

# Achieving Sustainable Public Transportation in the Era of Online Transportation

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**Abstract**—The emergence of online transportation provides new choices for the community. However, its existence is a threat to public vehicles as public transportation. People prefer online transportation because it is considered to be easily accessible, more reachable, cheap and free of traffic jams. Therefore, the service quality of public transportation needs to be improved. Sustainable public transportation must be achieved to keep up with the developing era. Sustainable transportation covers social, economic and environmental dimensions. This article tries to discuss how efforts to achieve sustainable public transportation. The method used in this article to answer research questions is a review of literature from journals, books, reports and results of previous research with related topics. The results of the study indicate that there needs to be a partnership with other parties in creating sustainable public transportation. Moreover, it needs policies from the government that are sustainable transportation. The need for a grand design that reaches the majority of the community is affordable for the community, a budget that supports the operation of public transport, integration with other transportation and the use of environmentally friendly fuels. Further implications are made in this article.

**Keywords**—sustainable transportation; public transportation; online transportation

## I. INTRODUCTION

The community needs public service activities in every process of fulfilling their needs. The government needs to provide quality public services for the community [1]. Kepmen PAN No. 58 of 2002 [2] classifies three types of services from government agencies and BUMN / BUMD. Grouping these types of services is based on the features and characteristics of the activities and service products produced, which are administrative services, goods services and service services. One of services is public transportation service for the community. Road traffic and transportation are part of this transportation service system. It needs to develop potential and its role to realize security, safety, order and smooth traffic. Thus, transportation services that are oriented to security comfort and smoothness can be used by the Indonesian people to carry out their activities [3].

Indonesian people need good transportation facilities. It is because the population in Indonesia continues to increase, from the BPS population data in 2000 amounting to 206,264,595 in 2010 increased to 237,641,326 [4]. The increasing number of

people in Indonesia will influence the increasing mobility of the community to be able to carry out activities in order to fulfill their daily needs. Increasing mobility or community activities to carry out activities using private vehicles will increase the volume of vehicles on the road, which can lead to traffic congestion that is detrimental to the community. Traffic congestion is a waste of time that results in a loss for the community as most people say "time is money" [5]. The traffic congestion occurs in several cities in Indonesia. Jakarta is one of the cities which are famous for traffic jams. Bandar Lampung also has congestion problems, because the population is increasing. This caused an increase in traffic flow and was not balanced by the expansion of the highway [6]. In addition, in Surakarta City, the population in 2015 was 512,226 people, and in 2016 it increased to 514,171 people [7]. The strategic location and population growth that occurred in Surakarta City resulted in increased mobility or community activities. With this warning, traffic congestion in the city of Surakarta is possible. The high growth of private vehicles continuously will have a negative impact on the community, namely congestion, air pollution and increasing the risk of accidents [8].

Sustainable public transportation services are needed to overcome the problem of traffic congestion. Sustainable transportation has become a commitment in various countries in the world through center for sustainable development, which includes aspects of society, economics and the environment [9]. In realizing the concept of sustainable transportation, it is necessary to guarantee accessibility, justice, security, comfort, environmental conditions, and others. Sustainable transportation is expected to be able to overcome existing transportation problems, where transportation does not cause harmful impacts on human health or ecosystems and can meet community mobility needs well and integratedly [10]. Today's public transportation services should maintain their existence because there is now another alternative, online transportation. Community preference in using online transportation is convenience [11]. The ease of access to transportation online through smart phones is very popular with the public, and this is a form of social change in society that requires ease in using transportation modes. Hence, it is not impossible that this online transportation will shift the existence of public transportation if sustainable public transportation services are not implemented properly. In this article, we will discuss how

to build sustainable public transportation, to provide transportation services for the community.

## II. METHOD

The method used in this article to answer research questions is a review of literature from journals, books, reports and results of previous research with related topics.

## III. DISCUSSION

### A. Public Transportation

Transportation is a mean for mobility from one place to another to reach the destination [5]. The means of transportation can be in the form of public and private transportation. The population continues to increase, resulting in an increase in the volume of vehicles which causes traffic congestion. Public transportation can be used by the community to avoid traffic congestion by using Prinadi vehicles. However, currently available public transportation is less secure, less comfortable and less efficient [12]. Furthermore, it is seen from public transportation and bus facilities that are less comfortable, and policies from the government are not balanced and of quality [12]. It has not yet created public transportation service facilities that are integrated between modes and between corridors. Uneven regional reach is also difficult to meet the needs of every community. Thus, sustainable transportation is needed to provide excellent public services to the community. The excellent services needed include comfort, security, fairness, certainty to use public services. Therefore, there is a need for sustainable transportation development in order to provide good public transportation services for the community [13]. explain sustainable development as a process of change in it, all activities such as exploitation of resources, direction of investment, orientation of technological development, and institutional change are in a harmonious condition and increase the potential of the present and future to meet the needs and aspirations of humans. One aspect that supports sustainable development is sustainable transportation. A sustainable transportation system is a system that can fulfill a sense of justice, that is safely and comfortably meet the level of efficiency of natural resources, both in terms of utilization of energy resources and utilization of space, can be managed transparently and participatively and guarantees sustainability for future generations [14]. Sustainable transport is demonstrated by the main access needed by the community regarding the convenience of using transportation, providing choice of modes to the community, and limiting emissions and minimizing the use of non-renewable resources [15].

### B. Online Transportation

Technological developments bring many changes in all fields, one of which is transportation. New innovations in the field of transportation have emerged, that is the presence of online transportation services. Online transportation arose in the midst of the condition of the public transportation system in Indonesia which has not been well organized [12]. Online transportation services can be accessed through smart phones that are currently owned by almost every individual

community. Moreover, online transportation appears in the community as a helper to provide transportation that reaches every region. On the other hand, online transportation has been blamed as the cause of the decline in the income of conventional transportation drivers. Rejection occurs in various regions, but this is the result of technological developments. Previously, people obtained services for transportation modes manually, now only with smart phones they can access modes of transportation [12]. The reason why the community chooses to use online transportation is based on several things, which are cheap (84.1%), fast (81.9%), comfortable (78.8%) and safe (61.4%) [16]. The high interest of the community to use online transportation is more in terms of security of services, especially the security of criminal acts such as harassment or pickpocketing which often occurs on public transportation.

### C. The Strategy for Achieving Sustainable Public Transportation

The challenges of technological development and the emergence of online transportation modes encourage the achievement of sustainable public transportation, which is carried out by following existing developments. It is by doing new things to improve the quality of public transportation services. Online transportation offers convenience, security, low prices, and fast, so public transportation needs to improve services to be fast, safe, comfortable and affordable. The thing that needs to be done in improving public transportation services is the development of quality transportation infrastructure facilities with policies from the government. Besides that, it is necessary to develop integration between modes of transportation [17]. In relation to reducing air pollution it is also important to use low-emission fuel in the public transportation fleet [18]. Therefore, environmental security is maintained until the next period. Policies regarding corridor lines are also important. This is related to fulfilling regional coverage to the community to get public transportation services. The government can make policies that are adjusted to improve public transportation services so that they can be enjoyed by the public and reduce existing traffic congestion. Traffic regulations by agencies related to roads are also important to reduce traffic congestion [6]. Thus, public transportation can move faster in providing transportation services to the public. To improve public transportation services, facilities are needed, good performance management and commitment from the government to realize sustainable public transportation services. The government has limitations in terms of the budget to fulfill the infrastructure and facilities needed, so partnerships with other parties are possible for planning and implementation in realizing good public transportation services. Public Private Partnership (PPP) as an important tool for seeking additional financial resources increases investment in public facilities as in the transportation system [19]. The existence of partnerships with the private sector or with other parties can increase the capacity of the government to provide services to the community. In South Africa, the mega rail transportation system is considered something new to be able to provide services to the community, Public Private Partnership is seen as a governance tool, promoting transparency, responsiveness, shared commitment and strategic representation for costs for the

planning and implementation process [20]. Hence, the facilities need to support passenger comfort, speed and affordable rates for the community. No less important is the creation of integrated transportation services between modes and between regions as to reach all levels of society.

The government also needs to pay attention to the design of maintenance or monitoring and control, existing facilities will also need to be cared for regularly. As well as monitoring integrated transportation work systems to provide comfort and certainty to users of transportation services. Well-systemized monitoring is also needed by the government to facilitate organizational performance, monitoring is carried out using integrated technology so that the way it works is more effective [21]. In addition, currently the existing transportation still intersects with hazards to the natural environment, therefore, it needs good risk management. Risk management needs to be carried out by partnering/cooperating with the private sector to plan the risk management that occurs, besides that it can also be shared with other relevant stakeholders [22]. Gas public transport discharges currently still disturb the environment especially air pollution problems, it needs cooperation with other parties to overcome the existing air pollution problems. In addition, it is possible for cooperation in the provision of environmentally friendly fuel so that public transportation does not damage the environment.

#### IV. CONCLUSION

Creating sustainable public transportation is very important to provide excellent service to the community. In the current era, people want transportation services that are fast, safe, comfortable, and cheap and easy to reach. Hence, in order to maintain the sustainability of public transportation, the government needs to make policies that support the development of infrastructure so that it can provide transportation services desired by the community. It is also possible for the government to partner with the private sector in providing transportation services for the community. Partnerships are established as a manifestation of responsiveness to meeting community needs and commitment of service providers to provide better public transportation services to the public. Partnerships can be made to improve public transportation facilities from planning to implementation of public transportation services.

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