Feasibility analysis of Kediri - Tulungagung toll

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Abstract

The Kediri-Tulungagung Toll Road is an essential part of the Non-Trans Java Toll Road, which is a national strategic project aimed at facilitating economic activities in the southern part of East Java and improving connectivity to Kediri Airport. This study focuses on analyzing the economic and financial feasibility of the Kediri-Tulungagung toll road development project. The feasibility study involves assessing the project's viability, determining whether it should proceed or be delayed. The analysis includes evaluating traffic volume data, measuring road saturation levels before and after construction, and analyzing the transfer of road users to the toll road. Furthermore, an economic feasibility analysis is conducted to calculate savings in vehicle operating costs and travel time, as well as assess several parameters such as Benefit-Cost Ratio (BCR), Net Present Value (NPV), Internal Rate of Return (IRR), and Payback Period (PbP). Based on JICA 1 modeling and questionnaire responses, calibration values were determined for different vehicle classes. The a value and b value were recalibrated until they reach the appropriate values. The economic feasibility analysis reveals a BCR value of 11,656 (BCR>1), an NPV of IDR 91,043,209,729,042 (NPV>0), and an IRR of 18.3811% (IRR>Interest rate). In the financial feasibility analysis using interest rates as discount rates, the BCR is 6,265 (BCR>1), the NPV is Rp 44,977,644,753,162 (NPV>0), the IRR is 11,872% (IRR>Interest rate), and the Payback Period occurs in the 24th year and 7th month after the toll road's operation. Based on these analyses, the Kediri-Tulungagung Toll Road is deemed economically and financially feasible when using interest rates as the discount rate.

Keywords

Kediri-Tulungagung toll road, viability, economic feasibility analysis, financial feasibility analysis, JICA 1

INTRODUCTION

The development of freeway infrastructure or toll roads in a country can be used as a benchmark to determine the extent of a country's economic progress, both on a macro and micro basis. In addition, the toll road industry can also be used as evidence and readiness of a country to welcome a civilization that is easy and fast in every activity [1].

In one of the efforts to meet the need for road infrastructure, the government has tried to accelerate the construction of toll roads, because toll roads are strategic infrastructure. In 2017, the government issued Presidential Regulation of the Republic of Indonesia Number 58 regarding the Toll Road Development Acceleration Program of approximately 1100 km which includes the Trans Java toll road (32 toll road sections; 1099.08 km) and the Non-Trans Java toll road (19 toll roads). toll road; 335.84 km [2].

The Kediri-Tulungagung Toll Road is planned as part of the Trans-Java Toll Road system and will be connected to the planned Ngawi-Kertosono-Kediri Toll Road section. The Kediri-Tulungagung Toll Road plan is expected to be able to support the required accessibility of the Southern Cross-Coastal Road Network so that travel needs from the southern region of East Java Province can be served. [3]

The construction of the Kediri-Tulungagung Toll Road is expected to support accessibility between regions that are traversed so that it can increase the growth of the economic, tourism, and industrial sectors. The toll road construction plan is included in the East Java Province economic development acceleration program and supports the National Strategic Project, Doho Kediri Airport. (BPJT, 2022)

In planning a toll road infrastructure, it is necessary to carry out an initial stage that is no less important, namely a feasibility study so that the planning process becomes more mature. The aspects that need to be reviewed in the feasibility study for the construction of a toll road infrastructure include the economic and financial aspects [4]. The Ministry of PUPR through its publication in the form of a Module "General Understanding of Infrastructure Project Feasibility Studies", explains that a project feasibility study is a study to assess the project to be undertaken. What is meant by an assessment here is to provide a recommendation whether the project in question is feasible or should be postponed first. In carrying out this feasibility study, of course, various aspects will be involved

to decide the feasibility of a project. Economic and financial aspects are aspects that need to be considered in the implementation of a project feasibility study. The Economic Aspect is an investment review from the point of view of the government or the community who benefit from a project. Meanwhile, financial analysis is an analysis that compares costs and benefits to determine whether a business will be profitable over the life of the business. [5]

Based on the problems above, this study will review the existing traffic conditions in Kediri-Tulungagung and estimate the transfer of the number of vehicles from the existing lane to the toll road and also determine the Kediri-Tulungagung Toll fare where the location can be seen in Figure 1, and large savings will be obtained Vehicle Operating Costs (BOK) and time value, to analyze the gains or losses that will be obtained by investors and the benefits received by users of road infrastructure, both from an economic and financial perspective. Thus, it is hoped that this feasibility analysis will become reference material whether the Kediri-Tulungagung Toll Road is feasible to build from an economic and financial perspective.
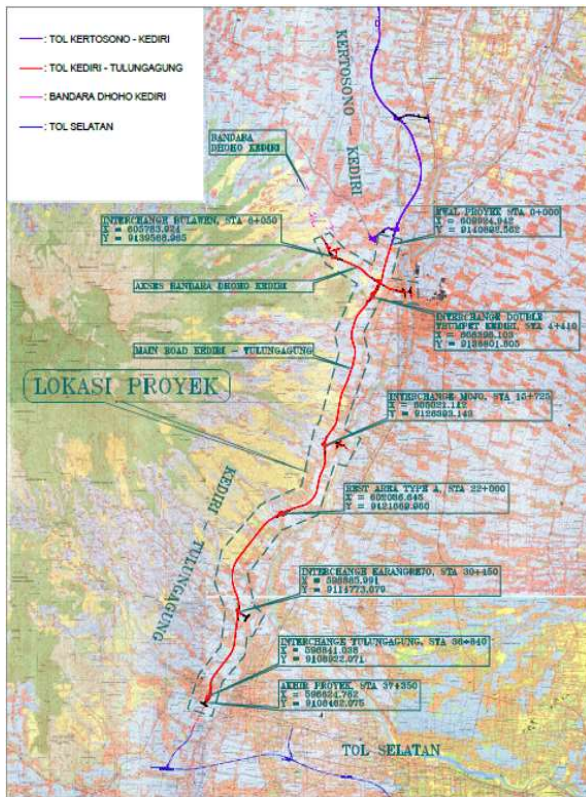

Figure 1 Location and site plan Kediri-Tulungagung toll road

RESEARCH SIGNIFICANCE

This study aims to determine the savings in Vehicle Operating Costs (BOK) resulting from the construction of the toll road. This information is crucial for assessing the economic benefits of the project, as reduced BOK indicates potential financial advantages for road users, such as decreased fuel consumption and maintenance expenses. And quantify the savings in travel time resulting from the Kediri-Tulungagung Toll Road construction.

Understanding the magnitude of time savings is essential for evaluating the toll road's convenience and attractiveness to road users, as it directly affects their efficiency and productivity, as well as the overall economic benefits of improved connectivity. Also, this study analyzes the economic and financial aspects of the Kediri-Tulungagung Toll Road project. By examining metrics such as Benefit-Cost Ratio (BCR), Net Present Value (NPV), Internal Rate of Return (IRR), and Payback Period (PbP), the study provides a comprehensive assessment of the project's viability and sustainability, aiding decision-makers in evaluating its potential long-term economic and financial impacts.

METHODOLOGY

A. DATA COLLECTION

The data needed for this study consists of primary data and secondary data. Primary data is data collected directly in the field, while secondary data in the work on this study was obtained from literature and relevant agencies.

1. Primary Data
    In compiling this research primary data is needed, where the primary data taken in the field is obtained from the results of interviews with road users. The primary data needed in this study are:
    a. Data on user characteristics of the existing Kediri-Tulungagung road.
    b. Travel route data for existing Kediri-Tulungagung road users
    c. Survey data stated user preference for the existing Kediri-Tulungagung road
2. Secondary Data
    In compiling this study secondary data is needed as supporting data from an analysis. Secondary data in writing this study were obtained from the existing condition in the field. Secondary data required include:
    a. Kediri-Tulungagung Toll Road Plan
    b. Investment Value of the Toll Road
    c. Factual Road Geometric
    d. Inflation of Indonesian Bank
    e. The volume of Traffic crossing the existing road
    f. Price of Vehicle Operating Cost Components
    g. Toll Fee

The proportional random sampling method is calculated using the following sampling formula [6] as shown in Eq. 1 and Table 1:

$$N' = \frac{N}{1 + N(e)^2} \qquad (1)$$

N' = Number of samples
N   = Population
e   = Margin Error

After the survey form has been compiled, it's time to conduct a survey of existing road users. The survey was conducted by distributing questionnaires to road users[7]. Filling out the questionnaire was done with the help of the Google form[8]. On the Google form, a detailed explanation is given to the resource person regarding several things, namely:

a. The availability of the Kediri-Tulungagung toll road as one of the alternative routes provided
b. Information on routes, fares, length and connectivity of the Kediri-Tulungagung Toll road
c. Savings in travel time when using the Kediri-Tulungagung toll road

The first step in creating a survey form for this study was to create a questionnaire regarding the characteristics of existing road users. The questionnaire regarding these characteristics is expected to be able to map the characteristics of existing road users. The second step is to make a questionnaire regarding route selection by road users. The first step is to record the cities of origin and destinations served by the Kediri-Tulungagung toll road.

From each city of origin to the destination served by the toll road, then collect data on routes that are generally used by the public. The route can be viewed via Google Maps as well as to see the distance and travel time which are presented in Figures [2] and [3].
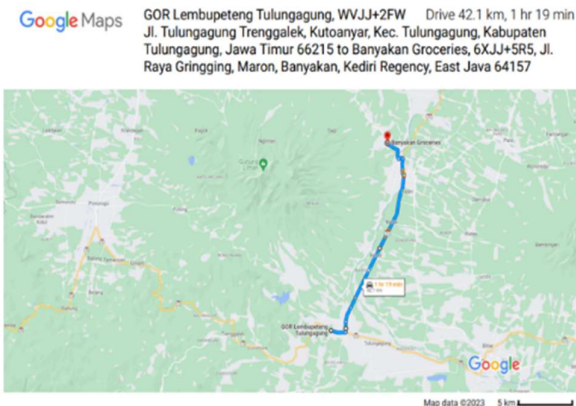

Figure 2 Route city of origin destination Kediri-Tulungagung through the national road
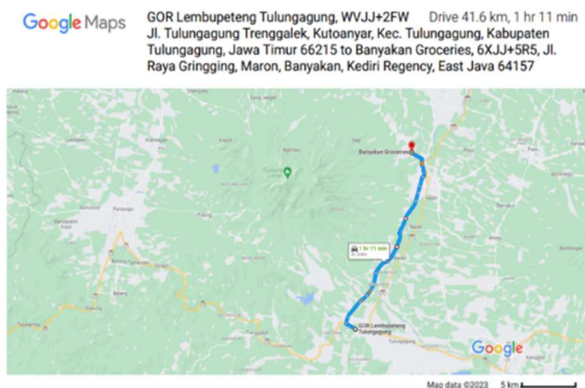

Figure 3 the route from the city of origin to the destination of Kediri-Tulungagung is via the regency road route

Figure 2 shows the route from the City of Origin to Kediri-Tulungagung via the 42 km National Road route with a journey time of 79 minutes. And Figure 3 shows the route from the City of Origin to Kediri-Tulungagung through the Existing Road route of 41 km with a journey time of 71 minutes. After the completeness of the required data has been fulfilled, the next step is data processing. The purpose of this data processing stage is to analyze the data that has been collected. By analyzing the data that has been collected, a comparison of the results of the analysis of route selection using different methodologies for route selection that occurs in existing conditions.

B. DATA ANALYSIS

The data obtained will then be analyzed using the theory that has been determined in the literature review. The results of this data analysis will become information which is the problem solving of the problem formulation in this study. Using the percentage of Gross Regional Domestic Product (GDP) and population[9][10]. Forecasting is carried out to determine the increase or growth in vehicle volume since the toll road was operated, in this case 2023 to 2070. The increase in vehicle volume is calculated by processing data on population growth, GRDP, and GRDP per capita. To calculate the percentage of vehicle movement from the existing road to the Kediri-Tulungagung Toll Road, the JICA 1 theoretical method is used. This model is calibrated using a dependent variable in the form of the difference in travel time when using the toll road and alternative roads. Other variables that are also analyzed are toll rates and travel time values [11] which are presented in Eq. 2.

$$P = a\Delta T^b \qquad (2)$$

$$\Delta T = A - \left(T + \frac{TR}{TV} \right) \qquad (3)$$

P = Toll road diversion rate (%)
A = Travel time if using an alternative route (minutes)
T = Travel time if using the toll road (minutes)
TR = Toll Fee (rupiah/vehicle)
TV = Value of travel time (rupiah/minute)
a,b = Parameters to be estimated

Furthermore, after obtaining related data, an economic feasibility analysis will be carried out which consists of analysis of existing Vehicle Operational Costs (BOK) and planned toll roads, time value savings, Benefit Cost Ratio (BCR), Net Present Value (NPV), Internal Rate of Returns (IRR). And financial feasibility analysis consists of Investment Value, Calculation of income from vehicle toll rates, Benefit Cost Ratio (BCR), Net Present Value (NPV), Internal Rate of Return (IRR), and Payback Period (PbP) [12].

RESULTS AND DISCUSSIONS

A. ROAD GEOMETRIC DATA ANALYSIS

The road geometric data used is the geometric data for the Kediri-Tulungagung National Road, Mojo-Tulungagung Road, and the Kediri-Tulungagung Toll Road obtained from PT. Gudang Garam Tbk. with details as follows:
1. Kediri-Tulungagung National Road
   - Road Type   = 2/2TT
   - Road Length   = 42 km
   - Effective Width Road   = 7,2 m
   - Roadside Width   = 1,3 m
   - Separator   = 50%-50%
   - Side Obstacle Class   = Low
2. Mojo – Tulungagung Road Section
   - Road Type   = 2/2TT
   - Road Length   = 41 km

- Effective Width Road = 5 m
- Roadside Width = < 0,5 m
- Separator = 50%-50%
- Side Obstacle Class = Low
3. Kediri – Tulungagung Toll Road
- Design Speed = 100 km/hr
- Road Length = 37,35 km
- Project Cost = Rp. 4.799.865.198.830
- Lane Width = 3,60 meter
- Outside Road Width = 3,00 meter
- Inside Road Width = 1,50 meter
- Median Width = 5,50 meter
- Operational Planning = 2024

B. TRAFFIC DATA ANALYSIS

The traffic data obtained is in the form of data on the volume of vehicles per day on the sections under review, namely the existing Kediri-Tulungagung Road section shown in the table below. From this traffic data, further processing of traffic volume data is carried out so that traffic forecasting calculations, degree of saturation, calculation of vehicle operating costs (BOK), calculation of time value and analysis of economic and financial feasibility can be carried out[13].

C. GDRP DATA ANALYSIS AND TOTAL POPULATION

Population growth is assumed to be equivalent to the growth of vehicles, GRDP according to the business field at constant prices is assumed to be equivalent to the growth of goods and truck vehicles, while GDP per capita at constant prices is assumed to be equivalent to the growth of passenger vehicles[14]. The percentage growth rate can be seen in Table 1 as shown below.

Table 1 Growth rate percentage

Growth Rate Percentage			
City	Kediri	Tulungagung	Max
Total Population	0,73%	0,52%	0,73%
GDP of Business Field	5,10%	5,58%	5,58%
GRDP Per Capita	4,34%	5,04%	5,04%

D. DEGREE OF SATURATION ANALYSIS

Based on the analysis of traffic volume calculations [15] in the without project condition, the degree of saturation (Dj) is obtained on the existing Kediri-Tulungagung Road in 2024 prior to the construction of the Kediri-Tulungagung Toll Road in the first year, presented in Table 2.

Table 2 Analysis of the calculation of the degree of saturation of the existing Kediri-Tulungagung road and the Kediri-Tulungagung toll road in 2024 after the construction of the Kediri-Tulungagung toll road in the first year

Condition	Road Name	Tulungagung Destination	Kediri Destination
Without Project	Kediri – Ngadiluwih National Road	0.566	0.491
	Bts Kediri – Ngantru National Road	0.535	0.503

Condition	Road Name	Tulungagung Destination	Kediri Destination
With Project	Ngantru – Tulungagung National Road	0.52	0.588
	Kediri – Mojo Province Road	0.457	0.377
	Mojo – Karangrejo Province Road	0.733	0.781
	Karangrejo – Tulungagung Province Road	0.377	0.457
	Kediri – Ngadiluwih Province Road	0.457	0.385
	IC Kediri - IC Mojo National Road	0.066	0.064
	Bts Kediri – Ngantru National Road	0.397	0.416
	IC Mojo - IC Karangrejo Toll Road	0.084	0.053
	Ngantru – Tulungagung National Road	0.456	0.51
	IC Karangrejo - IC Tulungagung Toll Road	0.038	0.047
	Kediri – Mojo Road	0.369	0.295
	IC Kediri - IC Mojo Province Road	0.035	0.033
	Mojo – Karangrejo Province Road	0.663	0.717
	IC Mojo - IC Karangrejo Toll Road	0.027	0.027
	Karangrejo – Tulungagung Province Road	0.31	0.387
	IC Karangrejo - IC Tulungagung Toll Road	0.029	0.038

E. MODEL TRIP ASSIGNMENT WITHOUT PROJECT

The road performance analyzed is road capacity, degree of saturation, free flow speed, travel speed, and travel time[16]. The results of the trip assignment using the Smock, Davidson, and diversion curve methods are presented in Table 3. Meanwhile, with the JICA 1 model, it depends on the value of travel time (A and T) and toll rates (TR).

Table 3 JICA 1 method value

Value	Group I	Group II
b	0.2483	0.393
log a	1.621	1.214
a	41.824	16.379

Table 4 Trip assignment

Origin	Destination	Smock Method		Davidson Method		Diversion Curve Method	
		NM	M	NM	M	NM	M
Kediri-Ngadiluwih (Tulungagung Destination) National Road	Kediri-Mojo (Tulungagung Destination) Toll Road	79%	21%	73,77%	26,23%	50,68%	49,32%
Ngadiluwih-Ngantru (Tulungagung Destination) National Road	Mojo-Karangrejo (Tulungagung Destination) Toll Road	100%	0%	54,07%	45,93%	54,50%	45,50%
Ngantru-Tulungagung (Tulungagung Destination) National Road	Karangrejo-Tulungagung (Tulungagung Destination) Toll Road	100%	0%	75,44%	24,56%	50,42%	49,58%
Kediri-Mojo (Tulungagung Destination) Province Road	Kediri-Mojo (Tulungagung Destination) Toll Road	68%	32%	64,89%	35,11%	50,27%	49,73%
Mojo-Karangrejo (Tulungagung Destination) Province Road	Mojo-Karangrejo (Tulungagung Destination) Toll Road	83%	17%	82,59%	17,41%	50,36%	49,64%
Karangrejo-Tulungagung (Tulungagung Destination)	Karangrejo-Tulungagung (Tulungagung Destination) Toll Road	100%	0%	65,06%	34,94%	50,49%	49,51%
Kediri-Ngadiluwih (Kediri Destination) National Road	Kediri-Mojo (Kediri Destination) Toll Road	86%	14%	42,08%	57,92%	50,11%	49,89%
Ngadiluwih-Ngantru (Kediri Destination) National Road	Mojo-Karangrejo (Kediri Destination) Toll Road	100%	0%	68,70%	31,30%	54,50%	45,50%
Ngantru-Tulungagung (Kediri Destination) National Road	Karangrejo-Tulungagung (Kediri Destination) Toll Road	100%	0%	68,03%	31,97%	50,42%	49,58%
Kediri-Mojo (Kediri Destination) Province Road	Kediri-Mojo (Kediri Destination) Toll Road	76%	24%	65,06%	34,94%	50,27%	49,73%
Mojo-Karangrejo (Kediri Destination) Province Road	Mojo-Karangrejo (Kediri Destination) Toll Road	85%	15%	85,2%	14,80%	50,36%	49,64%
Karangrejo-Tulungagung (Kediri Destination) Province Road	Karangrejo-Tulungagung (Kediri Destination) Toll Road	100%	0%	64,89%	35,11%	50,49%	49,51%

TP: Not Moving, P: Moving

Table 5 Calculation of group I and group II regression analysis for the JICA 1 model in 2023

| Destination	A	T	TR	TV	ΔT x	P y	Log ΔT Xi	Log P Yi	Xi²	Log Yi	X . Y
GROUP I											
Kediri-Ngadiluwih	36,19	9,94	Rp19.02	Rp1.19	10,26	75,00	1,01	1,875,061	1,02	0,27	1,90
Kediri-Ngantru	62,07	19,07	Rp38.92	Rp1.19	10,27	92,86	1,01	1,967,815	1,02	0,29	1,99
Kediri-Tulungagung	76,00	23,62	Rp47.81	Rp1.19	12,18	81,25	1,09	1,909,823	1,18	0,28	2,07
Ngantru-Kediri	62,07	19,07	Rp23.99	Rp1.19	22,83	100,00	1,36	2	1,85	0,30	2,72
Tulungagung-Kediri	76,00	23,62	Rp45.17	Rp1.19	14,40	50,00	1,16	169,897	1,34	0,23	1,97
Kediri-Mojo (Province Road)	31,83	9,94	Rp19.79	Rp1.19	5,247,317	67	0,719937	1,823,909	0,52	0,26	1,31
Kediri-Karangrejo (Province Road)	60,18	19,07	Rp34.91	Rp1.19	1,176,172	67	1,070,471	1,823,909	1,15	0,26	1,95
Kediri-Tulungagung (Province Road)	75,00	23,62	Rp48.18	Rp1.19	1,087,166	70	1,036,296	1,845,098	1,07	0,27	1,91
Karangrejo-Mojo (Province Road)	28,35	9,12	Rp18.92	Rp1.19	331,982	50	0,521115	169,897	0,27	0,23	0,89
Tulungagung-Kediri (Province Road)	75,00	23,62	Rp49.00	Rp1.19	1,018,102	100	1,007,791	2	1,02	0,30	2,02
TOTAL							9,98	18,64	10,44	2,70	18,72
GROUP II											
Kediri-Ngantru	70,37	23,98	Rp19.14	Rp1.79	35,72	50,00	1,55	169,897	2,41	0,23	2,64
Kedri-Tulungagung	86,17	29,71	Rp38.30	Rp1.79	35,11	71,43	1,55	1,853,872	2,39	0,27	2,86
Bts. Kediri-Ngantru	29,34	11,47	Rp18.92	Rp1.79	7,31	33,33	0,86	1,522,879	0,75	0,18	1,32
Tulungagung-Kediri	86,17	29,71	Rp38.50	Rp1.79	3,499,679	66,67	1,544,028	1,823,909	2,38	0,26	2,82
Kediri-Tulungagung (Province Road)	75,00	28,19	Rp37.50	Rp1.79	25,91	66,67	1,41	1,823,909	2,00	0,26	2,58
TOTAL							8,28	10,55	11,77	1,46	14,69
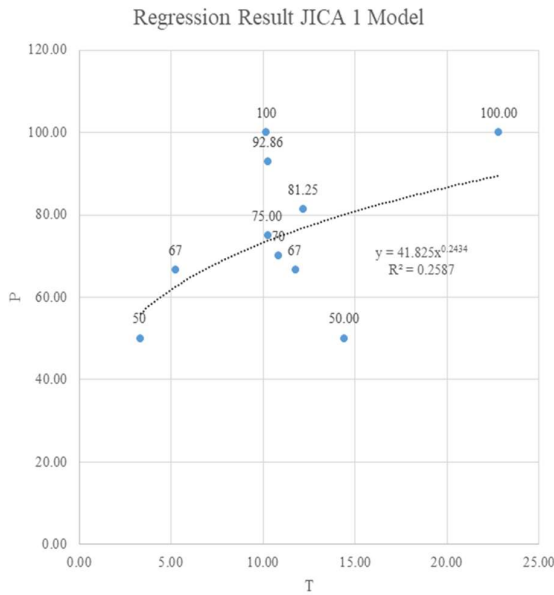
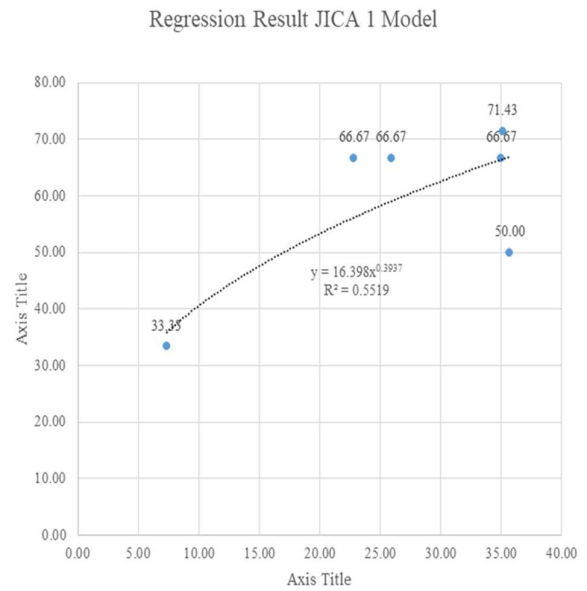Figure 4 Regression result and R^2 group I model JICA1 year 2023

Figure 5 Regression result dan R^2 group II model JICA1 year 2023

Table 6 Percentage of vehicles switching from existing roads to toll roads with the JICA I method

Road Name	Percentage of Vehicles Switching from Existing Roads to Toll Roads (%)		
	Gol I	Gol II, III	Gol IV, V
Nasional Kediri – Ngadiluwih Road	78.12	48.08	42.13
Nasional Bts Kediri – Ngantru Road	60.72	32.76	20.59
Nasional Ngantru – Tulungagung Road	56.04	28.44	21.73
Provinsi Kediri – Mojo Road	70.74	41.27	33.3
Provinsi Kediri – Mojo Road	67.4	38.27	29.88
Provinsi Kediri – Mojo Road	59.34	31.03	25.42

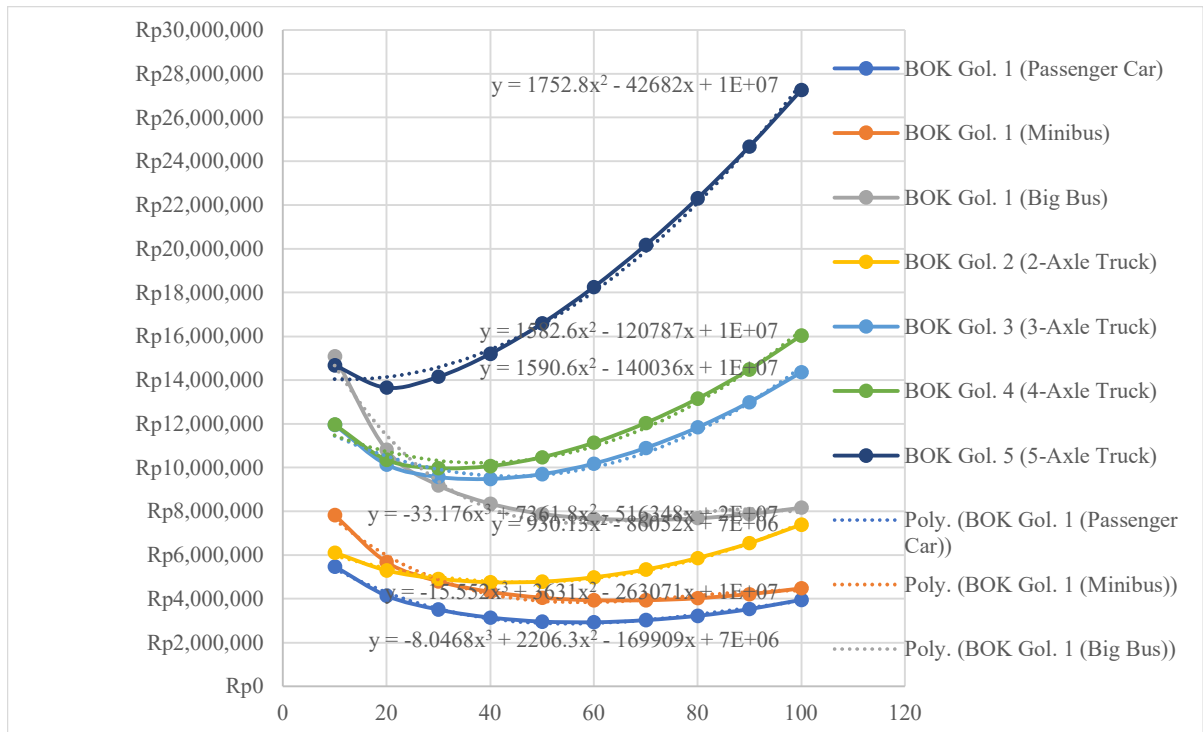Figure 6 Graph of vehicle operating costs

origin- destination data for each segment while the origin independent variable (X) is ΔT, where the parameters to be used in the model are obtained from the results of the questionnaire detailed calculations in Table 5 and showed in Eq. 4 until Eq. 6 for JICA 1 Method for regression analysis[17]. And the value used to calculate and create regression is shown in Table 3.

$$\log a = \frac{\sum \log Y_i}{n} - (b).\left(\frac{\sum X_i}{n}\right) \quad (4)$$

$$a = 10^{(\log a)} \quad (5)$$

$$b = \frac{n.\sum X_i Y_i - \left(\sum X_i\right).\left(\sum Y_i\right)}{n.\sum X_i^2 - \left(\sum X_i\right)^2} \quad (6)$$

The results of the trip assignment analysis using the smock, Davidson, diversion curve, and JICA1 methods above, which will be used in the analysis of traffic conditions with the project in the next sub-chapter and the feasibility analysis of the Kediri-Tulungagung Toll Road are the results of the trip assignment analysis of the Model method JICA 1, because the parameters used in the JICA 1 model are more specific than other methods.

F.   VEHICLE OPERATING COSTS

Vehicle operating costs are the total costs required to Vehicle operational costs are cost to operate a vehicle under certain traffic and road conditions for one type of vehicle[18]. This BOK calculation will be used as a parameter in analyzing the economic feasibility of the construction of the Kediri-Tulungagung Toll Road.

The amount of profit (benefit) from VOC is obtained from the amount of VOC savings by calculating the difference between the VOC value before the toll road construction (without project) and the VOC value after the toll road construction (with project). In this study, the VOC calculation uses the Jasa Marga method[19]. The VOC components in this method consist of fuel consumption costs, lubricating oil consumption costs, tire usage costs, maintenance costs, depreciation costs, interest on capital, and insurance costs[20]. The parameters used in BOK calculations are the price of components for each type of vehicle based on different groups. Graph of Vehicle Operating Costs can be seen in Figure 6.

G.   FEASIBILITY ECONOMIC ANALYSIS

Economic feasibility analysis is an analysis that reviews the interests of the community or users of the infrastructure. The parameters used are NPV (Net Present Value), BCR (Benefit Cost Ratio), and IRR (Internal Rate of Return). The interest rate used is the percentage of the BI rate from December 2017 to December 2019 [21] which are presented in Table 7.

Table 7 BCR analysis summary, NPV, and IRR

Analysis	Condition	Result	Status
BCR	> 1	11,656	Feasible
NPV	> 0	91,043,209,729,042	Feasible
IRR	> 5,31%	18.38%	Feasible

H.   FEASIBILITY FINANCIAL ANALYSIS

The financial feasibility analysis is an analysis that reviews investors' profits for the construction of the Kediri-Tulungagung Toll Road. The parameters used are NPV (Net Present Value), BCR (Benefit Cost Ratio), and IRR (Internal Rate of Return), which are presented in Table 8.

Table 8 BCR Analysis Summary, NPV, and IRR

Analysis	Condition	Result	Status
BCR	> 1	6,256	Feasible
NPV	> 0	44,977,644,753,162	Feasible
IRR	> 5,31%	11.87%	Feasible
NPV & BEP	< 50 years	24th years	Feasible

CONCLUSIONS

Conclusions that can be drawn from this research include:
1. Based on the results of the trip assignment analysis using the Smock, Davidson, Diversion Curve, and JICA I methods, it was found that the Modified JICA I model with different parameters has more specific parameters than the other methods.
2. From the analysis, the a value for group 1 is 41.824 and the b value for group 1 is 0.2483. And for the group 2, the a value is 16.379 and b value is 0.393. Based on Eqn. (2), the toll road diversion rate Kediri-Ngadiluwih national road for the group 1 is 78.12%, group 2 and 3 is 48.08%, and for the group 4 and 5 is 42.13%.
3. Based on the results of the calculation of Vehicle Operating Costs (BOK) in the conditions without project and with project, the total savings in the first year, namely in 2024, amounted to Rp. 23,753,341,083.24, and at the end of the planned life, namely in 2073, BOK savings reached Rp. 6,435,823 866,490.61.
4. Based on the results of calculating the time value in the conditions without project and with project, the total savings in the first year of 2024 amounted to IDR 438,398,994,564.88 and at the end of the planned year, namely 2073, the time value savings reached IDR 41,414,159,382,942.90
5. From the results of the feasibility analysis on the economic and financial aspects, it was found that the construction of the Kediri - Tulungagung Toll Road is economically and financially feasible.

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