LOCAL TRAFFIC AND PUBLIC TRANSPORT PORTRAITS: A CASE STUDY IN PADANG CITY

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Abstract

This paper discusses the portraits and problems of local transport in Padang city related to some national issues which could represent the same condition in other cities in Indonesia too. It was found the private motor vehicles number on the road, especially motor cycles, is significantly higher compared to public transports. However, the public transport service tends to remain as the main transport mode in Padang, despite its decreasing percentage of usage. There were two kinds of public transports in term of mode sizes, namely the Para-transits (a passenger size public transport with maximum seat or passenger number is 11) and Medium size buses (maximum seat number is 26). However, the Medium size buses tend to be extinct and were found no longer operated since 2012. Meanwhile, the existing train service is mainly used for intercity trips although it has been existed since more than a century ago with the railway network is parallel with the major arterial roads crossing the Padang city. These figures seem to indicate the weak public transport planning and management. The local government launched newly developed Bus Rapid Transit service in February 2014. Although it might be considered premature, the recorded passenger number tends to be decreasing and hence and would end up like previous the medium size buses. The local government is suggested to address these issues seriously in order to minimize the negative impacts and potential economic loss of transport sector.

Keywords: *Para-transit, Bus Rapid transit, Train, Padang*

Abstrak

Tulisan ini membahas portret dan poblema transportasi lokal dengan ilustrasi pada kota Padang serta kaitannya dengan isu-isu nasional yang juga dapat merepresentasikan kondisi yang sama pada kota-kota lain di Indonesia. Salah satu temuannya adalah jumlah kendaraan pribadi di jalan raya, khususnya sepeda motor secara signifikan jauh lebih banyak dibandingkan kendaraan umum. Namun, kendaraan umum cenderung bertahan menjadi moda utama di Padang-walaupun persentasenya menunjukan angka penurunan. Terdapat dua jenis moda angkutan umum di Padang berdasarkan ukuran modanya, yaitu mini bus dengan jumlah kursi atau penumpang 11 orang, dan bus ukuran sedang (jumlah kursi maksimum 26). Tetapi, angkutan umum dengan moda bus ukuran sedang tidak lagi beroperasi sejak tahun 2012. Moda kereta api hingga saat ini hanya digunakan untuk perjalanan antar kota walaupun sudah beroperasi sejak lebih dari satu abad yang lalu dengan lintasan rel tunggal paralel dengan jalan arteri melintasi Padang, dan tidak terintegrasi dengan angkutan umum lainnya. Kondisi ini boleh jadi memperlihatkan lemahnya perencanaan dan manajemen angkutan umum. Pemerintah kota Padang baru saja mengoperasikan angkutan umum Bus Rrapid Transit pada Februari 2014. Dari data sementara, jumlah penumpangnya cenderung menurun dan boleh jadi berakhir sama dengan angkutan umum bus ukuran sedang yang tidak lagi beroperasi karena minimnya penumpang. Pemerintah lokal disarankan untuk memperhatikan masalah ini dengan serius guna mencegah efek negatif dan potensi kerugian ekonomi dari sektor transportasi.

INTRODUCTION

Padang city is located in west coast of Sumatra Island with a total area of 694.96 KM2 and recorded population number is 854336 individuals, 1.1% higher than the previous year. The Gross Domestic Regional Product (GDRP) is Rp. 30696.06 Billion with economic growth rate 6.58% and the average monthly income was Rp. 2.6 Million. Meanwhile, total funding allocated for transport sector in 2012 was Rp. 10.211 Billion or 1.8% of total budget (BPS, 2012), increased nearly 40% compared to 2009 (Rp. 7.178 Billion/0.8% of total budget) (BPS, 2009). It could be considered as a positive effort from the local government to improve the existing transport system so that the economic growth rate can be lifted up. Therefore, it must be supported with well-planned and designed transport system, including integrated Public Transport (PT) service and management meeting the travel demand.

PADANG TRANSPORT FIGURES

The average number of trip/day/household is relatively high ranging from 5 to 12 trips, depends on the household size (Dishub, 2012b). Work trip purpose has the highest percentage, combined with school trip it becomes 54%-more than half of the trip number (see Figure 1) (Dishub, 2012b). This percentage could indicate the potential demand of transport, especially the public transport and hence required to be managed. In addition, Padang also contributed 16.3% of total trips- the highest one compared to other 18 cities/regencies cities in West Sumatra (Dishub, 2012c).

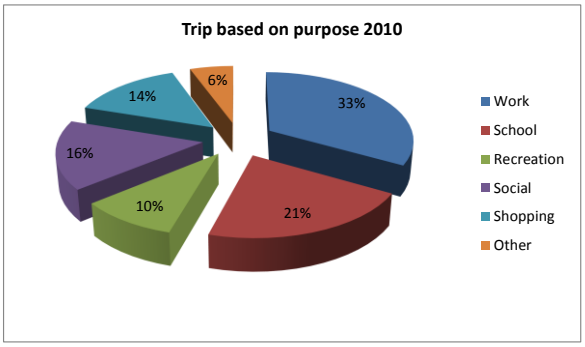

Figure 1. Trip based on purposes in 2012

In contrast, the road network in Padang is dominated by private vehicles (PV) such as passenger cars (PC) and motor cycles (MC). The latest statistic data suggests the total population of motor vehicles in Padang city is 412196 units with the annual growth rate more than 10%. The percentage of MC is the highest one compared to other kinds of motor vehicles counted for 74.14% (BPS, 2012). This situation demands a reliable integrated multimode and environmentally friendly public transport (PT) system and hence the negative impacts such as road accident, congestion, and energy consumption could be minimized. Especially in increasing the economy competitiveness of Padang city as suggested in Mid-term National Development Plan (RPJMN) 2010-2014 (RI, 2010).

PUBLIC TRANSPORT FIGURES: PARA-TRANSIT

Meanwhile, the main PT in Padang were Para-transits (the same size as a PC) with a maximum seat or passenger number is 11, and medium size buses (maximum seat number is 26) (See Figure 2). The fleet ratio of Para-transits (PTr) compared to medium-size buses (MB) in 2009 was 85%:15% (BPS, 2009). However, the MB tends to be extinct and was no longer operating since 2012 (BPS, 2012).

Like the MB, PTr could also experience the same problem as MB due to some factors especially related to onboard convenience resulted from its size such as poor lay out, lack of space inside the mode, not equipped with air condition, and most importantly the safety issue. In addition, the government of Indonesia released another controversial policy called "Low Cost Green Car/LCGC) in 2013 (Kemenhub, 2013). It could trigger more PTr users to purchase LCGC resulting in mode shift from PTr to new brand owned PCs. The PTr share was reported gradually decreasing since 2004. It can be seen in Figure 3 that based on Home Interview (HI) survey the percentage of PT used by population in Padang was 53% in 2004 and become about 46% in 2010 (Dishub, 2012a).

Figure 2. PT in Padang Para-transit (left) and medium size bus (right)

Although it tends to decrease likely due to convenience and safety issues, PTr could be still considered the main transport in Padang city. It was found through HI survey in 2012 where nearly 52% respondent used PTr as transport mode. Yet, data from 2012 Traffic Count (TC) survey on major roads suggests Private Vehicle (PV) such as PC and MC still dominated the road network in Padang city as depicted by Figure 3 with a ratio PV and PT 65% : 35%. Majority of PTr are operating on the individual basis, while the government issues the operating and route permits. There is no ticket and the passenger pays onboard, depends on the length of the trip. The PTr stops and serve the passenger everywhere, regardless the location of available bus stops leading to a poorer traffic condition on the road.

PUBLIC TRANSPORT FIGURES: TRAIN

Despite the high demand of PT service and its decreasing trend, the HI survey found that the respondents were barely used mass transit mode like train as a transport mode. In contrast, the train network in Padang has been existed since 1892 or more than a decade ago. It was only use for commodity transport since 1990 which mainly transporting Cement product more than 3 Tons annually from Indarung (the largest cement company in Sumatra Island) to Teluk Bayur (the biggest sea port in West Sumatra) with total length of rail network is 15 KM. Figure 4 shows the train used to transport Cement product (Dishub, 2012c).

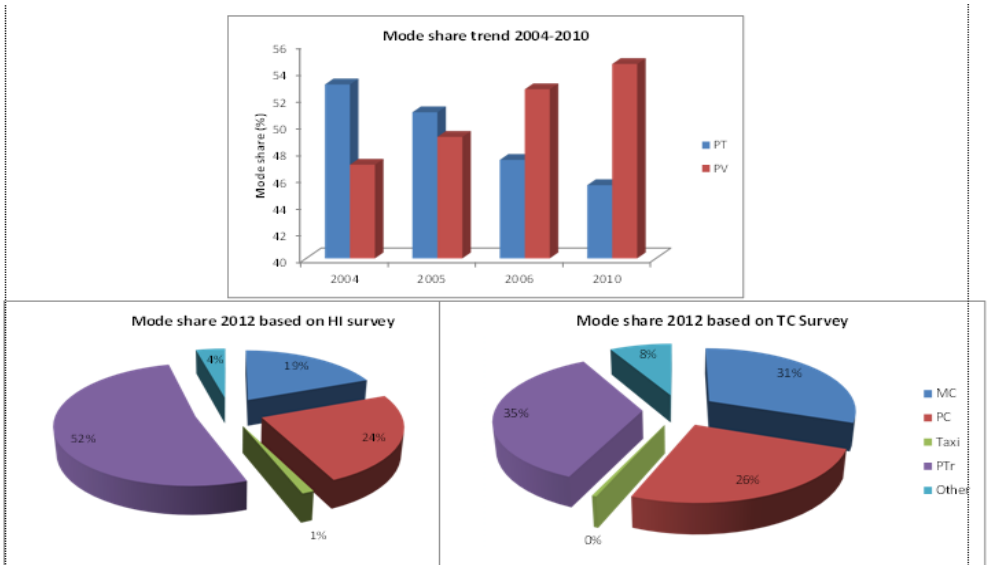

Figure 3. PT share and trend in Padang city

The train now serves the people passenger for intercity trips from Padang and Pariaman cities with total length of rail network 27.84 KM crossing the Padang city alongside the major primary arterial roads. This intercity train called "Sibinuang" as depicted by Figure 5. The intercity passenger train is now operating twice a day connecting Padang and Pariaman cities. Ticketing system is still manual and not integrated with other public transport in Padang. It can be purchased at the major stations, the same price for all age passengers. The price is Rp. 2500 per passenger (one way) remains the same since 2007. The state government of West Sumatra intends to operate the Railbus by using the existing rail network crossing the Padang city to the Minangkabau International Airport (MIA) in Padang Pariaman Regency located in the northern part of West Sumatra and also Monorail above the Railbus with the network can be seen in Figure 6.

PUBLIC TRANSPORT FIGURES: NEWLY DEVELOPED BRT

The local government of Padang city launched the newly developed Bus Rapid Transit (BRT) service in February 2014, operating every day from 6 AM to 8 PM with 15 medium-size buses and air conditioned. It is planned to develop five corridors of BRT connecting the Northern area (BIM/Minangkabau International Airport)-Southern area (Teluk Bayur/The Largest sea Port in West Sumatra-located in Padang), and Eastern area (Government area centre/Air Pacah)-western area (Pusat kota/ city central). However, only corridor 1 is currently served by the BRT (K1) (See Figure 7).

Figure 4. Train cement product transport

Figure 5. Padang-Pariaman intercity train (Sibinuang)

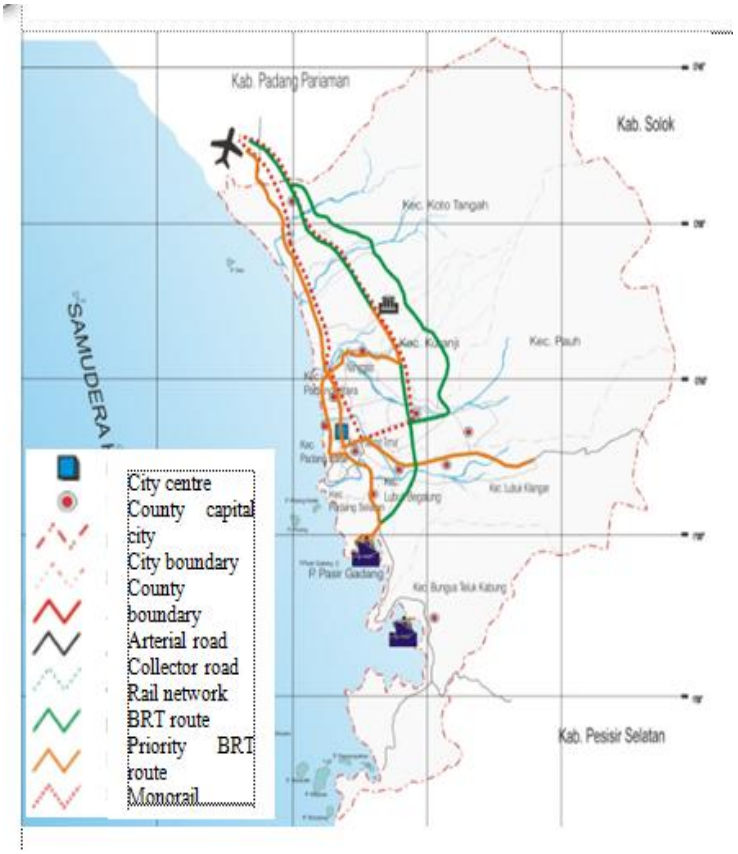

Figure 6. Existing and future plan of PT network

Like the train, BRT also using manual ticketing system. Its service is not integrated with other PT services such as PTr and Train. However, the ticket price for students is cheaper than regular one. It is Rp. 1500 and Rp. 3500 respectively-one way. More than 4200 tickets sold daily, where the ratio between student and regular ticket selling is 35%:65% consecutively. The BRT is run by a private company through "buy the service" scheme. All funds from the ticket selling are collected by the local transport department. The operator is then paid based on the KM-travelled by BRT. Although it might be premature, the demand tends to be stagnant; it is event showing a decreasing trend (see Figure 8). The operator releases the BRT route as well as the bus stop location; however, the time table is still not clear.

PUBLIC TRANSPORT FIGURES: AIRPORT BUS

There is another PT operating in Padang, the airport bus (APB) connecting the Padang city and MIA in Padang Pariaman regency-located in the northern boundary of Padang. It operates hourly by two different companies called "Tranex" and DAMRI". These air-conditioned APB has almost identical routes or overlapping with BRT route and uses the same size buses. Actually, the BRT route (K1) is located inside the APB passenger catchment area. However, it is extended to the MIA and hence the route is longer. The ticket is much more expensive compared to the BRT. It is Rp. 18.000-one way and paid onboard manually. An interesting fact about the APB service is about 20% of public did not know that there is APB service operating daily. It was also found the unclear time table, route and bus stop location as the main reason behind low percentage of APB service usage (Yaldi et al., 2013).

DISCUSSION

The motor vehicle growth rate in Padang is similar to at the national level which is 10% (Yaldi, 2012) with the road network length growth rate about 7.3% annually. One of the consequences of these figures is that consumption of oil from transport sector will increase annually, and then the amount of imported oil would also increase. The main source of energy in Indonesia is currently from the oil (RI, 2011). It contributes about 60% of national energy consumption. It was reported that the oil consumption was about 60 Billion liters in 2010 and about one third was imported and subsidized (Bappenas, 2011).

Transportation sector spends more than a half of the national oil consumption, followed by the household/service and industry sectors. Land transport was the biggest oil consumer from transport sector which is up to 88% where 34% of it was used by the private car (BPPN, 2006). In contrast, it was reported in 2006 the estimated oil deposit could last only about 18 years (or ten years remaining from 2014) (BPPN, 2006). Indonesia is in front of energy crisis! It must be anticipated immediately, and one of the solutions is by shifting the private car usage to the more sustainable and greener mode of transports. In addition, PT only used 9% of oil consumption from land transport sector-significantly lower than other modes (Bappenas, 2011).

Another impact of PV dominance in Padang is increasing number of congested spots. Yaldi (2012) described some portraits of Indonesian transport system which also representing the existing condition in Padang city. Congestion occurs mainly inside the Central Business District (CBD) and also some area located in outside CBD but still in the city of Padang. Some spots experience a severe congestion level and its level of service could reach the lowest one (Yaldi, 2012). Gwilliam (2002) reported in Ma et al. (2007) that traffic congestions could cause loss up to three per cent GDP in many countries and double for developing countries. Therefore, the potential loss due to congestion in Padang city would be more than Rp. 900 Billion (3% of the 2012 GDRP)-significantly much higher than the budget allocated by the local government for transport sector, even higher than all sector's budget combined together.

Figure 7. Newly operated BRT, route, and bus stops

Soehodho (2007) claimed that an imbalance occurs between the growth of road infrastructure and the motor vehicle number. The motor vehicle number growth rate of about ten per cent is only followed by about one per cent of road length development at national level. Although the road length growth rate in Padang is much higher compared to national level, it is still considered imbalanced. The major effect caused by this imbalance is an increasing number of traffic accident and its casualty annually. The road accident number in Padang is rank as the highest one compared to other cities/regencies in West Sumatra since 2008. The recorded number of road accident in 2012 was 444 cases with fatality index/FI 1.5 (1.5 fatalities/10000 registered motor vehicles) and Case Fatality Rate/CFR 14%. These FI and CFR are much lower compared to national level which are 3.93 and 50.70% (Kemenhub, 2011b). However, these numbers would increase due to rocketing number of PV as well as poor quality of PT service. Besides, it was targeted to

reduce the accident number by 50% in 2014 (RI, 2010). The potential loss due road accident is ranging between 2.9% and 3.1% GDP (Kemenhub, 2011b). For Padang city, the potential loss could reach Rp. 1 Trillion (based on 2012 GDRP). The PC and MC dominance could remain in the future unless a systematic effort in persuading the public to shift from PV to PT based on the public expectation towards PT service is undertaken by all stakeholders like providing Bus Rapid Transit (BRT) in Padang city.

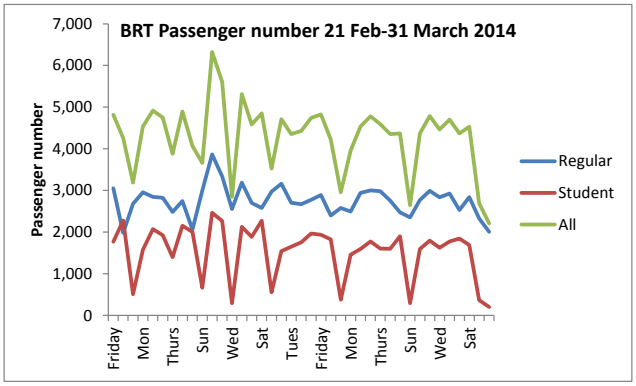

Figure 8. BRT Passenger number

For Padang case, the use of PTr as PT mode could worsen the existing traffic condition since it uses the same road space as PC and hence the use of larger mode size like buses and trains are recommended. The mass rapid transit like train is mainly used for intercity trips only, while according to the Master plan of National Train (RIPNAS) it was planned to promote the use of train as urban transport mode in Padang as part of increasing the train mode share up to 13% through improving and developing the existing rail network and infrastructure with total estimated cost by 2030 is USD 33169.50(Kemenhub, 2011a). Another main issue related to Padang transport system is there is no integration among existing PT services, and the service route tends to be overlapping indicating a poor planning and management of PT system. The likely impact is decreasing percentage of PT usage as indicated by decreasing trend of passenger number of the newly BRT service.

SUMMARY

The above issues represent the traffic management in Padang is likely weak which is a common problem as well as in other cities in developing countries identified earlier by GWilliam (2003). The main reason behind this drawback could be due to low number of skilled human resource low (Kemenhub, 2011a, Kemenhub, 2005) resulting in inadequate planning and implementation skills, and lack of budget worsen the planning output (Ortuzar and Willumsen, 1994). The good news is PT is still one of the main transport modes in Padang despite its decreasing mode share. It is recommended to address these issues comprehensively so that the reliable, sustainable and integrated PT based on the traveller expectation could be developed in Padang city in order to prevent a higher potential economic loss.

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