

Enhancing Sustainability and Inclusiveness of Urban Passenger Transport in Asian Cities

Ms. Dorina Pojani

Senior Lecturer

School of Earth and Environmental Sciences

University of Queensland

Queensland, Australia

Mr. Kenneth Baar, Independent Public Policy Analyst



Background Report for the Regional Workshop on
Sustainable, Inclusive and Resilient Urban Passenger Transport:
Preparing for Post-Pandemic Mobility in Asia

28-29 October 2021



Enhancing Sustainability and Inclusiveness of Urban Passenger Transport in Asian Cities

Ms. Dorina Pojani

Senior Lecturer

School of Earth and Environmental Sciences

University of Queensland

Queensland, Australia

Mr. Kenneth Baar

Independent Public Policy Analyst

Background Report for the Regional Workshop on
Sustainable, Inclusive, and Resilient Urban Passenger Transport: Preparing
for Post-Pandemic Mobility in Asia

28-29 October 2021

Final Version

3 October 2021

Disclaimer

This report has been issued without formal editing. The designation employed and the presentation of the material in the report do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The views expressed, analysis, conclusions and recommendations are those of the author(s), and should not necessarily be considered as reflecting the views or carrying the endorsement of the United Nations. Mention of firm names and commercial products does not imply the endorsement of the United Nations.

The report is issued without formal editing.

Table of Contents

1	Introduction.....	5
2	Enhancing sustainability and inclusiveness of passenger transport in Asian cities	7
2.1	A region of multi-modal travel	7
2.2	Extremely rapid urbanization	7
2.3	Construction of a world for automobility	8
2.4	High densities, suburbanization, and traffic overload	9
2.5	Shift to motorized personal travel modes.....	10
2.6	Environmental pollution.....	11
2.7	Declining travel speeds and accessibility	12
2.8	Extreme hardship for the poor.....	13
2.9	Aging populations	13
2.10	Sexual harassment and crime.....	14
2.11	Accessibility for women and people with disabilities	14
2.12	Toward new paradigms in passenger transport.....	15
3	Greening passenger transport in Asian cities	17
3.1	Institutional set up for developing 'green' transport plan	17
3.2	Restrictions on automobiles and parking.....	18
3.3	Reducing fossil fuel subsidies	18
3.4	Embracing Universal Design.....	19
3.5	Planning, preserving, and developing mass transit options	19
3.5.1	Conventional bus systems.....	19
3.5.2	Bus Rapid Transit (BRT)	20
3.5.3	Metro and Light Rail Transit (LRT)	24
3.6	Developing policy for modes of travel other than mass transit and autos	25
3.6.1	Pedestrians	26
3.6.2	Bicycles.....	26
3.6.3	Motorcycles	27
3.6.4	Paratransit.....	27
4	Conclusion: Planning for the future	29
5	References	30

1 Introduction

This report provides an overview of the scholarly literature of the past decade discussing the passenger transport issues faced by Asian cities. The past half century has been marked by explosions of urbanization and motorization. A massive growth in wealth has been combined with urban impoverishment and inequality. In a world increasingly dominated by urban areas, including megacities with millions of inhabitants, daily transport matters have taken a center stage. Travel time and cost now play a key role in the lives of a major part of the Asian population. Within this reality, urban transport has introduced immense environmental, physical, and economic welfare problems. It now envelopes issues about how to design cities so that they are livable. The COVID-19 outbreak has compounded the crises.

The questions surrounding how to improve passenger transport and ameliorate its adverse impacts traverse a broad, complex, and daunting range of issues including (but not limited to):

- Institutional set-up, coordination, and planning of transport systems,
- Selecting and financing appropriate modes of public transport,
- Role and regulation of private paratransit,
- Disabling and enabling non-motorized travel (by foot and bicycle),
- Designing modes of mass transit,
- Imbalances between support for automobile travel and public transport,
- Poverty and inequities in transit priorities and outcomes,
- Protection of women from harassment,
- Needs of the elderly and people with disabilities,
- Environment and pollution, and
- Safety and security.

Numerous journals are dedicated to sustainable transport issues throughout the globe. Some focus specifically on transport issues in Asia. To place this discussion of the literature on transportation policy and urban travel in perspective, it is noted that scholarly literature in this area is heavily focused on larger cities and especially megacities, where the most serious problems are occurring. Generally, the literature does not address the transit issues faced by a majority of the population, which lives outside the larger cities (Pojani and Stead 2015).

Another qualification of this literature review is that even the most current literature, which is typically published a year or two after it is written and in turn possibly years after the research was conducted, is in the context of rapidly changing situations. Also, the literature does not take into account the impacts of the COVID-19 pandemic, which is now shaking our world, on urban transport.

The evolution and contour of urban travel issues in Asia has substantial commonalities and wide differences. A common conclusion is that notwithstanding increasing national concerns and efforts, often in developing Asian nations transport conditions are deteriorating rather than improving. However, some of the higher-income megacities have been relatively successful in developing and maintaining high-quality public transport systems.

In the past decades, especially in nations with rapidly developing economies, the pace of urbanization has outrun the ability and wealth of societies to resolve the urban travel issues that accompany such growth. The paradox has been that the path to the wealth enabled by the emergence of motorized transport has also been a path of strangulation, hardship, and impoverishment of the lower economic classes.

Pending transport calamity was widely anticipated decades ago (Owen, quoted in Dev and Yedla, 2015). Contemporary accounts detail a situation which, in developing countries is getting worse rather than better, despite the policy efforts and transport expenditures of the public sector (Parikesit and Susantono, 2013). Widespread congestion and perpetual traffic gridlock are now common in many cities, impacting urban life in a major way. Externalities include air pollution, noise, severe health hazards, lack of public and green space, and environmental degradation (Burgess, 2000; World Bank, 2015; Dev and Yedla, 2015, chapters by Singh, Sriraman, and Tiwari). This report is in two parts. The first part discusses the characteristics of urban Asia with respect to passenger transport. The second part outlines efforts to 'green' the passenger transport systems in Asian cities.

2 Enhancing sustainability and inclusiveness of passenger transport in Asian cities

2.1 A region of multi-modal travel

Asia is a region where multiple and widely diverse modes of transport each play a major role. Mass transit modes include trains, trams, Bus Rapid Transit, and ordinary busses. Commercial privately owned “paratransit” modes include multi-passenger small vans, two- and three-passenger *tuktuks*, one-passenger motorcycles, and non-motorized rickshaws. Owner-operated modes include automobiles, motorcycles, bicycles, and e-bikes. The motorized share of travel is rapidly increasing. Yet in some countries a substantial share of travel is on foot.

The distribution of travel modes in large cities greatly varies among nations. In China, Japan, and Republic of Korea a substantial portion of travel is on metro or buses. In Southeast Asia, a substantial portion of all travel is non-motorized, either by walking, bicycle, or non-motorized paratransit (Pojani 2020). In some countries this is the only affordable form of travel for the low-income population. Tiwari (2015) notes that in Indian megacities between 40 and 50 percent of travel is non-motorized and commonly is the only mode of travel that is feasible for low income households: In some cities, a substantial portion of travel is in small, privately owned vans and mini-buses. In Manila there are 75,000 franchised *jeepneys* (refurbished American vehicles left after the Second World War, which carry up to twenty passengers). Jeepneys follow fixed routes and must be licensed. The government has considered restrictions on the volume of jeepney travel for years; their use was shut down with the advent of the COVID-19 pandemic, and, as of July 2021, it is uncertain whether they will be permitted to return. In Jakarta there also about 45,000 *angkots* (minivans with a capacity for 12 to 15 seated passengers), which are privately owned. For many passengers they may be the only affordable option (Dewita, 2020). Another source notes the critical and valuable role that *angkots* perform in Indonesian transport (Joewono et al., 2015).

2.2 Extremely rapid urbanization

The story of urbanization of Asia is commonly known. Its speed has been remarkable, and in itself is enough to overwhelm the abilities of government to resolve transit problems. Asian patterns of urban growth may be contrasted with the experiences of

West European cities which grew at a slower rate in a period which preceded the introduction of the automobile, leaving them with decades, strong incentives, and sufficient resources to support the introduction of comprehensive mass transit systems.

Now, Asia has a substantial portion of the megacities in the world. Beijing, Manila, Mumbai, Seoul, and Shanghai each have over 20 million inhabitants. Delhi, Jakarta, and Tokyo have over 30 million inhabitants. In China six cities have more than ten million inhabitants and eighteen cities have over five million inhabitants. As of the first decade in this century, the Asian continent had 42 of the 50 densest cities in the world.

Furthermore, it is anticipated that exponential rates of growth will continue. For example, in 2015, India was projected to have an increase of 250 million urban dwellers by 2030 (Misra, 2015; Rode and Shankar, 2014). Lao PDR and Cambodia are experiencing 7.3% and 4.3% annual growth in population, respectively (Barbosa et al., 2018). In 2020 half of Indonesia's population lived in urban areas and it is predicted that the proportion will reach 60% by 2025. In Malaysia, 75% of the population lives in urban areas.

2.3 Construction of a world for automobility

For decades, extensive automobile production and usage and construction of highways to facilitate automobility have been considered as the route to progress in Asian cities (see Hansen and Nielson 2017). In China, support for the creation of a substantial auto industry that would provide for widespread domestic car use became part of the economic growth plan in the 1990s (Chen et al., 2020). Until that time, a vibrant and public culture, which was based on walking and cycling, prevailed (Gao and Kenworthy, 2017).

预览已结束，完整报告链接和二维码如下：

https://www.yunbaogao.cn/report/index/report?reportId=5_275

