

THE EFFECT OF SERVICE QUALITY AND PUBLIC TRANSPORT ROUTE TO ECONOMIC GROWTH IN MEDAN CITY

¹ Alfonsius, ² Errie Margery,

STIE Professional Manajemen College Indonesia, Medan, Indonesia
¹alfon_pmci@yahoo.com, ²erriemargery@gmail.com

Abstract: *This study aims to determine the effect of service quality and route of public transportation to economic growth in Medan City. The sample in this research is public transportation user society in Medan City which amounts to 400 people. Data collection techniques were conducted by observation, questionnaire and documentation study. Data analysis technique used is multiple linear regression. The result of simultaneous research shows that the quality of service and public transportation route affect the economic growth in Medan City and partially public transport route have an effect on to economic growth in Medan city.*

Key Words: *Service Quality, Transportation Route, Economic Growth.*

1. INTRODUCTION:

In this modern era, people have diverse activities and to meet these activities the community requires the existence of transportation as a supporting tool / aids in performing its activities. Residents living in urban suburbs generally travel to the city center to work and meet the need for unavailable urban facilities or poor services in the periphery. The dependence of the peripheral population on the urban center will have an impact on the increase of population movement, which indirectly impacts demand for transportation facilities.

Economic development requires adequate and adequate transportation services. Without the transportation as a means of support can not be expected to achieve satisfactory results in the economic development of a nation. To achieve the economic development of a country requires an optimal transport capacity. However, it should be noted that the determination of such capacity and the level of investment is not an easy thing to do (Kadir, 2006).

The development of mass-based mass public transportation in urban areas in Indonesia is directed to create a reliable and affordable service by all walks of life of public transport users. In the long run, it is expected that reliable public transport services will be able to reduce people's dependence on private vehicle usage. But in reality, the condition of mass-based mass public transportation in urban areas in Medan City at this time has not been well ordered.

The performance of public transport has not been adequate, the quality of service has not been a priority. The main priority at this time is the cheap public transportation so affordable by all levels of society. Yet these are often the reasons used to degrade the quality of service. Whereas public services must take precedence because it involves the livelihood of many people. Generosity often sacrifices safety, reliability, and comfort, which are the three most important things in transport, (Oktariansyah, et al., 2017).

In addition, one of the factors that influence the performance level of Public Passenger Transport is the route factor. The route of public transport is a pattern of movements made by public transport in servicing the movement requests that occur. Therefore, the effectiveness and efficiency of a route is very influential on the performance of Passenger Public Transport through the route. The problems that occur on public transport routes will affect the performance of Passenger Public Transport that passes or uses the route. However, from several public transportation routes in Medan, there are several problems. Problems that occur is the uneven route of public transportation in the city of Medan, the current public transportation route has not reached all areas of Medan so many who use private vehicles, especially motorcycles in travel. Some areas that are the areas of origin of public transport users in the form of fairly dense residential areas are not bypassed by public transport routes. In addition there is a phenomenon of fat and lean routes on several public transport routes in the city of Medan.

2. LITERATUR REVIEW:

2.1 Definition of Public Transport

Transportation is defined as the transfer of goods and people from the place of origin to the destination. So with these activities there are three things, namely the presence of transported goods, the availability of vehicles as a means of conveyance, and the presence of roads that can be passed. The process of removal from the movement of origin, where transport activities begin and to the destination where the activity is terminated. For that with the transfer of goods and humans, the transportation is one sector that can support the promoting sector and the servicing sector for economic development, (Nasution, 1996).

According to Warpani (1990) transport is basically a means to move people and or goods from one place to another. The goal is to help people or groups of people reach the desired places or deliver items from their original place to their destination. The process can be done by means of transportation in the form of vehicles. While Passenger Public Transport is a public passenger transport using a rental or pay system. Included in the sense of public transport passengers are urban transport (bus, minibus, etc.), trains, water transport, and air transport.

2.2 Quality of Public Transport Service

Quality of service is a condition or characteristic of public transport expected by users (Gray and Hoel, 1974) which consists of elements, such as:

- Safety, including safety when using in-vehicles and at-stops;
- Comfort, encompassing the physical comfort of passengers, beauty and the environment. Physical passenger comfort includes comfort in the vehicle as well as on the stops, for example the comfort of a seat and a stand, ease of entry and exit time of vehicle, place of goods and others. The beauty includes a clean seat, an interesting stop, while comfort includes environmental protection against air and sound pollution;
- Ease of achievement includes distribution of routes across the region, vehicle capacity, service frequency and schedule operations, identification of stops and distribution of information boards;
- Reliability, this element depends on the provision of special services provided by the operator, for example the existence of information if there is a change of the scheduled departure / arrival of the vehicle, guarantee the ease of vehicle replacement and others;
- Comparison of costs, these include cost / minimum mileage, easy change of modes, reduced travel expenses for special groups (children, students and others) and subscription tickets;
- Efficiency, which includes high average speed, minimum waiting time, travel distance close to public transport stops, coordination and change of schedule by minimizing inconvenience to passengers, fast and special services.

2.3 Route of Public Transport Service

Based on the Decision Letter of the Director General of Land Transportation Number: SK.687 / AJ.206 / DRJD / 2002 in the planning of public transportation route network should pay attention to factors used as consideration are as follows:

1. The pattern of movement of public transport passengers.

A good public transport route is the direction that follows the movement pattern of passenger transport so as to create a more efficient movement. Public transport routes should be designed in accordance with the pattern of population movements that occur, so the transfer of modes that occur when passengers travel by public transport can be minimized.

2. Population density.

One of the priority factors of public transport is the high population density area, which is generally a region with high demand potential. The route of public transport is as close as possible to the area.

3. Service area.

Public transport services, in addition to addressing potential service areas, also reach all the existing urban areas. This is in accordance with the concept of even distribution of services to the provision of public transport facilities.

4. Characteristics of the network.

The condition of the road network will determine the pattern of public transport route services. The characteristics of the road network include configuration, classification, function, road width, and path type operations. Public transport operations are strongly influenced by the characteristics of existing road networks.

3. METHODS:

The population in this study were Medan city population which totaled 1,439,213 people aged between 15-59 years (Medan in Figures, 2015). Sampling is determined with a 5% clearance rate (e). Determination of the amount of sample used Slovin formula (Umar, 2008), then the sample size is 400 people. Respondents in this study are public users of the type of public transportation in the city of Medan and data collection techniques done by observing, filling out questionnaires and study documentation.

The data analysis model used in this study to answer the hypothesis is multiple linear regression analysis, with the formulation as follows:

$$Y = a + b_1X_1 + b_2X_2 + e$$

4. RESULT AND DISCUSSION:

Based on regression result from data processed by using SPSS program obtained result as follows:

Table 1. Regression Coefficients Coefficients^a

| Model | Unstandardized Coefficients | | Standardized Coefficients |
|------------------------|-----------------------------|------------|---------------------------|
| | B | Std. Error | Beta |
| 1 (Constant) | 16.248 | 1.000 | |
| Quality of service | .060 | .041 | .085 |
| Public transport route | .489 | .076 | .380 |

a. Dependent Variable: Economic growth
 Source: Research Results, 2016 (Data Processed)

Based on Table 1. we can make the following equation:

$$Y = 16.248 + 0.060 X_1 + 0.489 X_2$$

From the equation can be explained that the coefficient of regression X_1 (quality of service) is positive (0.060), regression coefficient X_2 (public transport route) is positive (0.489). In other words, a positive regression coefficient proves its contribution to economic growth (Y) in Medan and has the ability to influence economic growth in Medan.

4.1 Coefficient of Determination (R^2)

To know the magnitude of the coefficient of determination (R^2) can be seen in Table 2. as follows:

Table 2. Coefficient of Determination Value Model Summary^b

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | .440 ^a | .193 | .189 | 3.64327 |

a. Predictors: (Constant), public transport route, quality of service
 b. Dependent Variable: Economic growth
 Source: Research Results, 2016 (Data Processed)

From Table 2. obtained value of coefficient of determination (R^2) equal to 0.193. This shows that the variable of service quality and public transportation route has the ability to explain its effect on economic growth in Medan City by 19.3%. While the rest of 80.7% is the influence of other independent variables that are not examined in this study.

4.2 Simultaneously Test

The simultaneous test result of the influence of service quality variable and public transportation route to economic growth can be seen in Table 3. below:

Table 3. Simultaneous Test Results ANOVA^a

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|--------------|----------------|-----|-------------|--------|-------------------|
| 1 Regression | 1264.208 | 2 | 632.104 | 47.622 | .000 ^b |
| Residual | 5269.552 | 397 | 13.273 | | |
| Total | 6533.760 | 399 | | | |

a. Dependent Variable: Economic growth
 b. Predictors: (Constant), public transport route, quality of service
 Source: Research Results, 2016 (Data Processed)

Based on Table 3.it is found that the value of F_{count} (47.622) is greater than the F_{table} (3.018), and sig. α (0.000^b) is smaller than the alpha of 5% (0.05). This indicates that the research results reject H_0 and receive H_1 . Thus simultaneously the quality of service (X_1) and the route of public transportation (X_2) has a highly significant effect on economic growth in Medan City. The significance of highly significant shows that the quality of service and public transport routes showed a very significant effect on economic growth in Medan City.

4.3 Partial Test

The results of partial hypothesis testing can be seen in Table 4. as follows:

Table 4. Partial Test Results Coefficients^a

| Model | t | Sig. |
|------------------------|--------|------|
| 1 (Constant) | 16.253 | .000 |
| Quality of service | 1.448 | .148 |
| Public transport route | 6.472 | .000 |

a. Dependent Variable: Economic growth
 Source: Research Results, 2016 (Data Processed)

Based on Table 4.the following results are obtained:

1. The t_{count} value for the service quality variable (1.448) is smaller than the t_{table} value (1.966), or the sig value. t for the service quality variable (0.148) is smaller than alpha (0.025). Based on the results obtained then receive H_0 and reject H_1 for service quality variables. Thus, partially the quality of service has no significant effect on economic growth in Medan City.
2. The t_{count} value for the public transport route variables (6.472) is greater than the t_{table} (1.966) value, or the sig value. t for public transport route variables (0,000) smaller than alpha (0.025). Based on the results obtained then reject H_0 and receive H_1 for public transport route variables. Thus, the partial route of public transportation has a significant effect on economic growth in Medan City.

Transportation is one of the chain of goods distribution network and passenger mobility that develops very dynamic, as well as play a role in supporting, encouraging and supporting all aspects of life both in political, economic, social and cultural development and defense of security. Transport is essentially a process of moving goods, people and services. In the process of migration there is a process whereby a person will perform economic activities. The growth of the transportation sector will reflect the direct economic growth so that transportation has an important and strategic role.

Economic and transportation activities have a very close relationship, both of which can influence each other. Transportation can encourage the increase of economic activity of a region, because with the transportation infrastructure, a region can increase its economic activity. Due to economic growth, the mobility of a person increases and the need for movement becomes increasing.

All areas of the city must be accessible by public transport services. If there is an unreachable area, it is certain that the people residing in the area will be forced to rely on private transport (this obviously will not benefit the limited capacity of the road). Therefore, public transport routes should be planned in such a way with respect to land use patterns, patterns of population dispersal and patterns of movement needs. Public transport vehicles, in their service alternatives should be able to meet the demands and needs of the community in traveling.

Economic activity is a very important aspect for the development of Medan City. The city of Medan as the central government of North Sumatra Province serves as the center of economic and social activities both within the scope of the city of Medan itself and the scope of the province of North Sumatra. The existence of such a broad regional function makes the city of Medan able to organize economic activity in large volumes. The large economic capacity is indicated by the economic growth rate reached by Medan City, which is always above the economic growth of the surrounding areas.

Per capita income reflects the level of prosperity that has been achieved by the population of Medan City. Income per capita is inversely proportional to the population. The bigger the population then the income per capita of the area is getting smaller and vice versa. Although GDP growth is experiencing significant growth but if population growth remains high or greater percentage of population growth than percentage of economic growth, it will not reach high level of society prosperity.

In general, the economic structure of Medan City is aimed at creating a balance between the economic structure of agriculture and industry while maintaining the City as an industrial base supporting the agricultural sector in its hinterland. The three main sectors that are the mainstay are the agriculture, trade and industry sectors. These sectors are the dominant sectors that make the largest contribution to PDRB (Gross Regional Domestic Product) Medan City.

Table 5. Distribution of Percentage of Gross Domestic Product at Current Market Price by Business Field, 2010 – 2014 (%)

| | Business field | 2010 | 2011 | 2012 | 2013*) | 2014**) |
|---|-------------------------------------|------|------|------|--------|---------|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| A | Agriculture, Forestry and Fisheries | 1,37 | 1,26 | 1,22 | 1,20 | 1,18 |

| | | | | | | |
|---------|---|--------|--------|--------|--------|--------|
| B | Mining and excavation | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| C | Processing industry | 17,64 | 17,91 | 17,24 | 16,51 | 16,21 |
| D | Procurement of Electricity and Gas | 0,17 | 0,20 | 0,18 | 0,13 | 0,10 |
| E | Water Supply, Waste Management, Waste and Recycling | 0,18 | 0,17 | 0,18 | 0,17 | 0,18 |
| F | Construction | 17,22 | 16,98 | 16,94 | 17,51 | 18,02 |
| G | Large and Retail Trade; Car and Motorcycle Repair | 24,05 | 23,59 | 23,37 | 23,88 | 24,73 |
| H | Transportation and Warehousing | 8,71 | 8,93 | 9,24 | 8,01 | 6,57 |
| I | Provision of Accommodation and Drinking | 2,26 | 2,42 | 2,67 | 2,76 | 2,96 |
| J | Information and Communication | 5,63 | 5,31 | 5,30 | 5,16 | 4,95 |
| K | Financial Services and Insurance | 6,85 | 6,95 | 7,29 | 7,48 | 7,37 |
| L | Real Estate | 7,05 | 7,36 | 7,20 | 7,85 | 8,08 |
| M,N | Company Services | 2,27 | 2,28 | 2,33 | 2,41 | 2,46 |
| O | Mandatory Administration of Government, Defense and Social Security | 1,62 | 1,73 | 1,86 | 1,86 | 1,92 |
| P | Educational Services | 2,79 | 2,69 | 2,73 | 2,71 | 2,77 |
| Q | Health Services and Social Activities | 1,17 | 1,20 | 1,25 | 1,32 | 1,42 |
| R,S,T,U | Other services | 1,01 | 1,01 | 0,99 | 1,04 | 1,08 |
| | PDRB | 100,00 | 100,00 | 100,00 | 100,00 | 100,00 |

Source: BPS Medan City, 2015

Description : *) Preliminary Figures

**) The numbers are very temporary

Based on PDRB for 2011-2013, the sector which tends to increase is the Provision of Accommodation and Drinking Sectors, Health Service Sector and Social Activities, and Service Sector Companies. While the sector tends to decline namely Agriculture, Forestry, and Fisheries, Processing Industry Sector, and Information and Communication sector. Medan City stands out in the big and retail trade and construction sector (42.75%), tends to be balanced in other sectors although the manufacturing sector and real estate sector (24.29%) is a strong support to Medan economy.

6. CONCLUSIONS:

Based on the results of research and discussion, this study can be summarized as follows:

- Simultaneously obtained the result that the quality of service and route of public transportation together have highly significant effect on economic growth in Medan City which means that the quality of service and public transportation route together significantly influence and determine the economic growth in Medan City.
- Partially, public transport route has an effect on to economic growth in Medan City, which means that public transportation route is the most determining variable of high economic growth in Medan City.
- Partially, the quality of public transport services has no effect on economic growth in Medan City.

REFERENCES:

1. Badan Pusat Statistik [BPS]. 2015. *Medan Dalam Angka 2015*. Medan: Badan Pusat Statistik Kota Medan.
2. Direktorat Jenderal Perhubungan Darat. 2003. Surat Keputusan Direktur Jenderal Perhubungan Darat Nomor SK.687/AJ.206/DRJD/2002 tentang Pedoman Teknis Penyelenggaraan Angkutan Penumpang Umum di Wilayah Perkotaan dalam Trayek Tetap dan Teratur, Jakarta.
3. Gray, G.E dan L.A. Hoel. 1974. *Public Transportation: Planning, Operation and Manajemen*. New Jersey: Prentice Hall, Inc.
4. Kadir, Abdul. 2006. Transportasi: Peran dan dampaknya dalam Pertumbuhan Ekonomi Nasional. *Jurnal Perencanaan dan Pengembangan Wilayah Wahana Hijau*, Vol. 1 No. 3, (April): 121-131.
5. Nasution, 1996. *Manajemen Transportasi*. Jakarta: Ghalia Indonesia.
6. Oktariansyah, Reina Damayanti, Benny Usman, Andri Eko Putra. 2017. Analisis Kualitas Pelayanan Angkutan Umum (Transmisi) Terhadap Kepuasan Masyarakat Di Kota Palembang. *Jurnal Media Wahana Ekonomika*, Vol. 14, No. 2.(Juli): 27-42.
7. Umar, Husein. 2008. *Riset Sumber Daya Manusia dalam Organisasi*. Edisi Revisi. Jakarta: Gramedia Pustaka.
8. Warpani, Suwardjoko. 1990. *Merencanakan Sistem Perangkutan*. Bandung: Penerbit ITB.