REVIEW OF DEVELOPMENTS IN TRANSPORT IN ASIA AND THE PACIFIC 2021

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Towards Sustainable, Inclusive and Resilient Urban Passenger Transport in Asian Cities





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The term "Asia" refers to the above group of countries and territories/areas excluding the Pacific.

The term "East and North-East Asia" refers collectively to: China; Hong Kong, China; Democratic People's Republic of Korea; Japan; Macao, China; Mongolia; and Republic of Korea.

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The term "Pacific" refers collectively to American Samoa, Australia, Cook Islands, Fiji, French Polynesia, Guam, Kiribati, Marshall Islands, Micronesia (Federated States of), Nauru, New Caledonia, New Zealand, Niue, Northern Mariana Islands, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu.

The term "South and South-West Asia" refers collectively to Afghanistan, Bangladesh, Bhutan, India, the Islamic Republic of Iran, Maldives, Nepal, Pakistan, Sri Lanka and Turkey.

The term "South-East Asia" refers collectively to Brunei Darussalam, Cambodia, Indonesia, the Lao People's Democratic Republic, Malaysia, Myanmar, the Philippines, Singapore, Thailand, Timor-Leste and Viet Nam.

Values are in United States dollars unless specified otherwise.

The term "billion" signifies a thousand million.

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EXECUTIVE SUMMARY

Since the last *Review* was published in 2019, the ways in which human mobilities are viewed have undergone profound changes. Many government measures to contain the COVID-19 pandemic were designed to discourage and even stop people from travelling. This led to unprecedented falls in passenger levels, particularly for aviation, long distance rail travel, and public transport, while more people started walking, cycling, and driving. The pandemic also accelerated the shift towards online shopping, schooling, and work, further dampening travel demand. Meanwhile, the Asia-Pacific region has also witnessed an extraordinary rise in climate-related disasters, ranging from severe flooding, wildfires and haze, intense rainfall and landslides, and typhoons. It is now widely accepted that climate change is driven by greenhouse gas emissions, and that urban transport is a major contributor. The question of how to make urban passenger transport more sustainable has therefore moved centre stage on the climate change agenda. The *Review of Developments in Transport in Asia and the Pacific* 2021 argues that to achieve more sustainable urban transport systems, policymakers should ensure that transport policies and plans are based on environmental sustainability, social inclusiveness, and resilience, and then elaborates measures to achieve this.

Chapter 2 presents a broad overview of the current state of the urban passenger transport sector in Asian cities, including traditional modes and new mobility services. A noteworthy trend is the expansion of mass transit systems in the region, particularly bus rapid transit, light rail and metro systems. At the same time, the COVID-19 pandemic reignited interest in non-motorized travel, which is particularly important for low-income groups and people who do not have access to cars. Over the past few years, new types of transport services, such as ride-hailing motorcycles and taxis, shared bicycles, and other types of micromobility have flourished in some Asian cities, expanding travel options for users.

Chapter 3 notes, however, that the development of sustainable urban passenger transport faces several major challenges. The most urgent of these is the continuing demand for fossil fuels, exacerbated by rising motorization rates, as well as fossil fuel subsidies in some countries. A related challenge is dependence on automobiles and other private transport modes, which brings problems such as urban sprawl, pollution, greenhouse gas emissions, congestion and road traffic accidents. The Asia-Pacific region also accounts for some 60 per cent of the global total of traffic fatalities, with the number of accidents expected to increase as motorization continues. Another major issue is the lack of focus on the mobility needs of low-income groups, women, children, persons with disabilities, and the elderly, even though they make up the majority of the population.

Chapter 4 highlights selected policies for environmentally sustainable transport which are particularly relevant for the Asia and Pacific region. These include making land-use planning processes more effective; internalizing the social and environmental costs of transport into planning processes; expanding smart transport systems and associated technologies; and promoting energy efficient vehicles. It then describes a transport energy modelling exercise using the Avoid-Shift-Improve (ASI) framework to estimate the impact of five representative low-carbon policy scenarios on energy use and emission profiles for 2030 and 2050. The results suggest that policies associated with "Improve" scenarios, particularly energy efficiency and electric vehicle scenarios, had the most significant effect on reducing emissions.

Chapter 5 assesses the short and longer-term impacts of COVID-19 on mobility, as well as some of the implications for other dimensions of sustainability. The most immediate impacts were a fall in ridership

levels and a shift from public transport to private cars and motorcycles. In some cities, there was also a rise in walking and cycling. It is too soon to say whether these short-term effects will translate into longer-term structural changes in transport demand. The pandemic also exposed the vulnerability of urban transport systems, particularly for public transport operators who depend entirely on farebox revenues for operational expenses. However, the pandemic also triggered a wave of innovative applications of digital technologies, from ticketing to crowd management. As they reflect on the experiences of the pandemic to 'build back better', countries and cities need to take a more creative approach to policy-making which looks holistically at transport systems, not only at individual problems.

Chapter 6 concludes with selected policy recommendations, as follows:

- 1. *Make urban transport more environmentally sustainable* by reducing fossil-fuel based private transport modes, removing fossil fuel subsidies, and promoting electric mobility, public transport and active transport modes;
- 2. Design inclusive urban transport systems which meet everyone's needs, ensuring that different groups can access transport to fulfil their daily activities, and that safety issues are also taken into account;
- 3. *Integrate resilience into urban and transport planning*, including ensuring that public transport services recover from the drop in trip demand during the pandemic, as well as taking actions to "climate proof" transportation infrastructure in the face of changing climates and increasing natural disasters;
- 4. *Harness the power of new technologies* to make transport more sustainable, such as through smart technologies, more energy efficient vehicles, new energy sources and engines, including electric mobility, and intelligent transport systems;
- 5. Build the capacities of local governments and transport operators, including informal service providers, to plan and deliver more sustainable services and to better coordinate with each other in times of external shocks such as disasters and infectious disease outbreaks;
- 6. *Direct more financing to sustainable transport modes* through innovative financing models so that operators do not depend on farebox revenues and can also improve the quality of services;
- 7. Strengthen monitoring and research capacities in the region, ensuring that the large volume of research being conducted by academia and the private sector can be used by governments to

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