jaya, S.H. Staff of the Section of Road, River, Lake and Crossings Transport Facilities BPTD Class II Central Java, said that problems related to the implementation of Andalalin supervision stemming from substance factors or laws and regulations are: (1) Regulations related to Andalalin are incomplete and there are still loopholes, thus providing opportunities for misuse by related institutions and empowerment/builders; (2) Regulations related to Andalalin have not clearly distinguished regarding Andalalin whether it is only in the form of recommendations or permits, giving rise to different interpretations between the relevant institutions and empowerers/builders.

In line with that, according to Mudo Prayitno, S.SiT. The Head of the MRL Section, Surakarta City Transportation Office, also said that he expected the initiator or builder to follow the procedure according to the applicable Andalalin regulations.

Conclusion

Based on the discussion above, it can be concluded that it is essential for the government to make a traffic-related policy in the form of an approval policy for the results of traffic impact analysis to improve the welfare of the road user community. There are several obstacles related to the implementation of the approval of the results of the traffic impact analysis in Surakarta City, which can be reviewed in terms of structure, substance, and culture. One of the steps to overcome these obstacles is to conduct socialization related to traffic impact analysis with the community and government officials in related agencies, using the critical material of Andalalin and the technical preparation of Andalalin. The similarity of perspectives on traffic impact analysis among stakeholder agencies on the road is essential, so an agreement is needed to formulate the decision for a traffic impact analysis result document.

Bibliography

- Kartono, K. (2017). *Penguatan Integrasi Analisis Dampak Lalu Lintas Dalam Sistem Perizinan Bagi Terwujudnya Kesejahteraan Masyarakat*. Prosiding Seminar Nasional “Perizinan sebagai Instrumen Peningkatan
- Mulyadi, Mulyadi. (n.d.). Analisis Dampak Lalu Lintas Terhadap Pembangunan Overpass/Underpass Simpang Empat Baramban Ruas Jalan Bitahan-Miawa Kecamatan Piani, Kabupaten Tapin, Provinsi Kalimantan Selatan. *Prosiding Seminar Nasional Teknik Tahun 2022 (SENASTIKA 2022) Universitas Islam Kalimantan MAB*.
- Mulyadi, Mulyadi. (2021). Dampak Lalu Lintas Terhadap Pembangunan Fakultas Kedokteran Gigi Universitas Lambung Mangkurat. *Jurnal Kacapuri: Jurnal Keilmuan Teknik Sipil*, 4(2), 345–359.
- Nurandi, Safira, & Setyorini, Erny Herlin. (2023). Pertanggungjawaban Hukum Dalam Kecelakaan Sebagai Akibat Speed Bump Pada Pemukiman Masyarakat. *SOSIALITA*, 2(2).
- Prasetyo, Feri. (2016). Kewenangan dalam Penerapan Pengaturan Analisis Dampak Lalu Lintas (Andalalin). *JKMP (Jurnal Kebijakan Dan Manajemen Publik)*, 4(2), 207–218.
- Rahman, Hilmi. (2017). Potret pertumbuhan ekonomi, kesenjangan dan kemiskinan di Indonesia dalam tinjauan ekonomi politik pembangunan. *Ilmu Dan Budaya*, 40(55). <https://doi.org/10.47313/jib.v40i55.409>
- Rakhmani, Feti. (2019). Tanggung Jawab Pemerintah Akibat Kerusakan Jalan terhadap Kecelakaan Kendaraan Bermotor Berdasarkan Pasal 238 Undang-undang No. 22 Tahun 2009 Tentang Lalu Lintas dan Angkutan Jalan. *Jurnal NESTOR Magister Hukum*, 4(4), 209676.
- Rantung, Tonaas, Sompie, Bonny F., & Jansen, Freddy. (2015). Analisa Dampak Lalu Lintas (Andalalin) Kawasan Lippo Plaza Kairagi Manado. *Jurnal Ilmiah Media Engineering*, 5(1).
- Santoso, Meilanny Budiarti. (2023). Keamanan Manusia: Pergeseran Paradigma Keamanan Nasional (Studi Literatur Pada Kecelakaan Lalu Lintas Dalam Perspektif Kesejahteraan Sosial). *Share: Social Work Journal*, 13(2), 175–185.
- Saragih, Surya Wana. (2017). *Pelaksanaan Kewenangan Persetujuan Dokumen Analisis Dampak Lalu Lintas Berdasarkan Pasal 7 Peraturan Daerah Kota Malang Nomor 7 Tahun 2010 Oleh Dinas Perhubungan Kota Malang*. Universitas Brawijaya.
- Yulianyaha, Raafi Widyaputra, & Kasikoen, Ken Martina. (2024). Analisis Dampak

Tri Widiatno Kartanto, Aidul Fitriadi Azhari, Jaka Susila

Lalu Lintas Pasar Ngablak Kabupaten Magelang: Traffic Impact Analysis Of Ngablak Market Magelang County. *Media Ilmiah Teknik Sipil*, 12(1), 29–38.