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ANALYSIS OF FACTORS AFFECTING THE EFFECTIVENESS OF HANDLING OVER-DIMENSION AND OVERLOADING (ODOL) IN EAST JAVA AT UPPKB TROSOBO SIDOARJO AND UPPKB SINGOSARI MALANG

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KEYWORDS:
freight transport; Overdimension &; Overloading; multiple linear regression

ABSTRACT

The problem of Overdimension and Overloading (ODOL) freight transportation has become a national issue. Various impacts caused by ODOL freight transportation include a decrease in vehicle speed, a decrease in road technical life, loss of road maintenance budget, vehicle damage, and the occurrence of traffic accidents on the road. East Java Province has a fairly high economic activity by using freight transportation in various conditions including Overdimension and Overloading. The Ministry of Transportation through the UPPKB Service Unit throughout East Java has made various efforts to handle ODOL freight transportation, but the level of violations of freight transportation still occurs. This study aims to determine the factors that affect the effectiveness of handling Overdimension and Overloading (ODOL) in freight transportation so that it can provide recommendations for appropriate ODOL handling. The data collection method used interviews and questionnaires to Korsatpel, UPPKB Operational Staff, and freight transport drivers. While the analysis method used *fishbone* diagram analysis and multiple linear regression analysis using field data. Based on the results of the study, it is known that the dominant factors that affect the effectiveness of handling Overdimension and Overloading (ODOL) in freight transportation are the enforcement of Tilang (X1) and Transfer of Cargo / Transfer of Excess Load (X3) with the value of coefficient determination at UPPKB Trosobo and Singosari of 96.1% and 92.3%. The handling recommendations given are the need to increase ticket fines and provide transportation services for excess cargo in the form of vehicles and transportation personnel as well as forklifts and cranes at the UPPKB Satpel to move heavy loads.

INTRODUCTION

The burden of logistics costs in Indonesia based on Gross Domestic Product (GDP) still reaches 27%. More expensive than Malaysia and Thailand (Djumena, n.d.). Land transportation costs are the largest component of logistics costs in Indonesia, amounting to 66.8%. The rest is administrative costs and inventory handling costs and added to the cost of loading and unloading, parking, and illegal levies. This situation is a major threat to logistics sovereignty and national competitiveness considering that an integrated logistics network between ASEAN countries was implemented in 2015 and 2020 entered the global logistics network (Buxbaum et al., 2019).

Good road infrastructure is the spearhead in supporting the smooth running of the logistics

network. In Indonesia, road infrastructure conditions severely hinder the development of the freight transportation industry in Indonesia and limit the ability of small business owners to reach profitable target markets (Ismail, 2023). Poor road quality is an obstacle to trade activities between regions and hinders integration between underdeveloped regions with more modern markets. Poor road infrastructure is not only caused by low road quality but also caused by overload and excess dimensions of freight transportation (*Overdimension and Overloading (ODOL))*.

The occurrence of load loads and excess dimensions of freight transportation is a complication of various problems including a cross-freight transportation network that is not optimal, the location of the Motor Vehicle Weighing Unit (UPPKB) node that is not strategic, the number of UPPKB Human Resources (HR) that is inadequate, the level of compliance of freight transportation owners is still low and so on. The above problems cannot be solved by the Government alone, but must involve various related parties, including the community, transportation entrepreneurs, body workshop owners and road users (Agus Wijaya & Jayus, n.d.).

The problem of *Overdimension* and *Overloading* freight transportation has become a national issue to date (Asie et al., 2022). Various impacts caused by *Overdimension* and *Overloading* (ODOL) freight transportation include: a decrease in speed resulting in traffic congestion, a decrease in the technical life of the road resulting in premature damage to the road, road maintenance budget losses reaching 43 trillion rupiah (Baketrans, 2023), Early damage to vehicle *spare parts* and the occurrence of traffic accidents on the road.

According to data from the National Police of the Republic of Indonesia, the number of accidents caused by ODOL trucks has reached 97% from 2020 as many as 30 cases to 59 cases in 2021. Then the death toll increased from 12 victims to 26 victims or an increase of 117% (Dharmacaraka & Susilowati, 2019). Meanwhile, in terms of material losses using the *gross roots* method , it was recorded to increase to 22 billion in 2021 from 8.9 billion in 2020 (Maulandy Rizky Bayu Kencana, 2021).

In accordance with Law Number 22 of 2009 concerning Road Traffic and Transportation and Law Number 23 of 2014 concerning Regional Government, the location, operation and closure of weighing equipment installed permanently on roads is carried out by the Government and the operation and maintenance of weighing equipment installed permanently is carried out by the Motor Vehicle Weighing Implementation Unit (UPPKB) appointed by the Central Government (Aryaputra, n.d.). As a follow-up to the mandate of Law Number 23 of 2014 concerning Regional Government, the division of government affairs in the field of transportation has been transferred the management of UPPKB from the Provincial Regional Government to the Central Government which includes: Personnel, Funding, Facilities and Infrastructure and Documents (P3D) (CNN Indonesia, 2021). This transfer aims to improve UPPKB's performance better than before.

The UPPKB Trosobo, Sidoarjo and UPPKB Singosari Service Units, Malang have tried to carry out various efforts to handle *Overdimension and* Overloading *freight transportation in the field, including:* law enforcement in the form of tickets / warnings and other enforcement, such as: travel delays, cargo transfer / excess load transfer, vehicle U-turn and vehicle normalization. However, *Overdimension* and *Overloading* freight transport violations still occur (Indonesia, 2014).

Based on the description of the problem above, it is necessary to conduct research entitled "Analysis of Factors Affecting the Effectiveness of *Overdimension and* Overloading (ODOL) Handling in the East Java Region at UPPKB Trosobo Sidoarjo and UPPKB Singosari Malang". This

research is expected to identify the effectiveness of various Overdimension *and* Overloading *freight transportation handling and more appropriate handling recommendations in the future.*

Some previous studies on *Overdimension and Overloading (*ODOL) of freight transportation, among others: the first study on the Application of *Criminal Sanctions Against Overdimensional and* Overloading Vehicle Drivers at UPPKB Cekik (Novayana et al., 2021). The method used is empirical legal research. The results of the analysis show that the application of criminal sanctions against drivers of overdimensional and overloading vehicles at UPPKB Cekik has not run well and effectively. There are still many violations of freight trucks by changing vehicle dimensions in the form of body shape, vehicle chassis and vehicle engine either partially or completely with the interest that the goods transported can exceed the specified maximum limit. The second study on the Effectiveness of Weighbridges in reducing ODOL (*overdimension overloading*) violations on the North Java Cross Road (Case Study of Tanjung Brebes Weighbridge). The method used is qualitative descriptive through observation, questionnaires and interviews. The results of the analysis showed that the effectiveness of the Tanjung Brebes weighbridge of 79.1% was categorized as quite effective in reducing *overdimension overloading violations, the* number of violations was the most *overloading* with a percentage of 80% with a total of 7,134 vehicles. The third research is on Juridical Analysis of the Implementation of Zero *Overdimension and Overloading* Policy in Indonesia . The research method uses normative legal research methods *(applied law research).* The results showed that the implementation of Zero ODOL was hampered due to economic factors, the ineffectiveness of existing legal products and the Covid-19 pandemic. In addition, the unavailability of adequate sanctions for Zero ODOL violations results in low enforcement of Zero ODOL policies in Indonesia.

The purpose of the study is to analyze what factors affect the effectiveness of handling Overdimension and Overloading (ODOL) of freight transportation in the East Java Region, analyze the dominant factors that affect the handling of Overdimension and *Overloading* (ODOL) of freight transportation in the East Java Region *and provide recommendations for improvements in handling* Overdimension *and Overloading* (ODOL) of freight transportation in the East Java Region. While the benefits in the research are as input material to the Government in efforts to handle *Overdimension* and *Overloading* (ODOL) freight transportation in Indonesia and reference material for further research. The data analysis method in this study that distinguishes it from previous studies is for the analysis of UPPKB performance barriers using descriptive methods and fishbone diagrams and for handling ODOL using multiple linear regression tests.

RESEARCH METHODS

Location and Time of Research

Figure 1
UPPKB Trosobo Satpel Office, Sidoarjo

Figure 2
UPPKB Singosari Satpel Office, Malang

The research was conducted in 2 locations, namely Satpel UPPKB Trosobo, Sidoarjo which is located at Jl. Raya Trosobo KM 21,700 Trosobo, Sidoarjo and Satpel UPPKB Singosari, Malang which is located at Jl. Raya Singosari 3, Malang.
The research time is 5 days *(weekdays)* during UPPKB operating hours.

Research Instruments

Equipment used to support data retrieval in the field includes:

1. Survey forms, stationery and *clip boards* are used to record the results of observational surveys and interviews in the field;
2. *Mobile phones* are used to document during field surveys;
3. Vests are used for body armor and surveyor identity while in the field;
4. Hats are used for head protection from the heat of the sun and surveyor's identity while in the field;
5. Laptops are used to process or process survey data in the field.

Data Collection Techniques

This stage aims to obtain the information needed to achieve research objectives. Techniques used to collect data in this study include: interviews, questionnaires and documentation.

Data Primer

This data is obtained from field surveys and interviews or questions and answers directly to respondents and filling out questionnaires through *google forms*. The respondents in this study

were Korsatpel, UPPKB officers and freight transport drivers.

Secondary data

This data is used to support research. This data includes:

1. Daily Traffic Data of freight transportation (Satpel UPPKB Trosobo and UPPKB Singosari)
2. Freight Transport Violation Data (Satpel UPPKB Trosobo and UPPKB Singosari)
3. Data on Enforcement of Freight Transport Violations (Satpel UPPKB Trosobo and UPPKB Singosari)

Data Analysis Techniques

The techniques used to analyze the data consist of:

Freight Transport Violation Data Analysis

The method used to analyze freight violation data uses a pie chart *(pie chart diagram).* In this diagram, the composition of each violation is symbolized by a percentage value (highest and lowest). In deciphering the details of breach data using descriptive analysis.

Freight Transport Violation Enforcement Analysis

The method used to analyze data on the enforcement of freight transport violations uses a pie chart *(pie chart diagram).* In this diagram, the composition of each violation is symbolized by a percentage value (highest and lowest). In deciphering the details of violation enforcement data using descriptive analysis.

Fish Bone Diagram Analysis

Used to analyze obstacle factors / obstacles in the enforcement of freight transportation violations. Where each obstacle is depicted in a branch of fish bones.

Multiple Linear Regression Analysis

In determining the research variable (X) using regulatory guidelines on handling *Overdimension* and *Overloading* (ODOL) of freight transportation carried out by the Government. Regression analysis used using multiple linear regression analysis. Where will compare the effect of each enforcement of freight transportation violations (speeding tickets, cargo transfer / overload transfer, U-turn, travel delays, vehicle normalization) on the number of Overdimension *and* Overloading *(ODOL)* violations of freight transportation using field data at UPPKB (Perhubungan, 2020). The dependent / bound variable in this study is the number of violations of Overdimension and Overloading (ODOL) of freight transportation (Y). While the independent / independent variables are all enforcement of freight transportation violations, in the form of: speeding tickets (X1), travel delays (X2), cargo transfer / overload transfer (X3), vehicle normalization (X4) and U-turns (X5).

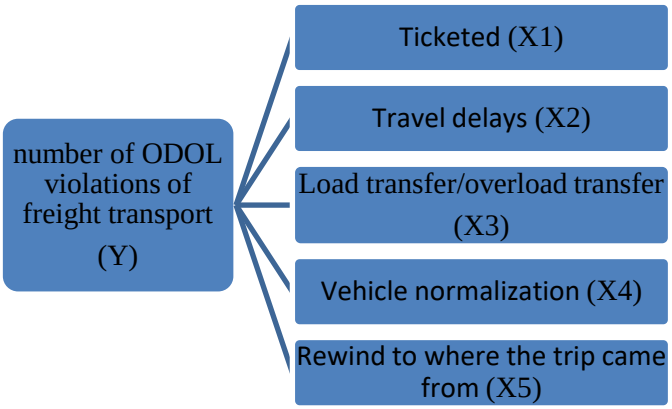


Figure 3
Research Variables (Dependent and Independent)

RESULTS AND DISCUSSION

Research Sample Calculation

The population used in the study was the entire freight transport drivers who passed through Jalan Krian – Taman Sidoarjo and Jalan Singosari. While the sampling refers to the Average Annual Daily Traffic of Freight Transport at Satpel UPPKB Trosobo and UPPKB Singosari. In the calculation of the number of samples using the Slovin formula (Ilie & Ciocoiu, 2010).

a. Number of Samples at UPPKB Trosobo

The Total Annual Average Daily Traffic of Freight Transport per year 2020 at Satpel UPPKB Trosobo (N) is 3,558 vehicles (CNN Indonesia, 2021). Margin of error (e) = 10%. So that the number of samples (n) is obtained:

$$n = \frac{N}{1 + Ne^2} = \frac{3.558}{1 + 3.558\ (0{,}1)^2} = 97{,}27 = \ 100\ sampel$$

The minimum number of samples needed in research at UPPKB Trosobo is 100 samples.

b. Number of Samples at UPPKB Singosari

The Total Annual Average Daily Traffic of Freight Transport per year 2021 at Satpel UPPKB Singosari (N) is 6,098 vehicles (CNN Indonesia, 2021). Margin of error (e) = 10%. So that the number of samples (n) is obtained:

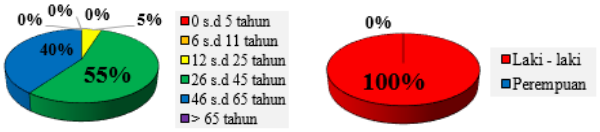
$$n = \frac{N}{1 + Ne^2} = \frac{6.098}{1 + 6.098(0{,}1)^2} = 98{,}39 = 100\ sampel$$

The minimum number of samples needed in research at UPPKB Singosari is 100 samples.

Results of Characteristic Analysis with Descriptive Statistics

Descriptive analysis serves to determine the characteristics of respondents, namely freight transport drivers as people involved in Overdimension and Overloading violations of *freight transportation and UPPKB officers as people who handle/act* on Overdimension *and* Overloading freight transportation at UPPKB. The results of the questionnaire that have been distributed to respondents through google forms are then recapitulated. The results of the analysis of descriptive statistical characteristics are as follows:

a. Characteristics of Freight Transport Drivers at UPPKB Trosobo



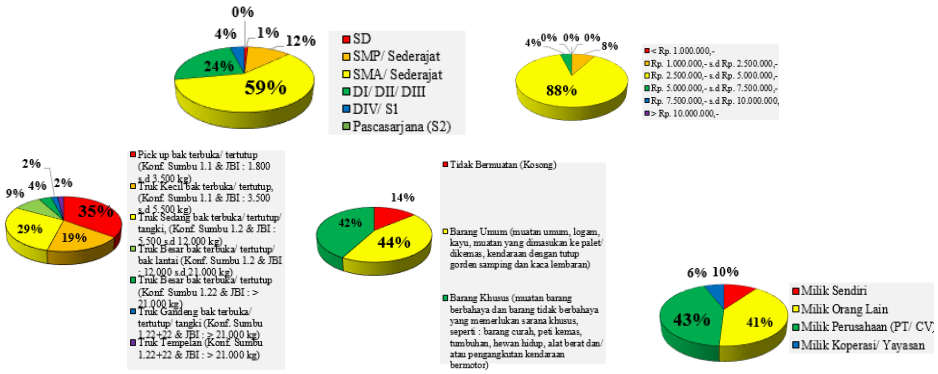


Figure 5
Distribution Diagram of Characteristics of Freight Transport Drivers at UPPKB Trosobo

Based on the picture above, it can be seen that the characteristics of freight transportation drivers at UPPKB Trosobo are the most age in the range of 26 to 45 years old by 55 people (55.0%), the most male gender is 100 people (100%), the last most education is in high school / equivalent by 59 people (59.0%), the highest average income per month is Rp. 2,500,000,- up to Rp. 5.000.000,- amounting to 88 people (88.0%), the most types of freight transportation vehicles pickup open / closed tubs (konf. Axis 1.1 and JBI: 1,800 to 3,500 kg) amounted to 35 people (35.0%), the highest vehicle load in the form of general goods (general loads, metal, wood, cargo loaded into pallets / packed, vehicles with side curtain lids and sheet glass) amounted to 44 people (44.0%) and the most vehicle ownership status was owned by the Company (PT / CV) by 43 people (43.0%).

a. Characteristics of Freight Transport Drivers at UPPKB Singosari

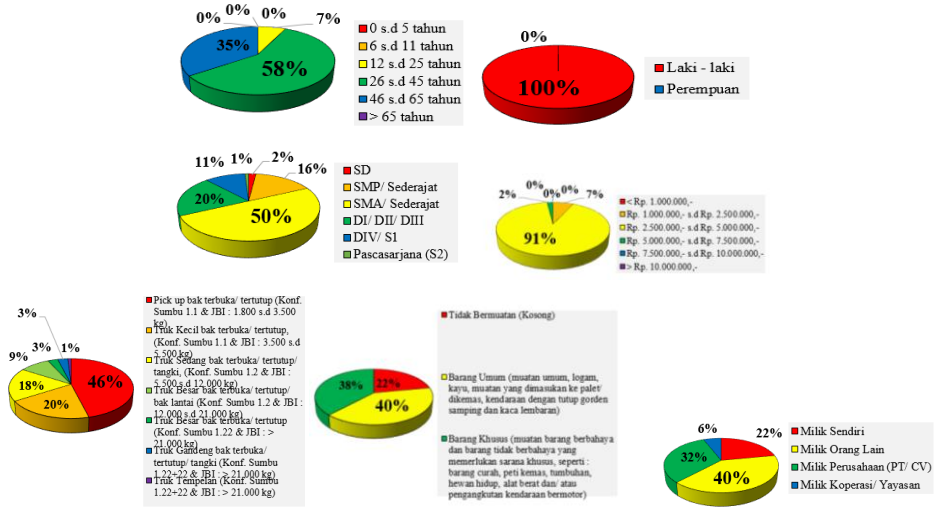


Figure 6
Distribution Diagram of Characteristics of Freight Transport Drivers at UPPKB Singosari

Based on the picture above, it can be seen the characteristics of freight transportation drivers at UPPKB Singosari, namely the most age is in the range of 26 to 45 years old by 58 people (58.0%), the most male gender is 100 people (100%), the last most education is in high school / equivalent by 50 people (50.0%), the highest average income per month is Rp. 2,500,000,- up to Rp. 5.000.000,- amounting to 91 people (91.0%), the most types of freight transportation vehicles pickup open /

closed tubs (konf. Axis 1.1 and JBI: 1,800 to 3,500 kg) amounted to 46 people (46.0%), the highest vehicle load in the form of general goods (general loads, metal, wood, cargo loaded into pallets / packed, vehicles with side curtain lids and sheet glass) amounted to 40 people (40.0%) and the most vehicle ownership status belonged to other people by 40 people (40.0%).

b. Characteristics of UPPKB Trosobo Officers

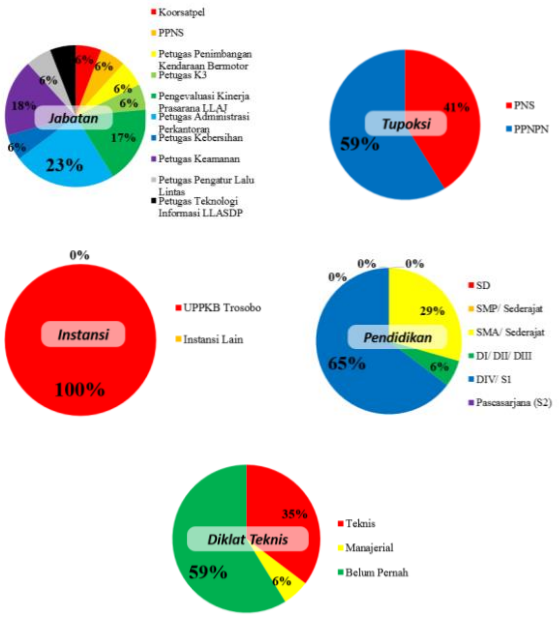


Figure 7
Distribution Diagram of UPPKB Trosobo Officer Characteristics

c. Characteristics of UPPKB Singosari Officers

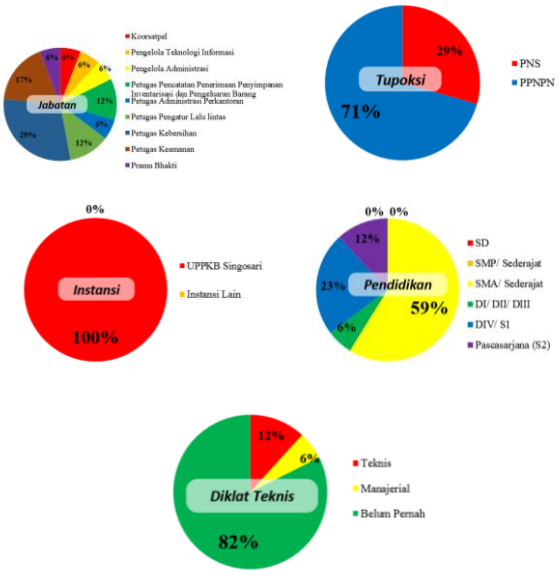


Figure 8
Distribution Diagram of UPPKB Singosari Officer Characteristics

Results of *Fish Bone Analysis Diagram* of Obstacles / Obstacles in Handling ODOL Freight Transport

Based on *fish bone analysis*, *the* obstacle diagram / obstacle handling ODOL freight transportation obtained in the field (Ribbens-Pavella et al., 1985).

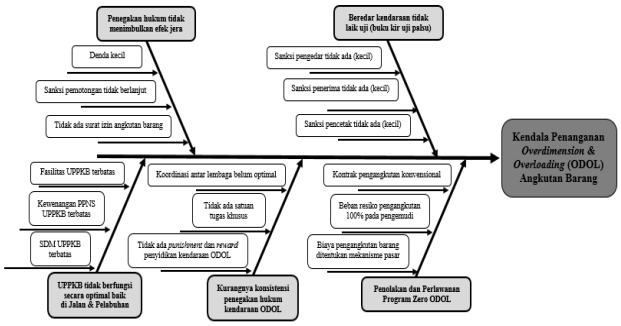


Figure 9
Fishbone *Analysis* Diagram of obstacles / obstacles handling ODOL freight transportation

From the results of the Fishbone ***Diagram*** analysis of Obstacles / Obstacles in handling ODOL Freight Transportation there are 5 main factors, namely:

1. Law enforcement does not cause a deterrent effect (3 root causes)
2. Circulating vehicles are not testworthy / fake kir test books (3 root causes)
3. UPPKB does not function optimally both on roads and ports (3 root causes)
4. Lack of consistency in ODOL vehicle law enforcement (3 root causes)
5. Rejection and resistance of the Zero ODOL program (3 root causes)The root causes are obtained from various problems that occur in the field.

As for the obstacles / obstacles of each handling ODOL freight transportation at UPPKB can be seen in the picture below.

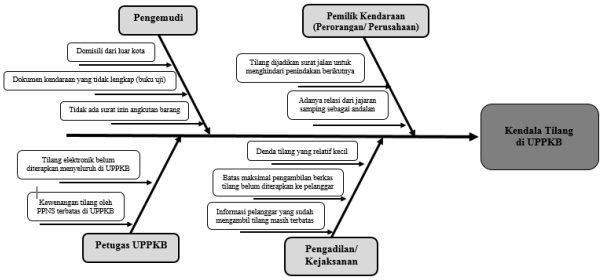


Figure 10
***Fishbone Analysis Diagram* of obstacles / obstacles Tilang at UPPKB**

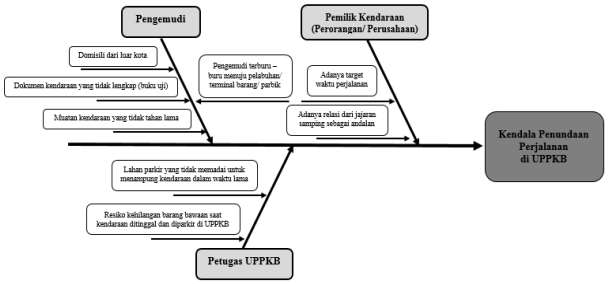


Figure 11
Fishbone *Analysis* Diagram of Travel Delay obstacles at UPPKB

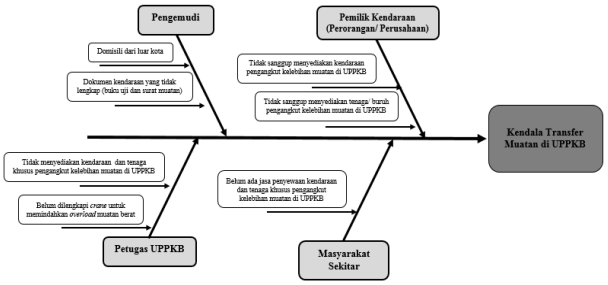


Figure 12
***Fishbone Analysis Load* Transfer bottleneck/constraint diagram in UPPKB**

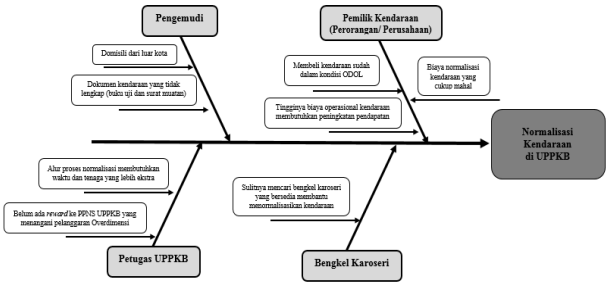


Figure 13
***Fishbone Analysis* Diagram of obstacles / constraints of Vehicle Normalization at UPPKB**

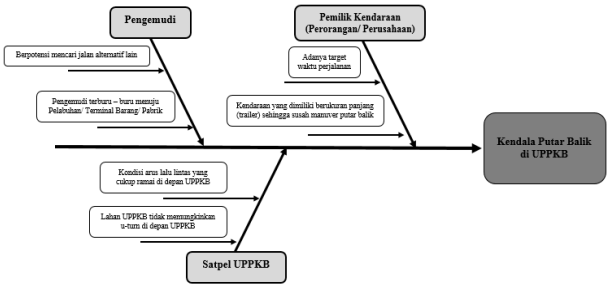


Figure 14
Fishbone *Analysis* Bottleneck/constraint diagram U-turn at UPPKB

Results of Data Analysis of Freight Transport Violations at UPPKB

1. ***Data on Freight Transport Violations at UPPKB Trosobo from 2019 to 2022***

The results of the recapitulation of data on violations of freight transportation at UPPKB Trosobo from 2019 to 2022 can be seen in the following table and figure.

Table 1
Recapitulation of Freight Transport Violations at UPPKB Trosobo from 2019 to 2022

No.	Types of Violations	Sum	Percentage
1	Payload + Dimension (ODOL)	39.275	46,7%
2	Technical requirements	3.304	3,9%
3	Loading Procedures	12.823	15,2%
4	Document	28.778	34,2%
Total Amount		**84.180**	**100%**

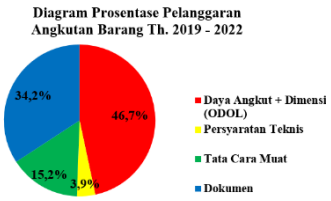


Figure 15
Diagram of the Percentage of Freight Transport Violations at UPPKB Trosobo Year 2019 to 2022

The majority of freight transportation violations at UPPKB Trosobo during 2019 to 2022 were in the form of Carrying Capacity and Dimensions (ODOL) of 39,275 vehicles (46.7%).

a. Data on Freight Transport Violations at UPPKB Singosari from 2019 to 2022

The results of the recapitulation of data on violations of freight transportation at UPPKB Singosari from 2019 to 2022 can be seen in the following table and figure.

Table 2
Recapitulation of Freight Transport Violations at UPPKB Singosari from 2019 to 2022

No.	Types of Violations	Sum	Percentage
1	Payload + Dimension (ODOL)	47.697	48,9%
2	Technical requirements	2.908	3,1%
3	Loading Procedures	12.478	12,8%
4	Document	34.292	35,2%
Total Amount		**97.447**	**100%**

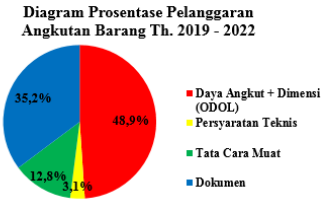


Figure 16
Percentage Diagram of Freight Transport Violations at UPPKB Singosari Year 2019 to 2022

The majority of freight transportation violations at UPPKB Singosari during 2019 to 2022 were in the form of Carrying Capacity and Dimensions (ODOL) of 47,697 vehicles (46.7%).

Results of Data Analysis of Enforcement of Freight Transport Violations at UPPKB

a. Data on Enforcement of Freight Transport Violations at UPPKB Trosobo from 2019 to 2022

The results of the recapitulation of data on the enforcement of violations of freight transportation at UPPKB Trosobo from 2019 to 2022 can be seen in the following table and figure.

Table 3
Recapitulation of Enforcement of Freight Transport Violations at UPPKB Trosobo Year 2019 to 2022

No.	Jenis Penindakan Pelanggaran	Jumlah	Persentase
1	Peringatan	17.353	20,6%
2	Tilang Kepolisian	7.229	8,6%
3	Tilang UPPKB	41.304	49,1%
4	Keseluruhan Penindakan	18.294	21,7%
Jumlah Total		**84.180**	**100%**

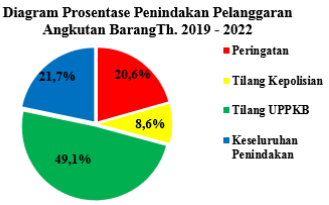


Figure 17
Percentage Diagram of Enforcement of Freight Transport Violations at UPPKB Trosobo Year 2019 to 2022

The majority of enforcement of freight transportation violations at UPPKB Trosobo during 2019 to 2022 in the form of UPPKB tickets were 41,304 vehicles (49.1%).

b. Data on Enforcement of Freight Transport Violations at UPPKB Singosari from 2019 to 2022

The results of the recapitulation of data on the enforcement of violations of freight transportation at UPPKB Singosaru from 2019 to 2022 can be seen in the following table and figure.

Table 4
Recapitulation of Enforcement of Freight Transport Violations at UPPKB Singosari Year 2019 to 2022

No.	Types of Violation Enforcement	Sum	percentage
1	Commemoration	16.629	17,1%
2	Police Ticke	8.663	8,9%
3	UPPKB ticket	49.083	50,4%
4	Overall Enforcement	23.072	23,7%
Total Amount		**97.447**	**100%**

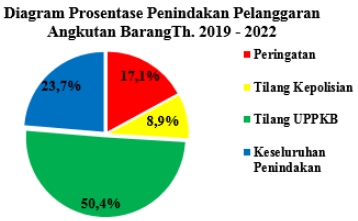


Figure 18
Percentage Diagram of Enforcement of Freight Transport Violations at UPPKB Singosari Year 2019 to 2022

The majority of enforcement of goods transportation violations at UPPKB Singosari during 2019 to 2022 in the form of Carrying Capacity and Dimensions (ODOL) was 49,083 vehicles (50.4%).

Multiple Linear Regression Test Results

This test was carried out using SPSS software between independent variables (each enforcement of ODOL violations) against dependent / bound variables (number of ODOL violations)

Results of Tilang Regression Test (X1) and Travel Delay (X2) on the Number of ODOL (Y) Violations at UPPKB Trosobo

a. Output Analysis of Coefficient of Determination

It is known that the *adjusted R square value of* 0.898 then it is concluded that the effect of the independent variable (speeding tickets and travel delays) on the dependent variable (the number of ODOL violations) simultaneously (together) is 89.8%.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. The error of the Estimate
1	.950[a]	.903	.898	18.470
a. Predictors: (Constant), Penundaan_Perjalanan_X2, Tilang_X1				

b. F Test Outpit Analysis (Simultaneous)

Hypothesis :

H0 : There was no significant effect between the independent variable and the dependent variable simultaneously (model not fit / not feasible)

H1 : There is a significant influence between the independent variable and the dependent variable simultaneously (fit / feasible model)

Test Statistics :

• H0 rejected if value Sig. < 0,05

• H0 rejected if F value count > F tabel

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	142570.764	2	71285.382	208.957	.000[a]
	Residual	15351.715	45	341.149		
	Total	157922.479	47			
a. Predictors: (Constant), Penundaan_Perjalanan_X2, Tilang_X1						
b. Dependent Variable: Jumlah_Pelanggaran_ODOL_Y						

Interpretation of Test Results :

Based on the table above, it can be seen that the value of Sig. = 0.000 < 0.05 and the value of F count = 208.987 > F table = 3.20 (DF1 = 2 and DF2 = N-2-1 = 48-2-1 = 45) so that H0 is rejected. So it is concluded that the fit / feasible model and the independent variable (speeding tickets and

travel delays) have a significant effect on the dependent variable (number of ODOL violations) simultaneously (together).

c. T-Test Analysis

Hypothesis :

H0 : There was no significant effect between the independent variable and the dependent variable partially

H1 : There is a significant influence between the independent variable and the dependent variable partially

Test Statistics :

• H0 rejected if value Sig. < 0,05

• H0 rejected if value T hitung > T tabel

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
1 (Constant)	5.874	12.299		.478	.635
Tilang_X1	.719	.080	.655	9.012	.000
Penundaan_Perjalanan_X2	.620	.129	.350	4.816	.000

a. Dependent Variable: Jumlah_Pelanggaran_ODOL_Y

Interpretation of Test Results :

Based on the table above, it can be seen that :

a. Ticket Variable (X1)
Sig. value = 0.000 < 0.05 and calculated T value = 9.012 table T > = 2.01410 (DF = 45, α = 5% for 2-sided test) so H0 is rejected. So it is concluded that the ticket variable (X1) has a significant effect on the variable number of ODOL violations (Y) partially.

b. Travel Delay Variable (X2)
Sig. value = 0.000 < 0.05 and calculated T value = 4.816 table T > = 2.01410 (DF = 45, α = 5% for 2-sided test) so H0 is rejected. So it is concluded that the variable of travel delay (X2) has a significant effect on the variable number of ODOL violations (Y) partially.

Multiple Linear Regression Equation Analysis

a. Regression equation obtained:
Y = 0,719 X1 + 0,620 X2 + 5,874

b. The constant value obtained is 5.874 then it means that if the independent variable is 0 (zero) (constant) then the dependent variable is 5.874.

c. The value of the regression coefficient of variable X1 is positive (+) of 0.719, so it can be interpreted that if variable X1 increases, variable Y will also increase and vice versa.

d. The value of the regression coefficient of variable X2 is positive (+) of 0.620, so it can be interpreted that if variable X2 increases, variable Y will also increase and vice versa.

Next, using the same method, repeat steps (1) to (4) to test the model on Variables **X3, X4, X5** at UPPKB Trosobo and UPPKB Singosari.

CONCLUSION

Factors affecting the effectiveness of handling Overdimension and Overloading (ODOL) violations of freight transportation in the East Java Region Tilang Enforcement (X1), consisting of:

drivers, vehicle owners (individuals / companies), UPPKB officers and courts / prosecutors, Travel Delay Enforcement (X2), consisting of: drivers, vehicle owners (individuals / companies) and UPPKB officers, Cargo Transfer Enforcement (X3), consisting of: drivers, vehicle owners (individuals / company), UPPKB officers and the surrounding community, Vehicle Normalization Enforcement (X4), consisting of: drivers, vehicle owners (individuals / companies), UPPKB officers and body body workshops, U-turn Enforcement (X5), consisting of: drivers, vehicle owners (individuals / companies) and UPPKB Satpel, The dominant factor affecting the handling of Overdimension and Overloading (ODOL) violations of freight transportation in the East Java Region, especially the UPPKB Trosobo and UPPKB Singosari Satpel based on the coefficient value, the largest determination is the enforcement of speeding tickets (X1) and Cargo Transfer / Overload Transfer (X3) by 96.1% and 92.3%, recommendations for improvement in handling violations of Overdimension and Overloading (ODOL) of freight transportation in the East Java Region include the need for increased law enforcement at UPPKB such as ticket fines that need to be aggravated; The need for a routine agenda of cutting / normalizing vehicles accompanied by legal sanctions in the form of prison confinement and large fines, The need to build an integrated database system between the Online Weighbridge (JTO) and E-Blue (proof of passing the electronic test) to minimize falsification of test books, The need to improve UPPKB facilities, UPPKB HR competency qualifications and UPPKB PPNS authority by reviewing existing regulations, The need to establish a special forum between institutions to deal with violations of Overdimension and Overloading (ODOL) freight transportation, The need for the establishment of a Special Task Force engaged in violations of Overdimension and Overloading (ODOL) freight transportation with strong authority, The need for freight transportation subsidies from the Government to reduce vehicle operational costs that are large enough for entrepreneurs and freight transport drivers.

BIBLIOGRAPHY

Agus Wijaya, S. H., & Jayus, S. H. (N.D.). *Kewenangan Membangun Konektivitas Transportasi*. Jakad Media Publishing. Google Scholar

Aryaputra, M. R. (N.D.). *Implementasi Undang-Undang Nomor 22 Tahun 2009 Tentang Lalu Lintas Dan Angkutan Jalan Di Tangerang Selatan*. Fakultas Syariah Dan Hukum Uin Syarif Hidayatullah Jakarta. Google Scholar

Asie, H., Dwimawanti, I. H., Astuti, R. S., & Afrizal, T. (2022). Advokasi Kebijakan Overloading Angkutan Barang Di Kabupaten Lamandau. *Perspektif*, *11*(3), 1050–1060. Google Scholar

Baketrans. (2023). *Badan Kebijakan Transportasi Kementrian Perhubungan*. Https://Baketrans.Dephub.Go.Id/Berita/Menuju-Indonesia-Bebas-Odol. Google Scholar

Buxbaum, H., Sen, S., & Kremer, L. (2019). An Investigation Into The Implication Of Human-Robot Collaboration In The Health Care Sector. *Ifac-Papersonline*, *52*(19), 217–222. Https://Doi.Org/Https://Doi.Org/10.1016/J.Ifacol.2019.12.100. Google Scholar

Cnn Indonesia. (2021, March). *One Hundred Thousand Traffic Accidents In 2020, Most High School Students*. Google Scholar

Dharmacaraka, D. P., & Susilowati, I. F. (2019). Problematika Pelaksanaan Peraturan Menteri Perhubungan Nomor 108 Tahun 2017 Tentang Penyelenggaraan Angkutan Orang Dengan Kendaraan Bermotor Umum Tidak Dalam Trayek Di Surabaya. *Novum: Jurnal Hukum*, *6*(2).

Google Scholar

Djumena, E. (N.D.). *Biaya Logistik Indonesia Termahal Di Asia, Investor Bisa Kabur*. Kompas.Com. Https://Money.Kompas.Com/Read/2019/10/16/203800526/Biaya-Logistik-Indonesia-Termahal-Di-Asia-Investor-Bisa-Kabur?Page=All. Google Scholar

Ilie, G., & Ciocoiu, C. N. (2010). Application Of Fishbone Diagram To Determine The Risk Of An Event With Multiple Causes. *Management Research And Practice*, *2*(1), 1–20. Google Scholar

Indonesia, P. R. (2014). *Undang-Undang Republik Indonesia Nomor 5 Tahun 2014 Tentang Aparatur Sipil Negara*. Google Scholar

Ismail, T. (2023). Faktor Keramahan Pejalan Kaki Dengan Pendekatan Transport Demand Omotenashi. *Jurnal Ekonomi, Teknologi Dan Bisnis (Jetbis)*, *2*(3), 256–261. Google Scholar

Margono, S. (2005). *Metodologi Penelitian Pendidikan, Rineka Cipta*. Jakarta. Google Scholar

Maulandy Rizky Bayu Kencana. (2021). *Jumlah Kecelakaan Truk Odol Naik 97 Persen Di 2021, Negara Rugi Rp 22 Miliar*. Liputan 6. Https://Www.Liputan6.Com/Bisnis/Read/4919152/Jumlah-Kecelakaan-Truk-Odol-Naik-97-Persen-Di-2021-Negara-Rugi-Rp-22-Miliar. Google Scholar

Novayana, I. G., Margunayasa, I. G., & Renda, N. T. (2021). Bahan Ajar E-Modul Intaraktif Muatan Ipa Materi Zat Tunggal Dan Campuran. *Journal For Lesson And Learning Studies*, *4*(1), 59–68. Google Scholar

Perhubungan, M. (2020). Peraturan Menteri Perhubungan Republik Indonesia. *Mentri Perhubungan Republik Indonesia*, *13*. Google Scholar

Ribbens-Pavella, M., Van Cutsem, T., & Rousseaux, P. (1985). On-Line Stability And Dynamic Security Assessment Of Electric Power Systems. *Ifac Proceedings Volumes*, *18*(7), 23–33. Https://Doi.Org/Https://Doi.Org/10.1016/S1474-6670(17)60411-7. Google Scholar

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