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# The Factor of using Motorcycle for Work

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**ABSTRACTS**

The purpose of this study is to determine the transportation mode that is used by the respondent who resides in the central area of Bandung (Square Bandung) to analyze the relationship between vehicle ownership and driver's license ownership by the respondent to the modal choice to work, which is based on the characteristics of socio-demography and socio-economic respondents. This study used descriptive-quantitative analysis using SPSS. This study examines the relationship between vehicle ownership and the driver's license ownership with the use of modes of work, namely cars and motorcycles, which are analyzed by socio-demographic characteristics and socio-economic, and to analyze level of strength of the relationship of the variables analyzed studies, to know how strong the relationship between the variables of research with modal choice to work. The results of this research are the study variables (socio-demographic characteristics and socioeconomic) were analyzed with the use of modes to work show some differences between the use of cars and motorcycles as a mode to work.

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## 1. INTRODUCTION

A spatial movement defined as the movement that occurs due to linkage, between regions with the basic concepts of relationship does a movement in the destination location with the pattern of land use in the city, with the characteristics of the spatial trip is the travel patterns of people and goods travel patterns. While non-spatial movement is a movement that is not limited by space, but is influenced by the non-spatial characteristics are the causes of the

movement, the timing of the movement, and modes that are used (Tamin,2020), Transport is a major component in the life of the system, the system of government and the social system. The availability of means of transportation becomes an important part to support the basic functions of transport that connect the residence and does the movement destination. The availability of diverse transport facilities is the choices that can be made available to support the mobility of people to work, markets, recreational facilities, educational facilities, and various other facilities within a city (Aminah, 2006; Khisty & Lall, 2005).

Network Multimodal transportation is a model of optimization that is integrated between modes of transport selected and the transport links are available, taking into account factors such as the costs incurred during the movement, timing, schedule of the available modes of public transportation, congestion, accident frequency, and route that bypassed (Liu & Wei, 2018). The factors considered by the population of workers who live in the suburbs and work in the downtown area in determining the mode of transportation that will be used is the availability of public transportation, the cost of travel, distance and time, and the frequency of the time availability of public transportation that will be used (Adhifanani, 2015), Other factors that influence the selection of the mode of transportation used for business travel is the road user characteristics, characteristics of movement, characteristic modes facilities, a hallmark city or zone, and the difference in costs between using public transport and private transport[6], the use of modes of transport based on ownership of the mode of transportation or the ability of each individual to choose the mode of transport to be used, namely captive riders and riders choice (Warpani, 2002). It is causing transportation and other aspects of the geography of interrelated that is the basis of a system of spatial complex is the transport infrastructure, terminals, equipment, and networks, as well as the main supporter of the interaction between geography and spatial information is transport through the node that is the access point to the distribution system or as Intermediate location in the transport network (Rodrigue *et.al.,* 2016).

The aspects that need to be considered in creating sustainable transportation, including the institutional, social, cultural, regulatory, law enforcement, and the provision of integrated human resources, so that the policy will be formulated to address the problem effectively and efficiently (Sugiyanto, 2013). There are eight principles in the development of a sustainable transportation system that is walking, cycle, connect, transit, mix, density, compact, and shift. These principles must be considered to organize the city and the steps of development to improve the living conditions of the inhabitants of the city (Vashisth *et.al.,* 2018). Therefore, this study is conducted to determine the dominate mode choice for work and the factors driving people use motorcycles as a mode to work.

## 2. METHOD

This research used a descriptive quantitative method, and for primary data collection used questionnaire. Techniques Primary data collection was done by using sampling non-probability sampling because the samples were taken only residents who live around the city center, and work in the downtown area, while the method of collecting the minimum number of samples using methods Slovin, the method used to calculate the minimum sample if behavior of the study population is not known with certainty (Diniharianti *et.al.*, 2019).

$$n = N / (1 + Ne \wedge 2) \quad (1)$$

Information :

n = number of elements/members of the sample

N = the number of population

e = error level / degree of fault

The number of people working in the whole district located around downtown (Square Bandung), in 2018 was 153 709, comprised of the District Andir (32.041 population), District Astanaanyar (23.549 population), District Bojongloa Kaler (37.337 population), District Lengkong (23.336 population), District Regol (25.744 population), and Bandung District wells (11.702 population). Based on the formula Slovin with a margin of error of 10%, the minimum sample was 100 questionnaires questionnaire.

## 3. RESULTS AND DISCUSSION

### 3.1 Modes of transport used for work

Based on the survey results of 130 respondents it was found that modes of transportation such as motorbikes and cars became the modes of transportation of interest by respondents, for example, 86 respondents chose to use motorbikes for work, 32 respondents chose to use cars, 1 respondent chose to use motorcycle taxis, 2 respondents chose to use a motorcycle taxi or online taxi, 2 respondents chose to use a taxi, 3 respondents chose to use the bus, 2 respondents chose to walk to work, and 2 respondents chose to use office vehicles, for more details about the percentage of modal choice by 130 respondents based on the results the crosstab that has been done can be seen from Figure 1. This is in line with research (Kusuma, 2018) that the use of motorbikes is the most popular (66.9%), and cars (15.1%) in locations that are the center of government, education, and shopping in the Regency of Lombok as well as the results of research (Lestarini, 2007) which were localized this research area working employees of PT. SSSWI in Wonosobo Regency, that business trips use a private mode is greater that is 49.86% which consists of 48.74% motorcycles and cars as much as 1.12%.

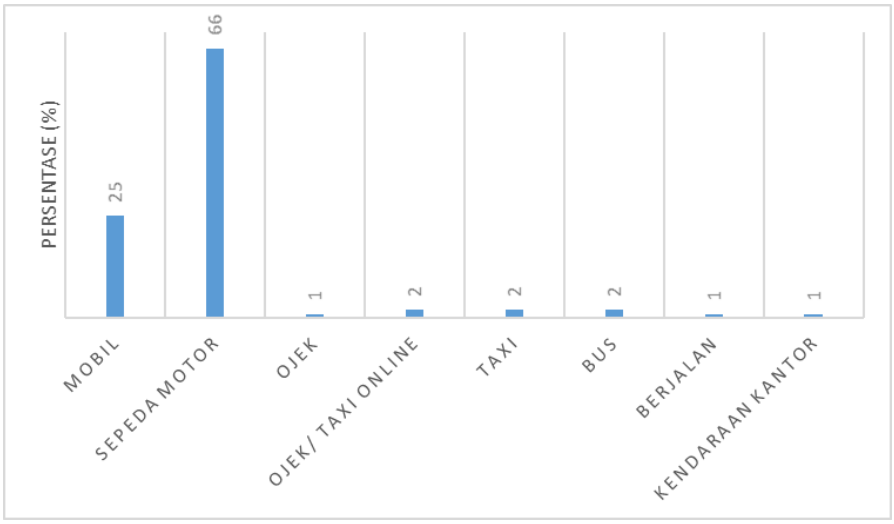


**Figure 1.** Percentage of Types of Modes of Transport Used for Work

3.2 The relationship between the applicability of Motorcycles Ownership to Work

However, previous research has not discussed the socio-demographic characteristics and socio-economic in the relationship, so extensible of this study was to analyze the influence of socio-demographic characteristics socio-economic and in the relationship (Table 1). It is similar to research at PT. SSSWI in Wonosobo Regency which takes place in the center of government, education, and shopping in Lombok (Lestarini, 2007; Syafriharti *et.al.*, 2018; and Syafriharti *et.al.*, 2018).

**Table 1. Relationship Motorcycle Owners with Selection Modes Motorcycle to Work-Based Socio-demographic characteristics and socio-economic**

| No. | Variables examined | Pearson Chi-Square | Spearman Correlation |
|---|---|---|---|
| | **Motorcycle Ownership and Use Motorcycles** | **Related (0,009)** | **Weak (0.228)** |
| **1** | **Gender** | | |
| | Male | **Not Related (0.226)** | |
| | Female | **Related (0,011)** | **Weak (0.390)** |
| **2** | **Age** | | |
| | 18-29 years | **Related (0,021)** | **Weak (0.371)** |
| | 30-44 years | **Related (0,006)** | **Weak (0.343)** |
| | 45 years - more | **Not Associated (0,312)** | |
| **3** | **Type of work** | | |
| | Employees (Civil / Private) | **Related (0,022)** | **Weak (0,265)** |
| | Professional / Entrepreneur | **Not Related (0.198)** | |

| No. | Variables examined | Pearson Chi-Square | Spearman Correlation |
|---|---|---|---|
| | **Motorcycle Ownership and Use Motorcycles** | **Related (0,009)** | **Weak (0.228)** |
| **No.** | **Variables examined** | **Pearson Chi-Square** | **Spearman Correlation** |
| | **Motorcycle Ownership and Use Motorcycles** | **Related (0,009)** | **Weak (0.228)** |
| **4** | **Income** | | |
| | <2,000,000 | **Not Related (0.101)** | |
| | 2000000-3999999 | **Related (0,008)** | **Weak (0.330)** |
| | 4000000-5999999 | **Not Related (0.193)** | |
| | 6,000,000 -> = 10,000,000 | **Constant** | |

3.3 Relations between the Ownership of Driving License C with applicability Motorcycle to Work

Even the relationship between the ownership of Driving License C and the use of motorbikes for working purposes is not related, because the significant probability value (α) is 0.051, so it can be concluded that the use of motorbikes for working purposes does not have a relationship with Driving License C ownership by the respondent, This can also be seen from the results of crosstab calculations which show that most groups of respondents on each characteristic have no relationship, except for respondents aged 18-29 years, respondents who work as Employees (Civil/Private), and respondents with income less than < Rp. 2,000,000, with the level of strength of the relationship which is also relatively weak, and can be seen from the percentage who chose not to use motorbikes to work dominated by respondents who had a Driving License C (out of 43 respondents who did not use motorbikes, there were 36 respondents (84 %) are respondents who have a Driving License C ), for more details can be seen in Table IV. Suthanaya (2012) shows the relationship between sim ownership and the use of motorbikes in areas that are served by public transport (Jl. Raya Sesetan) is related to the weak strength of the relationship, but this study does not discuss socio-demographic and socio-economic characteristics in these relationships, but rather see it separately between variables (Table 2).

**Table 2. The Relation of Driving License C with Selection Modes Motorcycle to Work-Based Socio-demographic characteristics and socio-economic**

| No. | Variables examined | Pearson Chi-Square | Spearman Correlation |
|---|---|---|---|
| | **Driver's License C Ownership and Use Motorcycles** | **Not Related (0.051)** | |
| **1** | **Gender** | | |
| | Male | **Not Related (0.208)** | |
| | Female | **Not Related (0.101)** | |
| **2** | **Age** | | |
| | 18-29 years | **Related (0,004)** | **Strong enough (0.461)** |
| | 30-44 years | **Not Related (0.471)** | |
| | 45 years - more | **Not Related (0.963)** | |
| **3** | **Type of work** | | |
| | Employees (Civil / Private) | **Related (0,002)** | **Weak (0.357)** |
| | Professional / Entrepreneur | **Not Related (0.525)** | |
| **4** | **Income** | | |
| | <2,000,000 | **Related (0,002)** | **Very Strong (0.826)** |
| | 2000000-3999999 | **Not Related (0.350)** | |
| | 4000000-5999999 | **Not Related (0.715)** | |
| | 6,000,000 -> = 10,000,000 | **Not Related (0.784)** | |

## 4. CONCLUSION

Based on the analysis, it can show that if the availability of public transportation route in an environment, cannot be ensured if the people choose to use public transportation, then the tendency of modal choice of cars and motorcycles for work due to the characteristics of owning a vehicle and having of driver's license, to support the vision of transport Bandung is realization of transport that is safe, reliable, and sustainable, with the motto of Bandung Lancar (smoothly) in 2031, in addition, to provide of public transportation that is environmentally friendly, safe, comfortable, affordable, and connect with other modes of others, required more handling the vehicle's ownership and driver's license in public ownership.

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