

Study of Transportation Infrastructure Financing with the using Alms in the Province of South Sulawesi

(Case Study Road and Bridge Perintis – Sutami Construction South Sulawesi Province)

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Abstract

Percentage of mandatory expenditure to total State Budget (APBN) 2009, consisting of Employee Expenses 13.62%, Local Transfers 32.92%, Debts 10.01% (total 56.55%), Education and Health 25% (Total Fiscal Limitations 81.55 %) so fiscal freedom 18.45%. While in 2010 the percentage of mandatory expenditure to total State Budget (APBN), consisting of Employee Expenditure 14.39%, Local Transfers 30.60%, Debt 9.39% (total 54.37%), Education and Health 25% (Total Fiscal Limitations 79,7%) to Fiscal Discretion of 20.63%, average fiscal flexibility in 2009 and 2010 only 19.54%.

Infrastructure Financing Needs in the National Medium Term Development Plan (RPJMN) 2014-2019 reaches Rp. 5,519 trillion, with a financing capacity of the State Budget (APBN) of about 40%, from the Regional Development and Expenditure Budget (APBD) of about 10%, from State-Owned Enterprises (SOEs) of about 20%, so that there is a gap of infrastructure financing about 30% or equivalent to Rp.1,655 trillion

The growing of Alms Institute (LAZ) in Indonesia shows how big the potential of alms revenue in Indonesia considering the number of Indonesian Moeslim population which reach 88.2% of the total population of Indonesia. Based on the 2007 National Socioeconomic Survey of 56.7 million families in Indonesia, 13% have expenditures of more than Rp2 million per month. Assuming that the income of each family is greater than the expenditure, at least the family is able to pay alms 2.5% of its expenses.

To finance the road infrastructure using alms as an alternative of infrastructure financing in South Sulawesi, with an investment value of Rp.160.461.000.000, - it takes alms fund collection for 4 (four) years. Loan repayment time from Board of National Alms (Baznas), after the operation of the road takes 5 (five) years, assuming the vehicle user is able to pay (Ability To Pay).

Keywords: Financing, Infrastructure, Alms and Board of National Alms

INTRODUCTION

Sources of Financing Infrastructure years 2015-2019 (Challenges of Financing/Gap) consists of Strategic Infrastructure Rp. 3,386 trillion and Others Infrastructure Rp. 1.500 trillion, with the composition of the State Budget + Local Government Budget + Loans = 30% or approximately Rp. 1,466 trillion, so there is a difference Funding (Financing Gap) 70% or approximately Rp. 3,420 trillion, consisting of state-owned enterprises (30%) Rp. 1.466 trillion, Off Balance Sheet (20%) Rp. 1,044 trillion and PPP (Public Private Partnership) 20% = Rp. 1,044 trillion.

Alms potential within the scope of South Sulawesi Province according to the results Summary of National Alms Board South Sulawesi Province in 2015, amounts to approximately Rp.72.440.000.000, -. This represents a huge potential as an alternative financing infrastructure in the South Sulawesi Province, in addition to State Budget, Local Government Budget, Private or Foreign Aid Funds.

LITERATURE REVIEW

Definition of Alms, Wealth Alms and Profession Alms

Alms is one of the pillars of Islam, and became one of the principal elements for the enforcement of Islamic law. Therefore, the law of alms is obligatory (fard) for every Muslim who has fulfilled certain conditions. Alms included in the category of worship (such as prayer, pilgrimage, and fasting) which has been regulated in detail and patents based on the Qur'an and Sunnah, as well as a social charity and humanitarian community to develop in accordance with the development of mankind. All this time alms is to be paid by each of the Muslims, fasting during Ramadhan, which is equal to four (4) liters of rice per soul, if nominal in the form of money equal to the price of rice consumed daily. Wealth alms is alms issued on the property owned by a person with certain provisions Profession alms is every job which after calculated for one year the result reaches nisab (value more than 85 grams of gold), then profession alms must be issued by 2.5%

Legal Aspect Use of Alms for Venture Capital

The existence of the practice of alms as one of the true Islam requires significantly to the welfare of the people. Alms is usually supplied to meet the needs of the underprivileged in order to remain able to perform life.

Indonesian Council of Ulama (MUI) has issued a fatwa that allows the use of alms for venture capital. It was contained in Provision No. 4 Year 2003 on Use of Alms Funds for Investment (Istitsmar). In a provision that called some of the

terms of use alms for venture capital. First, alms should be distributed on the effort is justified by the sharia and regulations. Terms for two, a business that got capital from alms is a business that we believe will give a profit based on the feasibility study. Thirdly, the business should be fostered and overseen by the party which has competence. Fourth, the business should be run by the party that can be trusted. Terms to five, venture capital must be guaranteed by the government

Table 1: Thite Potential in Province of South Sulawesi

NO.	Province/Municipality/ Region		NUMBER OF ALMS PAYER	COLLECTION				
				TITHE	WEALTH ALMS	PROFESSION ALMS	INFAQ/SEDEKAH	ALMS AND OTHERS
1	2		3	4	5	6	7	8
1	BAZNAS	PROVINSI	960	0	186.831.857	614.660.500	0	0
2	BAZNAS	KOTA MAKASSAR	2.759	3.791.756.000	1.247.955.200	116.552.800	1.905.867.011	116.609.000
3	BAZNAS	KOTA PARE PARE	160	0	0	88.670.750	58.200.932	1.194.249
4	BAZNAS	KOTA PALOPO	58.418	1.507.253.350	106.831.000	170.153.477	299.283.936	0
5	BAZNAS	KAB MAROS	2.929	2.675.000	330.469.000	843.730.379	3.180.000	0
6	BAZNAS	KAB PANGKEP	300.933	4.764.620.000	0	148.096.000	81.404.600	0
7	BAZNAS	KAB BARRU	25.903	3.162.565.500	1.548.683.292	2.262.494.705	349.235.135	103.092.841
8	BAZNAS	KAB SIDRAP	137.960	3.356.294.000	2.700.000	149.281.000	0	0
9	BAZNAS	KAB PINRANG	2.490	112.313.000	546.762.408	364.508.272	904.473.255	267.013.246
10	BAZNAS	KAB ENREKANG	0	54.850.000	0	136.845.000	76.080.000	40.000.000
11	BAZNAS	KAB TANA TORAJA	22.874	441.901.800	154.855.000	28.000	68.910.000	303.500
12	BAZNAS	KAB LUWU	164	4.115.456.500	209.358.237	0	1.103.104.200	0
13	BAZNAS	KAB LUWU UTARA	0	4.185.339.000	40.120.000	149.776.746	2.165.858.455	0
14	BAZNAS	KAB LUWU TIMUR	107.829	2.697.122.500	720.000	0	250.363.375	0
15	BAZNAS	KAB SOPPENG	157.113	3.036.434.687	541.250.880	0	42.631.685	0
16	BAZNAS	KAB WAJO	399.287	8.114.185.000	5.584.000	0	159.747.500	0
17	BAZNAS	KAB BONE	456.530	10.595.374.100	0	0	0	0
18	BAZNAS	KAB SINJAI	0	0	0	0	0	0
19	BAZNAS	KAB BULUKUMBA	207.366	5.098.467.000	0	85.934.741	113.750.000	0
20	BAZNAS	KAB SELAYAR	1.360	0	124.019.000	2.052.460.125	0	40.000.000
21	BAZNAS	KAB BANTAENG	25.365	525.128.000	0	383.872.849	302.120.695	0
22	BAZNAS	KAB JENEPONTO	0	745.159.500	0	66.087.000	109.600.000	0
23	BAZNAS	KAB TAKALAR	0	3.195.337.062	14.000.000	0	35.892.720	40.000.000
24	BAZNAS	KAB GOWA	481	0	245.455.000	0	0	41.576.900
			1.910.881	59.502.231.999	5.305.594.874	7.633.152.345	8.029.703.499	649.789.736

Source: Ministry of Religious Affairs Office of South Sulawesi Province in 2015

and if a loss then the government should replace it. To six, there should be no poor people starving or costs when alms distributed for venture capital. The last condition, the use of alms funds for venture capital should be limited in time.

Alms Potential of South Sulawesi Province

Alms potential within the scope of South Sulawesi Province according to the results Summary of National Alms Board South Sulawesi province in 2015, amounts to approximately Rp.72.440.000.000, -. This represents a huge potential as an alternative financing infrastructure in the Province of South Sulawesi, in addition to State Budget, Local Government Budget, or Foreign Aid Funds.

Alms Distribution

Alms collected will distributed in 8 (eight) category/Group community entitled to receive alms (Mustahik Alms), consisting of : Fakir (People who are in the productive age (age over 17 years) who had worked but the results are not enough to meet the needs of everyday life.), Poor (those who are still in their productive age and still have a productive tool but still in shortage.), Amil (people who have a profession collecting and distributing zakat. Muallaf (people entering Islam or those who are weak in faith, and therefore has not issued a charity. Riqab (people who were shackled but persisted with pride Ghoriminn (people who have debts or those in a state of bankruptcy, Sabillillah people which is in a state of preaching and give Islamic education without the support of the Government, and Ibnu Sabil (people who are in

the process of studying Islam and the public there is no support from the Government).

Economic Analysis

The different methods in achieving a goal requires an evaluation criteria that can be used as the basis for determining the alternative. In economics techniques, the value of the money is used as a basis and typically the lowest cost is selected. But in other respects, the alternative chosen is usually based on factors that are not quantifiable means sometimes the best alternative selection is not only based on the lowest, but sometimes the decisions taken on the basis of factors that can be calculated.

Some of the key terms that will be used going forward in the economic analysis are as follows: In order to compare :

i = compound interest = the amount of the annual interest rate (%).

P = Present Value (present value) = amount of money at this time.

F = Future Value (the value of which will come) = sum of money at the time to come.

A = Annual Payment = annual payments = amount of money paid each year.

n = number of years.

G = Gradient Series = annual inconstant, forming a regular increase or decrease.

Alternatives to existing methods in engineering economic analysis are as follows :

1. The Time Value Of Money
2. Compound Interest
3. Annuity (Capital Recovery)

Investment Eligibility Criteria

In assessing the benefits or not an investment that will be used to make investment decisions, there are several criteria used are: Net Present Value (NPV), Benefit Cost Ratio (BCR), Internal Rate of Return (IRR), Discounted Payback Period (PP) and Bankable.

Net Present Value (NPV)

In this method, using a discount factor. All expenditures and receipts (where current spending and revenues is in a different time) should be compared with the comparable value in the sense of time. In this case means shall mendiskonkan values and expenditure into the ratings are comparable (same). Expenditures made during the early (now), while the new reception will be obtained in the days to come, when the value

of money now is not the same (higher) than the value of money in the future. Therefore, the amount of revenue estimation it should be given a discount, so the amounts used as the present value (valuation comparable with the expenditure).

The sequence of calculations in this method are :

1. Calculate the expected cash flow from the investment will be implemented.
2. Finding the present value (present value) of cash flow by multiplying the discount rate / discounted rate specified certain.
3. Then the number of current / present value of cash flow over the life of the investment is reduced by the value of the initial investment will generate a Net Present Value (NPV).

Net Present Value of the investment can be obtained by using formula as follows :

$$NPV = PWB - PWC$$

$$PWB = \sum_{t=0}^n Cb_t (FPB)$$

$$PWC = \sum_{t=0}^n Cc_t (FPB)$$

Information :

NPV = Net Present Value

PWB = Present Worth of Benefit

PWC = Present Worth of Cost

Cb = Cash flow benefits

Cc = Cash flow cost

n = Age of investment

FPB = present interest factor

t = time period

If the NPV values obtained as follows:

NPV > 0, the project profitable

NPV < 0, the project is not viable

NPV = 0 means neutral, or are in the Break Even Point (BEP)

Benefit Cost Ratio (BCR)

Methods of calculating the ratio of benefit to cost in an investment project. In private projects, generally in the form pandapatan benefits minus costs beyond the first. For example, for the operation and while the production cost is the cost of the first. (Soeharto, 1997) The formula used is :

$$BCR = \frac{PWB}{PWC}$$

Information :

BCR = ratio of benefits to costs (Benefit Cost Ratio)

PWB = Present Worth of Benefit or the present value of benefits

PWC = Present Worth of Cost

If the BCR values obtained as follows

BCR ≥ 1, a project worth doing

BCR <1, the project is not viable



Figure 1: Research Study Location

Internal Rate of Return (IRR)

Internal Rate of Return can be searched by trial and error (trial and error) is to find the NPV at a discount rate / level of discount that we like. If the discount rate we choose generated NPV is positive (+), then the IRR to be searched is above the discount rate / level of such discounts, so we're looking to try to find the discount rate that results in NPV = 0 (zero). But the internal rate of return can be searched by using the formula :

$$IRR = iNPV_+ + \frac{NPV_+}{(NPV_+ + NPV_-)}(iNPV_- + iNPV_+)$$

Information :

IRR = Internal rate of return to be searched

iNPV- = negative interest rates

iNPV + = positive interest rate

NPV- = Net Present Value with negative results

NPV+ = Net Present Value with positive results

This formula is applicable Terms NPV1 (+) and NPV2 (-).

IRR criteria for decision-making is a way comparable

the Minimum Attractive Rate of Return if

IRR > MARR

Investment feasible.

IRR < MARR

Investment is not feasible.

RESEARCH METHODS

Research Location

Research location of Road and Bridge Perintis – Sutami Construction, located within Makassar City, the project is intended to reduce traffic jams on Jalan Perintis to Tello and otherwise from Tello to Daya-Sudiang-Maros. Location research began on Jalan Perintis toward Jalan Sutami, length of project 3,00 km.

Project Cost

The project cost consists of the cost of investment, operation and maintenance costs. Project financing is a fund collection activities of project financing, where the funds can involve the provision of (Bank) are willing to provide loans or other financing sources.

Revenue of Operating Road and Bridge Perintis – Sutami Construction

To calculate the cost of operating revenues Road and Bridge Perintis - Sutami Construction (South Sulawesi), it assumes every Traffic passing deemed able to pay dues Road (Highway) or Ability To Pay (ATP), so the Segment Road operating income Road and Bridge Perintis - Sutami Construction, is the result of multiplying the Traffic Volume (Average Daily Traffic) and Road User Fee (Determination of Rates in PP On Toll Road), whose tariff is evaluated every 2 (two) years, in accordance with the level of inflation. And then data traffic (ADT) based Data from the Department of Communication South Sulawesi Province in 2015

Table 2: Rate of Each Class Vehicles

CLASS	Type of Vehicles	Road User Fee/ ATP	Road User Fee for length 3,00 Km
Class I	Passenger Car, MPV, Pick Up/Small Truck and Bus	2500	7.500
Class II	Truck with 2 axles	3500	10.500
Class III	Truck with 3 axles	4500	13.500
Class IV	Truck with 4 axles	5500	16.500
Class V	Truck with 5 axles	7000	21.000
Class VI	Motor Cycles	-	-

Expenditure of Road and Bridge Perintis–Sutami Construction

Expenditure of Road and Bridge Perintis- Sutami Construction., consist of investment costs, management and maintenance costs, and earning taxes. The cost of construction includes work preparation and mobilization, earthworks, drainage work, the work of sub-base and base, structure work, pavement work, the work of road facilities, and the work of others. Supervision fee covers the cost of planning and supervision during implementation. The cost of utilities and

road equipment are the costs incurred for the provision of supplementary facilities and road facilities.

Operating costs include escalation cost, interest costs during construction and overhead costs. Cost escalation is the resulting cost from the increase in the price at the time of construction. The interest cost is interest on loans paid by the Bank to the contractor through the Certificate Monthly. Overhead costs are costs that must be incurred such as notary fees, management fees and project headquarters, and insurance costs.

As management fees and maintenance is routine costs incurred each year or a period of time to manage the project. Management and maintenance costs consist of the operating costs, routine maintenance costs, replacement costs of equipment and facilities, and the cost of relining. Operating costs are the costs incurred for personnel, administrative costs, and general costs. The earning tax is obtained based on the progressive earning tax under the Earing Tax Act 2001, Article 17, paragraph 7.2. earnings tax provision for the company are the following :

- a. 10% for earning between 0 and 50 million
- b. 15% earning more than 50 million to 100 million
- c. 30% for earning greater than 100 million.

Returns of Loans Installment

Returns of loans installment financing by using alms is done by calculating the operating income from net earning. The steps taken to obtain the amount of revenue the net earning (Ability To Pay), can be explained as follows :

1. The contractor carrying out the construction of the road, after it first entered into an agreement with Bank Lending. The amount of the Bank's loan is for the construction cost plus interest of 11% per year.
2. Once the construction work is finished, roads are take over to Road Management Operator (appointed by the Board of the National Alms at South Sulawesi), which will operate the road. Estimated revenue depends on the volume of traffic in one year and the amount of the road rates are set. For the smooth operation of the operator, issued operational costs and maintenance costs, so that the revenue obtained in the form of gross profit.
3. Road revenue in the form of gross profit, after minus net of earning taxes, the net profit obtained. Total revenue in the form of net profit after conversion to net present value of the future value of money, will be used to repay bank loans lent to the contractor.
4. The debt installment payment system, can be done by the operator to the lender, or through another bank recommended Operator.

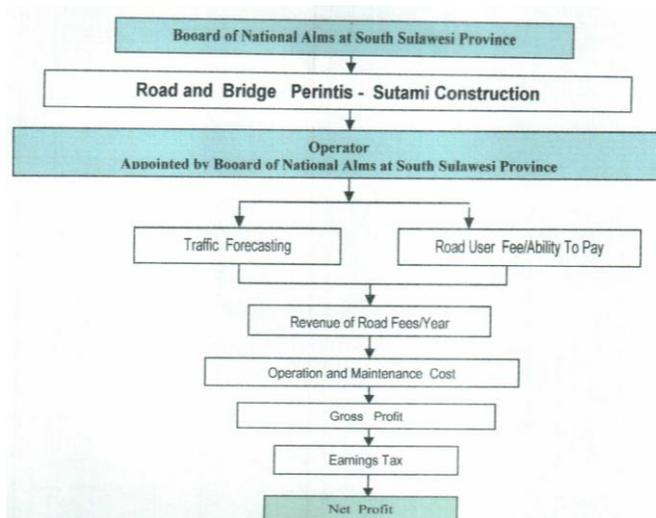


Figure 2: Calculation of Net Revenue for Installment Loans to Board of National Alms at South Sulawesi Province

Assumption Used in Calculation of Installment

In the analysis of the calculation of the amount and duration of installment that will be made to the Bank been appointed Board of National Alms South Sulawesi province, used several assumptions, including the volume of traffic in one year is calculated as follows :

Traffic volume 1 year = volume of daily traffic x n

With : n = number of days

The calculation of the road fee under Act number 38 of 2004 on the Road, calculated based on ability to pay road users, amount of vehicle operating costs, and investment feasibility. Road User Fee evaluation can be done every two years based on the effect of inflation. For the Road and Bridge Perintis - Sutami Construction segment road, the value of annual inflation in 2015-2016 and beyond assumed 5.30%. (South Sulawesi Governor pursuant to Rule No. 37 Year 2016 on Regional Government Work Program of South Sulawesi Province)

Road user fee revenue per year, which is used in the calculation of the analysis is the result of multiplying the volume of traffic in a year with road rates, according the length of roads. For 2015 and onwards assumed traffic volume in one year, accounted for 365 days., Thus road revenue for 2015, as follows:

Toll revenues (2015) = Volume of daily traffic x road rates according to length of road x 365 .For road revenues in 2016 and the subsequent traffic volume of the year = daily traffic volume, while taking into account the number of Gregory calender 365 days per year.

Other revenue in the form of advertising costs and income other than revenue from road operations, assumed to be 2.5% of the total revenue per year. Operating costs are assumed to

increase the fees by 10% per year. While the cost of highway maintenance costs are assumed to rise by 8% per year. For the cost of replacing equipment and road facilities are assumed to be done every five years and the increase in costs is assumed to be 35% of the previous cost.

Reoverlying costs are assumed to be done every five years and increased costs assumed at 7% per year, or 7% x 5 years = 35% for reoverlying every 5 years. The amount of loans installment by operator to the Bank assumed value by net earning derived from the operation of the road. Appendix calculation can be found in appendix calculation of net revenue.

Table 3: Number of Traffic by Class Vehicles

Class	Type of Vehicles	Number Year 2015
Class I	Passenger Car, Pick Up, Small Truck and Bus	772
Class II	Truck with 2 axles	749
Class III	Truck with 3 axles	1.137
Class IV	Truck with 4 axles	1.510
Class V	Truck with 5 axles	861

Source: Adapted from Department of Communication South Sulawesi Province, 2015

COST ANALYSIS AND INSTITUTIONAL INFRASTRUCTURE FINANCING MODEL USING ALMS

Infrastructure Financing With Using Alms Road and Bridge Perintis – Sutami Construction (South Sulawesi) Segment Road

Table 4: Alms Revenue and Infrastructure Financing Allocation

YEAR	TOTAL OF ALMS COLLECTION Rupiah	INFRASTRUCTURE COST	INFRASTRUCTURE COST	INFRASTRUCTURE COST	TOTAL COST Rupiah	TOTAL COST FOR INFRASTRUCTURE Rupiah
		YEAR 2015 Rupiah	TAHUN 2016 Rupiah	TAHUN 2017 Rupiah		
1	2	3	4	5	7	8
2015	54.330.000.000,00	54.330.000.000			54.330.000.000	54.330.000.000
2016	61.528.725.000,00		61.528.725.000		61.528.725.000	61.528.725.000
2017	69.681.281.062,50			69.681.281.063	69.681.281.063	49.930.599.063
					165.540.006.070	165.789.324.071

Institutional Model for Infrastructure Financing Using Alms

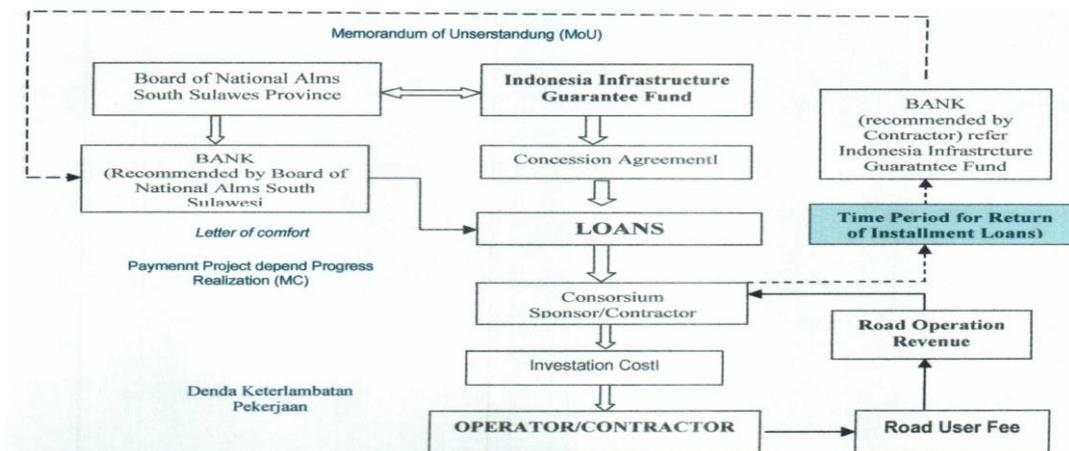


Figure 4: Institutional Model for Infrastructure Financing Using Alms

Alms collected will be distributed in 8 (eight) asnaf / group community entitled to receive of alms (Alms Payer), consisting of: Fakir, Miskin, Amil, Muallaf, Riqab, Ghorimin, Sabilillah, and Ibnu Sabil. Based on the distribution of Alms, then every asnaf value distribus 1/8 (one-eighth) of the total of alms collected. However that may be allocated to the financing of infrastructure, only 6/8 (six-eight), assuming 2 asnaf is mandatory, Amil and Poor, and 6 other group handled by the Government, appropriate legislation and regulations.

Thus the value of almss that can be allocated to the financing of infrastructure is only 6/8 or 6/8 of total alms receipts annually. For the next year is predicted ± 12.50%, according to the Economic Growth in South Sulawesi Year 2015-2016, which is expected to grow 7.70, and (2015) and 7.80% (2016), the source of "Local Government Work Plan of South Sulawesi Province 2016".

Costs Construction of Road and Bridge Perintis – Sutami Construction (South Sulawesi)

The construction costs of Road and Bridge Perintis - Sutami, amount Rp. 165.789.324.000,- assuming annual inflation (after 2015) South Sulawesi Province assumed 5.30% .

Calculation of Net Profit

Calculation of Daily Traffic Volume becoming Traffic Volume for One Year

- The volume of daily traffic (Class I) = 772 vehicles / day
- The volume of daily traffic (Class II) = 749 vehicles / day
- The volume of daily traffic (Class III) = 1.137 vehicles / day

- The volume of daily traffic (Class IV) = 1.510 vehicles / day
 - The volume of daily traffic (Class V) = 861 vehicles / day
- The number of days in one year (the Gregorian Calendar) = 365 days

Table 5: Calculation of Road Revenue (Ability To Pay)

YEAR	VOLUME OF TRAFFIC (VEHICLES/DAY)					ROAD USER FEE FOR ROAD AND BRIDGE PERINTIS - SUTAM					ROAD USER FEE REVENUE (MILLION Rp)			
	CLASS I	CLASS II	CLASS III	CLASS IV	CLASS V	CLASS I	CLASS II	CLASS III	CLASS IV	CLASS V	CLASS I	CLASS II	CLASS III	CLASS IV
Construction Phase														
2015	281.780	273.385	415.005	551.150	314.265	10.500	13.500	16.500	19.500	24.000	2.959	3.691	6.848	10.747
2016	300.096	291.155	441.980	586.975	334.692	10.500	13.500	16.500	19.500	24.000	3.151	3.931	7.293	11.446
2017	319.602	310.080	470.709	625.128	356.447	11.078	14.243	17.408	20.573	25.320	3.540	4.416	8.194	12.860
Operasional Phase														
2018	340.376	330.235	501.305	665.761	379.616	11.078	14.243	17.408	20.573	25.320	3.540	4.416	8.194	12.860
2019	362.500	351.701	533.890	709.036	404.291	11.687	15.026	18.365	21.704	26.713	4.236	5.285	9.805	15.389
2020	386.170	374.490	568.670	755.185	430.700	11.687	15.026	18.365	21.704	26.713	4.513	5.627	10.444	16.391
2021	411.355	398.945	605.535	804.095	404.291	12.330	15.852	19.375	22.898	28.182	5.072	6.324	11.732	18.412
2022	438.000	424.860	644.955	856.290	430.700	12.330	15.852	19.375	22.898	28.182	5.400	6.735	12.496	19.687
2023	466.470	452.600	686.930	911.770	458.805	13.008	16.724	20.441	24.157	29.732	6.068	7.569	14.041	22.026
2024	496.765	482.165	731.460	970.900	488.735	13.008	16.724	20.441	24.157	29.732	6.462	8.064	14.951	23.454
2025	528.885	513.555	778.910	1.034.045	520.490	13.723	17.644	21.565	25.486	31.367	7.258	9.061	16.797	26.353
2026	563.195	546.770	829.645	1.101.205	564.435	13.723	17.644	21.565	25.486	31.367	7.729	9.647	17.891	28.065
2027	599.695	582.175	883.665	1.172.745	590.570	14.478	18.614	22.751	26.887	33.092	8.682	10.837	20.104	31.532
2028	638.750	620.135	940.970	1.249.030	628.895	14.478	18.614	22.751	26.887	33.092	9.248	11.543	21.408	33.583
2029	680.360	660.285	1.002.290	1.330.060	669.775	15.274	19.638	24.002	28.366	34.912	10.392	12.967	24.057	37.729
2030	724.525	703.355	1.067.260	1.416.565	713.210	15.274	19.638	24.002	28.366	34.912	11.066	13.813	25.617	40.183
2031	771.610	748.980	1.136.510	1.508.545	759.565	16.114	20.718	25.322	29.926	36.832	12.434	15.518	28.782	45.145
2032	821.615	797.525	1.210.340	1.606.730	808.840	16.114	20.718	25.322	29.926	36.832	13.240	16.523	30.649	48.084
2033	874.905	849.355	1.289.180	1.711.120	861.400	17.000	21.858	26.715	31.572	38.858	14.874	18.565	34.441	54.024
2034	931.845	904.470	1.373.130	1.822.445	917.245	17.000	21.858	26.715	31.572	38.858	15.842	19.770	36.683	57.539
2035	992.435	963.235	1.462.555	1.941.070	976.740	17.936	23.060	28.184	33.309	40.995	17.000	22.212	41.221	64.655
2036	1.057.040	1.026.015	1.557.455	2.067.360	1.040.250	17.936	23.060	28.184	33.309	40.995	18.959	23.660	43.896	68.861
2037	1.125.660	1.092.810	1.658.560	2.201.680	1.107.775	18.922	24.328	29.735	35.141	43.250	21.300	26.586	49.316	77.369
2038	1.198.660	1.163.985	1.766.235	2.344.760	1.179.680	18.922	24.328	29.735	35.141	43.250	22.681	28.318	52.518	82.397
2039	1.276.405	1.239.540	1.881.210	2.497.330	1.256.330	19.953	25.666	31.370	37.074	45.629	25.480	31.814	59.013	92.585

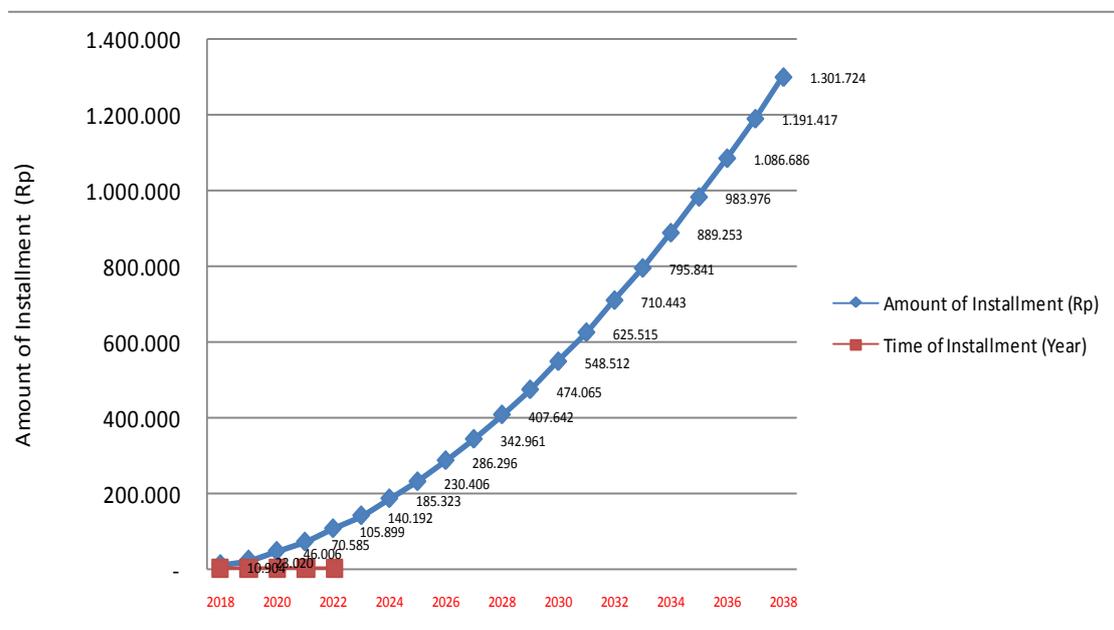


Figure 5: Calculation of the amount and duration of the loan installment

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

1. Infrastructure financing using alms, as an alternative to infrastructure financing in Indonesia, in addition to State Budget (APBN), Local Government Budget (APBD) and Foreign Loans is possible, with a large potential of almost collection, with a payback period of not more than 5 years.
2. Refer the calculation analysis, financing system can be done within 3 (three) years according to alms collected by Board of National Alms South Sulawesi Province, for financing of road infrastructure with length of 3,00 Km.
3. The return of the loan by the Operator (designated by Board of National Alms South Sulawesi Province) or the Contractor, takes 5 (five) years, according to the 5 (five) year loan restrictions required by BAZNAS.

Recommendations

Companion funds required for infrastructure financing, or sharing between State Budget and Local Government Budget and other Religious Funds, if estimated repayment time exceeds 5 years.

Should also analyze the risk sharing between Board of National Alms (as Lender) and the operator or contractor as the borrower, so that the allocation of risk can be minimized.

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