

# Analysis of System Performance and Public Transportation Services of Trans Metro Dewata Bali Bus Rapid Transit (BRT) on Public Interest in Bali Province

Hikmah Tri Prihatini<sup>\*1)</sup>, Imam Mukhlis<sup>2</sup>, Sugeng Hadi Utomo<sup>3</sup>

<sup>1\*,2,3</sup>Faculty of Economics and Business, Universitas Negeri Malang, Indonesia

results showed that the variables together had a significant influence on interest in using the system, with an R Square value of 0.368, indicating that 36.8% of the variance in interest could be explained by these factors. However, 63.2% of the variance is influenced by other variables not included in
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Corresponding author: bahri.lifaldi@gmail.com<sup>1\*)</sup>

#### Introduction

Rapid population growth in big cities not only means that the number of people living and working in big cities continues to increase, but also affects the growth of transportation demand. Growth in transportation demand affects not only volume but also distance as urban areas grow to accommodate more space for urban activities. Several cities around the world are facing transportation problem and their impacts, albeit to varying degrees, and are expected to be a persistent problem, especially in



developing countries where urban populations are growing rapidly and transportation demand continues to increase.

The growth of motorized vehicles in 2023 has increased significantly with 152,565,905 units while in 2020 with 136,137,451 units. The number of vehicles is currently known to exceed half of Indonesia's population of 276 million. Data obtained from the Central Bureau of Statistics show the number of vehicles is most widely spread in Java with 91,085,251 units, while Sumatra has 31,453,504 registered vehicles. Next, motorized vehicle data in Kalimantan amounted to 10,998,291 units, followed by Sulawesi with 9,252,464 units. The next island is Bali, which has 4,714,807 units of motorized vehicles, and Nusa Tenggara has 3,087,927 units.

While Papua Island recorded the number of vehicles as many as 1,283,351 units and Maluku and North Maluku Islands amounted to 690,310 units. Source: bps.go.id (data processed, 2023). Urban public transportation modes are very important in carrying out one of the main functions, namely as a carrier of community movement to carry out their activities. Public transportation services have an important role in accommodating community movements to various destinations needed to fulfill the needs of people's lives that affect the economic activities of a region and country. Land transportation, especially city transportation (angkot) is an important element in supporting every human movement. Transportation is also one of the

most important means of human needs. Local people often use urban transportation.

The Solow-Swan theory states that exogenous growth can determine the level of output growth, namely technological progress. The theory was first developed in 1970 by Robert M. Solow from the United States and in 1956 by T.W. Swan from Australia. This theory applies useful technology efficiently to all countries and there are diminishing returns to overall labor and capital. This theory has several advantages, namely that the economy will go to a long-term equilibrium position, can be more freely used to explain income distribution problems, and can explain the technological progress factor in it.

Based on this, this study examines the Solow-Swan theory and its application in economic growth. According to the Solow-Swan theory, capital accumulation is the main driver of economic growth (Dada, 2021). In the case of Bus Rapid Transit, the implementation and development of BRT systems can contribute to capital accumulation in the economy. The Solow-Swan model emphasizes the importance of capital as a factor of production. The implementation and development of Bus Rapid Transit can attract capital investment, leading to increased capital accumulation. This increased capital accumulation can lead to higher productivity and economic development. The Solow-Swan theory also highlights the role of technological progress in economic development. The adoption and advancement of technology in BRT systems can contribute to technological progress in the economy. These technological advancements can increase efficiency, reduce travel time, and improve transportation services, ultimately contributing to economic development.

Pigou's theory discusses the provision of public goods financed by taxes collected from the public. According to Pigou, public goods should be provided until the level of individual satisfaction with a public good is equivalent to the level of dissatisfaction with the tax applied to finance the government's planned program for the supply of public goods. The more budget required by the government will lead to marginal disutility can lower the marginal satisfaction curve, because the government continues to raise taxes to build these public goods. Besides that, people don't like the problem of taxes. The government is expected to reduce the budget in the development of public goods which will achieve the level of public welfare. The weakness of public goods according to Pigou is that a person's dissatisfaction or satisfaction with a public good is measured through a quantitative approach that has an ordinal nature.

The theory of reasoned action emerged around 1967, as a step in providing consistency in the study of the relationship between attitudes and behaviors, (Ajzen and Fishbein 1975; Werner 2004). The theory of planned behavior, (Ajzen 1991) is seen as an extension of the theory of reasoned action, (Werner 2004). The main viewpoint in the theory of planned behavior and the theory of reasoned action states that individuals think rationally when weighing their behavior and the impact of their actions (decision making). Decision-making rationality states that a decision usually arises from uncertainty, (Basu 1996; Eppen et al. 1998). Rational decision making has the impact of obtaining optimal results or decision-making units are aware of all impacts and consequences, (Basu 1996; Eppen 1998; Bazerman et al. 2002). Figure .1. The following is about the theory of reasoned action.



Figure 1. Theory of Planned Behavior Theory of Planned Behavior Source: Ajzen 1991

An explanation of the theory of planned behavior is useful in predicting whether someone will do something or not, this theory uses three constructs as antecedents of

intention, namely subjective norms, attitudes towards behavior, and feelings about ability in everything that can influence us when we want to do something.

Every city in Indonesia has a public transportation system that can work effectively and efficiently. Data obtained from the Central Bureau of Statistics of Bali Province show, the population of Bali Province was 4.29 million in June 2022. This indicates that Denpasar City is supported by surrounding areas such as Gianyar Regency, Badung Regency, Tabanan Regency, and Denpasar City. The central government has identified 6 metropolitan areas outside Java to be developed in regional development plans, one of which in Bali province is the SARBAGITA metropolitan area. One solution to the transportation problem is to improve and campaign for public transportation. Transportation provides access for people to move from one place to another. The need for mobility causes various procurement efforts made by the Indonesian

government to provide transportation services throughout Indonesia to face complex problems of urban public transportation systems. Sustainable development and development of the negative implications of the development of an area. One of the public transportation provided by the Bali provincial government is Trans Metro Dewata, this is the government's step in minimizing the use of private vehicles. Trans Metro Dewata is a bus service that is a continuation of the Buy The Service for the Ministry of Transportation's urban mass transportation. Trans Metro Dewata buses are a type of BRT (Bus Rapid Transit). Bus Rapid Transit or more commonly abbreviated as BRT is a bus-based transportation system that operates in corridors, uses one lane on the main road as a dedicated lane, and does not allow other vehicles to enter the lane (Program, 2003). The main BRT Trans Metro Dewata Bali corridor development network serves 5 corridors that operate regularly. BRT (Bus Rapid Transit) is also defined as a high quality transportation system in terms of safety, comfort, timeliness, infrastructure, and an organized transportation system. To meet these movement needs, public transportation is usually provided to serve the needs of the community. Public transport is often the key to a successful transportation system in an urban area. The better the public transport service in an urban area, the better the transportation system in the city (Nasrulloh et al., 2010). Investment in economic development in the transport sector can support cities by reducing can support cities in reducing air pollution, congestion, and other costs. This can be done by creating green jobs, by developing and operating public transportation infrastructure, and by reducing poverty by increasing access to transportation. "Analysis of System Performance and Transportation Services of Bus Rapid Transit (BRT) Trans Metro Dewata Bali Against Public Interest in Bali Province", the objectives to be achieved in this study are to determine the level of performance of the Bus Rapid Transit (BRT) system service based on the indicators of the Miniman Service Standards (SPM) Road-based Mass Transportation and the influence of public interest in Bus Rapid Transit (BRT) services using multiple linear

regression analysis. This is to provide an overview to the public and related parties regarding sustainable development in the aspect of public transportation in accordance with regional SDGs and can educate the public to increase the use of public transportation as the main mode, especially the Bali Trans Metro Dewata BRT which is expected to succeed in the development of SDGs in Bali Province.

#### **Research Method**

The research method section contains research design, population and sample, measurement, data collection techniques, research models, and data analysis techniques. Explanation about the theory used shall not be included in this section. Authors are requested to avoid giving too lengthy or too detailed an explanation about the concepts and terms used as part of research method. All mathematical or statistical formulas must be written using equation features.

In this research using Linkert scale According to Prof. Sugiyono (2013), the Likert scale is used to measure the attitudes, opinions and perceptions of a person or group of people regarding social phenomena. The name of this scale comes from the name Rensis Likert who suggested using this scale. The use of the Likert scale is measured by describing the indicators of the variables that become benchmarks for compiling statement items or questions.

Table 1. Likert Scale Answers			
Answer	Score		
Strongly Agree	1		
Disagree	2		
Neutral	3		
Angee	4		
Strongly Disagree	5		

Source: Sugiyono, 2019

Regression analysis according to Kutner, et al, 2004 is one of the statistical calculations used to determine the relationship between several variables and predict a variable. Multiple linear regression is one of the methods of regression analysis. According to Umi Narimawati (2008), multiple linear regression analysis is an association analysis used jointly to determine the effect of two or more independent variables on one dependent variable.

The relationship among those concepts has to be depicted in a figure of conceptual framework as example below The research method used is descriptive quantitative method with primary and secondary data collection and questionnaire distribution. Determination of the sample using the slovin formula with simple random sampling technique distributed to the Balinese people with a total of 100 samples. Testing the feasibility of research instruments using the validity test calculated in the SPSS program. The data analysis technique used to answer the

research objectives is scoring analysis (Likert Scale) to identify the suitability of BRT performance and statistical calculation of multiple linear regression analysis to determine the effect of public interest on aspects of BRT services in Bali Province.

For qualitative research, hypotheses formulation may not be necessary. Instead, the author who uses qualitative approach is requested to explain the theory in use to build research instrument and discuss the research results.

# **Result and Discussion**

Bali is known as the Island of the Gods. It is located between Java and Lombok Island. Bali was previously part of the small Sunda Province along with Lombok, Sumbawa, Sumba, Flores, and Timor. In 1958 Bali officially became its own province with Sinngaraja as the capital. Then in 1960 it moved to Denpasar. Bali Province consists of Bali Island and the surrounding small islands of Nusa Penida, Nus Lembongan, Nusa Ceningan, and Serangan Island. In total Bali has about 85 islands, including uninhabited ones. Bali province is located between 8 3'38" - 8 50'56" South latitude and 144 25'53" - 115 42'39" East longitude. The area of Bali province is about 5,636.66 km2:



Figure 2. Administrative Map of Bali Province Source: tarubali.baliprov.go.id



Figure 3. BRT Trans Metro Dewata Bali road network Source: temanbus.go.id, Data processed (2023)

The population of Bali province is based on the results of the Population Census (SP). According to the Central Bureau of Statistics in 2020, the total population of Bali is 4.32 million people. The details, as many as 2.17 million Balinese are male and 215 are female.

Trans Metro Dewata Bali has 153 bus stops along five corridors that have been operating. The height of the bus stop is about 110 cm from the road surface which is used for access to the bus. Each bus stop is equipped with a pedestrian bridge so that people can easily access the bus stop. The bus stops are specially designed so that people with disabilities can also enjoy the Trans Metro Dewata Bali bus. The facilities at the bus stop are, bus waiting room, trash can, bus route pictures, and automatic doors to support the comfort and safety of passengers while waiting for the bus to arrive.

Trans Metro Dewata Bali bus stops are different from the usual bus stops. Besides being located in the middle of the road, there are also bus stops equipped with elevators. The construction of the bus shelter is dominated by aluminum, steel and glass. Air ventilation is provided by providing grilles (holes) on the sides of the bus shelter. The floor of the bus stop is made of steel. The bus stop doors will open automatically when the bus stops at the bus stop. The bridge for crossing is made slightly sloping so that people with disabilities can easily enter the bus stop. The bridge deck is the same material as the bus stop floor, which is steel. The operating time of the bus stop and bus is 04.30 -20.35. If after 20.35 there are still passengers in the bus or bus stop, the operating time will be completed if all passengers have reached their respective destinations.

Bus Rapid Transit (BRT) Trans Metro Dewata is assistance from the Central Government in this case the Ministry of Transportation of the Republic of Indonesia. BRT procurement is planned to be 115 units.



Figure 4. Trans Metro Dewata Bali Corridor 3 Bus Source: Field Survey, 2023

Each bus is built with passenger safety in mind. For example, the bus body is made using Galvanyl (Zn-Fe Alloy), a metal that is solid and resistant to rust. In addition, there are 8 to 10 glass breaking hammers. There is also a portable fire extinguisher. In corridor I, buses use Mercedes-Benz type and Hino RG buses. The colors of the buses in corridor I are red and yellow and there is an image of a bondol eagle. Buses use diesel fuel mixed between diesel and biodiesel. And there are also those that use gas fuel. In general, Transjakarta buses use natural gas fuel.

The medium bus fleet has a capacity of 40 passengers with 20 seats and large buses with a capacity of 60 passengers with 30 seats with 1 area each for priority. (temanbus.go.id). Buses depart from the starting point according to the welldetermined time and hour where peak hours are not busy. In addition to Corridor 1 and 4 regulators, to improve service and reduce passenger congestion at transit stops, Trans Metro Dewata Bali operators add direct routes based on the network system and can be accessed according to passenger destinations.

Table 2. BRT Corridor Route

Corridor	Street
Corridor 1	Sentral Parkir Kuta Badung – Terminal Persiapan
Corridor 2	Terminal Ubung – Bandara Ngurah Rai
Corridor 3	Terminal Ubung – Pantai Matahari Terbit
Corridor 4	Bandara Ngurah Rai – Monkey Forest
Corridor 5	Sentral Parkir Kuta – Politeknik Negeri Bali
Source: temar	abus an id data processed 2022

Source: temanbus.go.id, data processed 2023

Existence of BRT Line on Regional Conditions

1) Population Density to BRT line



Figure 5. Map of Population Density against BRT Route *Source: bps.go.id. (Population Census Thematic Map)* 

# 2) Land Use Toward the BRT Line



Figure 6. Land Use Map of the BRT Route Source: tarubali.baliprov.go.id

3) Public and Social Facilities to the BRT Line



Figure 7. Spatial Map of the BRT Route Source : tarubali.baliprov.go.id

4) Tourism Facilities



Figure 8. Tourist Facilities Against the BRT Route Source : tarubali.baliprov.go.id There are 153 Bali Trans Metro Dewata BRT Shelter points that have been available along Corridor I to corridor V to wait for the arrival of the Trans Metro Dewata BRT.



Figure 9. Trans Metro Dewata BRT Shelter Source: Field Survey, 2023

The condition of the BRT Shelter in Bali is the most comfortable place to wait for the upcoming bus. There are chairs that can be used and utilized by BRT users, there are lighting lamps in good condition. There is a signboard to make it easier for Trans Metro Dewata BRT users to find out the Bus Shelter, and the addition of cleaners makes the Bus Shelter clean and well maintained. Road access to the Shelter, there are two sides, namely right and left, which do not have steps, making it easier for wheelchair users.

Trans Metro Dewata Bus Rapid Transit is equipped with several facilities that can support the security, comfort and safety of passengers.



Figure 10. Facilities in the Trans Metro Dewata BRT Source: Field Survey, 2023

Suitability of Bus Rapid Transit (BRT) Trans Metro Dewata Service Performance The following are the results of the analysis of the existing conditions of the Trans Metro Dewata Bus Rapid Transit (BRT) service against the SPM for Road-Based Mass Transportation (No. 10 of 2012).

1. Safety Aspects

Table 3. Conformity	of BRT Security	Aspect Service	Performance to SPM
	y of Divi Security	/ ASpect Service	

Indicat	or	Value/Size/Amount	Existing Condition	
Illumination on I	Lights	At least 95% functioning in	Available	
		accordance with		
Socurity Apparat	tuc	Availability of at loast one	Available	
Security Appara	lus	Officer	Available	
Socurity	Disruption	A minimum of two security	Available	
Information	Distuption	intrusion information	Available	
mormation		stickers.		
BRT		100% function as a	Existing and functioning	
Lighting Lamp		light		
		source inside the BRT	100%	
Vehicle Ider	ntity	Trans	There is a vehicle	
		Metro Dewata	number	
		At least one vehicle		
		number		
		and route name.	and route name on the	
Driver ID		Board / Driver ID card	BRT	
		at	trans Metro Dewata.	
			Available	
Danger Lights		least one	Available	
		Hazard information		
		light		
		button in the	Inere are Bus Drivers,	
Security Forces		driver's	and sometimes	
		At least one officer	Transportation officers on	
		At least one officer	heard the BBT Trans	
			Metro Dewata	
Window Film		Maximum 60% darkness	Trans Metro Dewata	
		percentage	BRT	
		percentage	glass is already	
			using	
			window film below 60%.	

Source: Analysis Result, 2023



Figure 11. Bus and Driver Identity using Identity Cards Source: Field Survey, 2023

2. Safety Aspects

Table 4. Conformity of BRT Security Aspect Service Performance to SPM

Indicator	Value/Size/Amount	Existing Condition	
People			
Standard Operating	100% of SOPs are	In the operation of BRT	
Procedures (SOP) for	implemented by	Trans Metro Dewata, there	
vehicle operation and	establishing. Stewardship	are SOPs that are applied	
emergencies.	rules, Rules for loading and	for its operation.	
	unloading passengers,		
	maintain cleanliness in the		
	bus, Not carrying		
	weapons/sharp objects.		
Bus			
Vehicle eligibility	100% passed roadworthy	Existence of vehicle	
	test	feasibility testing at motor	
		vehicle testing centres.	
Safety equipment	Inere is a glass breaker	- There is 1 glass breaker	
	nammer, fire extinguisner	nammer in good condition.	
	button that is 100%	- There is 1 fire extinguisher	
	functional	There is an automatic door	
		- There is an automatic door	
Health Facilities	1 set of first aid kit	There are health equipment	
nearth racinties		in Trans Metro BRT	
Emergency Response	Emergency response	There is an information	
Information	information sticker	sticker affixed to the inside	
		glass of the Trans Metro	
		Dewata BRT	
Standing Passenger Grab		There is an automatic door	
Facility		opening button	

	Trans Metro Dewata BRT	
Infrastructure	standing user aids are 100%	
Traffic and road	functional	There are traffic signs
transportation equipment		marking BRT infrastructure
Vehicle storage and	There must be signs and	at each bus stop
maintenance facilities	markings supporting the	
(pool)	operation of road-based	
Vehicle storage and	mass transit.	BRT storage is at the
maintenance facilities		Kotamobagu City
(pool)	Availability of vehicle	Transportation Agency
	storage, maintenance and	office and maintenance and
	repair facilities 100%	repair at the Bali Motor
	functional	Vehicle Testing Unit

Source: Analysis Result, 2023





Figure 12. Safety Equipment (a) Glass breaker hammer (b) Fire extinguisher Source: Field Survey, 2023

### 3. Convenience Aspect

Table 5. Conformity	y of BRT Security	Aspect Service	Performance to SPM
---------------------	-------------------	----------------	--------------------

Indicator	Value/Size/Amount	Existing Condition
Bus Stops and Supporting		
Facilities Lighting	At least 95% functioning in accordance with technical	Available
Room temperature control and/or air ventilation facilities Cleaning facilities	There must be facilities for air circulation at the bus stop	None because the BRT shelter building is open
Eacilities Eaco of gotting	At least one cleaning facility	Available
on/off passengers	Bus stop floor height is the same as other BRT floors	BRT entrance access has been adjusted to the height of the bus stop. The average bus stop height is 1 meter, and the BRT
Bus		entrance height is 1 meter
Lignting	100% functioning as a light	Existing and 100%
Carrying Capacity	source in the bus car	functional

Maximum 100% number	of	Passenger transportation is
passengers according	to	adjusted to the carrying
transport capacity	capacity of 42 people	
At least 2 trash cans		None
	Maximum 100% number passengers according transport capacity At least 2 trash cans	Maximum 100% number of passengers according to transport capacity At least 2 trash cans

Source: Analysis Result, 2023





Figure 13. (a) Lighting in the BRT (b) Boarding and alighting facilities for passengers on the BRT and bus stops. Source: Field Survey, 2023

### 4. Affordability Aspect

Table 6. Conformity of BRT Security Aspect Service Performance to SPM

Indicator		Valu	ue/Size/Am	ount		Existing Condition
Ease of	Passenger	Maxim	um of five ti	ransfe	ers	The number of transfers
Movement						between BRT Bali corridors
Corridors						is 5 times, because there are
						5 corridors available
Availability of	There	must	be access		for	BRT Bali has provided an
integrated	users sustain	able	routes m	ass	transit	integrated route network
route network	routes.					totaling 5 corridors. However,
and feeder						supporting facilities such as
routes						feeder routes are not yet
						available.
Fares	According	to the	e decree	on	tariff	BRT Trans Metro Dewata Bali
	determinatio	on by the	e local gover	rnme	nt	fare is 4,600 thousand rupiah

Source: Analysis Result, 2023

#### 5. Equality Aspect

Table 7. Conformity of BRT Security Aspect Service Performance to SPM

Indicator	Value/Size/Amount	Existing Condition
Priority Seats	Minimum of four Priority seats	There are 4 Priority Seats
Wheelchair	There should be infrastructure available at	There is 1 dedicated
Space	bus stops and inside the BRT for users who	wheelchair space inside the
	use wheelchairs	BRT and non-stair access ramp
		at the bus stop

Source: Analysis Result, 2023

## 6. Regularity Aspect

Indicator	Value/Size/Amount	Existing Condition
Waiting Time	1. Maximum peak time minutes	The waiting time of BRT Trans
	2. Non-average time 15 minutes	Metro Dewata Bali is 5 minutes
Transportation	1. Maximum peak time 40km/h	Corridor 1 with 2 hours 43
Speed	2. Average time 20- 40km/h	seconds, Corridor 3 with 1
		hour 9 minutes, Corridor 4
		with 1 hour 25 minutes.
Service	Information boards, visual, audio, and	There is no direct information
Information	written (brochures pamphlets), Placement is	board regarding BRT Trans
	easy to read and clear, Good condition.	Metro Dewata services,
	Can be through the internet	information on BRT Trans
		Metro Dewata services can be
		found on the internet on the
		Temanbus.go.id website and
		application.
Trans Metro	Information is available at bus stops in	None
Dewata BRT	visual form and placed in a strategic place	
Arrival Time	that is easy to read.	
Information		

Table 8. Conformity of BRT Security Aspect Service Performance to SPM

Source: Analysis Result, 2023

## Influence of Public Interest in BRT

Table 9.	Multiple	Linear R	egression	Analvsis <sup>-</sup>	Fest Results

Coefficients <sup>a</sup>		Unstandardized Coefficients		Standardize d Coefficients		
Model		B E	rror	Beta	t	Sig.
1	(Constant)	13.526	4.015		3.369	.001
	Safety (X1)	.050	.072	.095	2.301	.024
	Safety (X2	0.221	.076	.464	2.903	.005
	Convenience (X3)	.389	.120	.455	5.121	.000
	Affordability (X4)	.371	.238	.234	3.596	.001
	Equality (X5)	.602	.249	.329	2.412	.018
	Regularity (X6)	.371	.152	.357	3.292	.001

a. Dependent Variable: Interest (Y)

Source: Results of SPSS Output Analysis, 2023

Based on the results of the analysis using the SPSS software program, it is obtained and known from the results of multiple linear regression tests with the following equation:

# Y = 13.526 + 0.050 X1 + 0.221 X2 + 0.389 X3 + 0.372 X4 + 0.602 X5 + 0.371 X6 +e

The constant coefficient value is 13.526 which is positive, it is assumed that if the independent variable = 0 then the dependent variable Security (X1), Safety (X2), Convenience (X3), Affordability (X4), Equality (X5), and Regularity (X6) is constant at a value of 13.526. it means that, in the absence of an increase in the which is an indicator of BRT service standards causes reduced public interest (Y) in using BRT as a mode of public transportation in the Bali region.

# 1. Coefficient of Determination (R<sup>2</sup>)

Table 10. Determination Coefficient Test Results

Model Summary							
Мос	del	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1		.607ª	.368	.328	3.445		
a. Predictors: (Constant), Regularity (X6), Affordability (X4), Security (X1), Equality (X5),						5),	
	Comfort (X3), Safety (X2)						

Source: Results of SPSS Output Analysis, 2023

Based on the processed data output in table 10, it is known that the R Square value is 0.368, which means that the effect of the variables Security (X1), Safety (X2), Convenience (X3), Affordability (X4), Equality (X5), and Regularity (X6) simultaneously on the Interest variable (Y) is 36.8%. While the remaining percentage of 63.2% is influenced by other variables outside the variables in this study.

ANG	OVAª					
		Sum	of	Mean Square		
Mo	del	Squares	df		F	Sig.
1	Regression	643.493	6	107.249	9.039	.000 <sup>b</sup>
	Residual	1103.507	93	11.866		
	Total	1747.000	99			

Table 11. F Test Results

2. F test

a. Dependent Variable: Minat (Y)

b. Predictors: (Constant), Regularity (X6), Affordability (X4), Safety (X1), Equality (X5), Convenience (X3), Safety (X2)

Source: Results of SPSS Output Analysis, 2023

Based on the results of the analysis through SPSS software, the calculated F value is 9.039 which means greater than the F table value of 3.09 and a significant value of 0.00 which means less than 0.05. So it is known that there is a simultaneous or joint influence of variable X with aspects of Security (X1), Safety (X2), Comfort (X3), Affordability (X4), Equality (X5), and Regularity (X6) affecting variable Y, namely Interest in using the Trans Metro Dewata Bali Bus Rapid Transit as a mode of public transportation in Bali.

### 3. T Test

Table 12. F Test Results							
Coefficients <sup>a</sup>		Unstandardized Coefficients		Standardized Coefficients			
Mod	lel	B E	Frror	Beta	t	Sig.	
1	(Constant)	13.52	4.015		3.369	.001	
		6					
	Safety (X1)	.050	.072	.095	2.301	.024	
	Safety (X2	0.221	.076	.464	2.903	.005	
	Convenience (X3)	.389	.120	.455	5.121	.000	
	Affordability (X4)	.371	.238	.234	3.596	.001	
	Equality (X5)	.602	.249	.329	2.412	.018	
	Regularity (X6)	.371	.152	.357	3.292	.001	

a. Dependent Variable: Interest (Y)

Source: Results of SPSS Output Analysis, 2023

Based on the results of the tests that have been carried out in this study, it can be seen in table 12 in the t table and sig. it is known that the t table value is 1,984 which will be compared with each calculated result of the independent variable (X). the following are the results of the t test to determine the effect of each variable X on public interest (Y).

- 1. Security variable (X1) is known t count 2.301> 1.984 and 0.024 <0.05 = There is an influence.
- 2. Security variable (X2) known t count 2.903> 1.984 and 0.005 <0.05 = There is an influence.
- 3. Security variable (X3) known t count 5.121> 1.984 and 0.000 <0.05 = There is an influence.
- 4. Security variable (X4) known t count 3.596> 1.984 and 0.001 <0.05 = There is an influence.
- 5. Security variable (X5) known t count 2.412> 1.984 and 0.018 <0.05 = There is an influence.

Security variable (X6) known t count 3.292> 1.984 and 0.001 < 0.05 = There is an influence.

## Conclusion

This study found that factors such as safety, security, comfort, affordability, equality, and order collectively have a significant influence on the interest to use the Trans Metro Dewata Bali Bus Rapid Transit as a mode of public transportation in Bali. The results of identifying the suitability of the performance of BRT Trans Metro Dewata Bali services that are most in accordance with the value/measure/number with the SPM

indicators of Road-Based Mass Transportation no 10 of 2012. The results of statistical calculations using multiple linear regression analysis to determine the effect of public interest in Bus Rapid Transit (BRT) services, it is known that there is an influence between BRT service aspects on public interest, which is 36.8%. Aspects that have a significant effect are aspects of safety and comfort where these are the main factors reviewed by users when using mass public transportation. In the calculation results, there is a negative value in the constant coefficient value of 13.526, which is assumed to be a lack of public interest or public knowledge of the existence of BRT Trans Metro Dewata Bali, causing a negative relationship between service aspects and public interest. These factors explain 36.8% of the variance in interest, which shows the importance of these factors in shaping individual intentions to use the system. However, it is important to note that there are other variables not included in this study that also influence the interest to use the system, which accounts for 63.2% of the variance. The findings highlight the need for policy makers and transport authorities to prioritize these factors to increase the attractiveness and acceptance of Bus Rapid Transit systems in Bali. Future research could explore additional variables and factors that may contribute to individuals' interest in using public transport in Bali, which could further enhance the understanding of travel behavior and preferences in the region.

#### References

- Bank, W. (2012). Inclusive Green Growth: The Pathway to Sustainable Development. World Bank.
- Basheer, M. A. (2020). Bus Rapid Transit System: A Study of Sustainable Land-Use Transfor. *MDPI Sustainability*, 1-6.
- BPS, (2019) Peta Tematik Sensus Penduduk Bali
- Bus, T. (2020). Koridor, Jarak Tempuh, Rute, Halte Bus Trans Metro Dewata BAli. Bali: Kementerian Perhubungan.
- Carvero, R. (2013). Bus Rapid Transit (BRT): An Efficient and COmpetitive Mode of Public Transport. *Transport Policy*, 25, 119-127.

Development, W. C. (1987). Our common Future. Oxford university Press.

- Fernandes, N. (2020). Economic Effects of Coronavirus Outbreak (Covid-19) on the World Economy. *IESE Business School Spain*.
- Gao, Z., Huang, H.-j., Guo, J., Yang, L., & Wu, J. (2023). Future Urban Transport Management. *National Natural Science Foundation*, 3-4.
- Hall, P. (2019). Cities of Tomorrow: An Intellectual History of Urban Planning and Design Since 1880. *John Wiley & Sons*.
- Kurniati, N. W. (2020). Dampak Ekonomi Pengoperasian Transjakarta Ditinjau dari Persepsi Pengguna. Jurnal Penelitian Tranportasi Darat, 194-195.
- Lele, S. M. (1991). Sustainable Development: A Critical Review. World Development, 601-618. Lele, S. (1991). World Development. Sustainable Development: A Critical Review, 1996), 607-621.
- Levinson, H. (2015). Bus Rapid Transit: A Sustainable Approach to Urban Transport.

New York: Routledge.

- Litman, T. (2009). Transportation Cost and Benefit Analysis: Techniques, Estimates and Implications. *Victoria Transport Policy Institute*, 1-7.
- Litman, T. (2019). *Transportation Cost and Benefit Analysis: Techniques, Estimates and Implications*. Victoria Transportation Policy Institute.
- Litman, T. (2023). Better Speed Valuation for Transportation Panning. *Victoria Transport Policy Institute*, 4-6.
- Litman, T. (2023). Developing Indicators for Sustainable and Livable transport Planning. *Victoria Transport Policy Institute*, 9-12.
- Munasinghe, M. (2009). Sustainable Development in Practice: Sustainomics Methodology and Applications. *Cambridge University Press*, 46.
- Nadeem, M., Matsuyuki, M., & Tanaka, S. (2023). Impact of Bus Rapid Transit in Shaping Transit-Oriented Development: Evidence From Lahore, Pakistan. *Journal of Asian Architecture and Building Engineering*, 5-11.
- Nasional, B. P. (2023). Sustainable Development Goals. Jakarta: Bappenas.
- Nasrulloh, M. (2010). Sistem Bus Rapid Transit Di Jakarta: Integrasi Perkotaan Dan Dampak Lingkungan. Universitas Indonesia, 8-13.
- Nations, U. (2015). *Transforming Our World: The 2030 Agenda for Sustainable Development.* United Nations.
- Nations,U.(2015). SustainableDevelopmentGoals.https://www.un.org/sustainabledevelopment/sustainable-development-goals/.
- Ordonez, C., & Duinker, P. N. (2010). Interpreting Sustainability for Urban Forest. *MDPI* Journal Sustainability, 1512-1515.
- Organization, I. I. (2011). Green Jobs: Towards Decent Work In a Suatainable, Low-Carbon World. International Labour Organization.
- Palupiningtyas, S. E. (2015). Potensi Pengembangan Trans Pakuan Sebagai Penerapan Konsep Green Transportation Di Kota Bogor. *Jurnal Penelitian Transportasi Darat*, 29-34.
- Prayogi, L., & Sari, Y. (2019). The Approaches on Assessing the Influence of a Bus Rapid Transit System on Urban Development. *International Journal of Built Environtment and Scientific Research*, 106-108.
- Prayogi, L., & Satwikasari, A. F. (2019). Bus Rapid Transit-Oriented Development: An Identification Of Bus Rapid Transit System Passengers' Modal Shift Potential Considerations. *CSID Journal of Infrastructure Development*, 129-129.
- Primastuti, N. A., & Puspitasari, A. Y. (2021). Penerapan Green Trasportation Untuk Mewujudkan Kota Hijau Dan Berkelanjutan. *Jurnal Kajian Ruang*, 63-65.
- Programme, U. N. (2011). *Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication.* United Nations Environment Programme.
- Riawan, W. A. (2015). Analisis Pelayanan Bus Rapid Transit Kapasitas Sedang pada Sistem Transportasi Perkotaan. *Sekretariat Badan Penelitian dan Pengembangan Perhubungan*, 119-122.
- Rifusua, A. I. (2010). Analisis Faktoe-Faktor Yang Mempengaruhi Permintaan Busway di DKI Jakarta Tahun 200-2008. *Universita Indonesia*, 10-13.

Sachs, J. D. (2015). *The Age of Sustainable Development*. Columbia University Press. Seni, Ratnadi. (2017). Theory Of Planned Behavior Untuk Memprediksi Niat Berinvestasi.

*E- Jurnal Ekonomi dan Bisnis Universitas Udayana*, 6.12, 4043-4068.

- Siregar, S. R., Wardaya, & Tas'an, D. (2017). Implementasi Kebijakan Transportasi Publik Dalam Mengatasi Kemacetan Dan Kepadatan Lalu Lintas Di Medan. *Jurnal Manajemen Transportasi & Logistik*, 148-151.
- Sony, Rifai, A. I., & Handayani, S. (2022). The Effectiveness Analysis of Bus Rapid Transit Services (A Case Trans Semarang, Indonesia). *CITZEN: Jurnal Ilmiah Multidisiplin Indonesia*, 713- 116.
- Tarubali, (2023). Peta Tata Ruang Bali. tarubalibaliprov.go.id
- UNDP. (2014). *Geen Growth: Overcoming The Crisis and Beyond.* United Nations Development Programme.
- UNEP. (2011). Towards a Green Economy: Pathways to Sustainable Development and poverty Eradication. United Nations Environment Programme.
- Wu, J.-H., Wu, C.-W., & Lee, C.-T. (2014). Green Purchase Intentions: An Exploratory Study of The Taiwanese Electric Motorcycle Market. *Journal of Business Research*, 1-3.
- Zhang, Y. (2018). Public Transportation Planning and Management in Develo[ing Countries. *Springer*.