Advancing Urban Mobility in Malaysia: Promoting E-Scooters for Enhanced First and Last Mile Connectivity

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Executive Summary

This policy advocacy document proposes the integration of shared e-scooters into Malaysia's urban transportation framework to address the critical gap in first and last mile connectivity. As Malaysia continues to urbanize at a rapid pace, sustainable and efficient mobility solutions are becoming increasingly crucial. This document examines the emergence and success of micro-mobility globally, aligns it with Malaysia's public transport goals, addresses local challenges, and offers detailed policy recommendations to promote widespread adoption of e-scooters.

1.0 Introduction

Urban areas in Malaysia face significant challenges due to increasing vehicle congestion and escalating environmental concerns. With the urban population expected to rise substantially in the coming decades, the need for innovative transportation solutions is more pressing than ever.

This document explores the potential of shared e-scooters to significantly enhance urban mobility by providing efficient first and last mile connectivity, thus supporting the broader use of public transportation systems and reducing urban congestion and pollution.

The objective of this advocacy is to present a well-researched, comprehensive argument supporting the adoption of shared e-scooters, guided by successful examples from other countries, and to propose specific policies tailored to the Malaysian context.

2.0 Emergence of Micro-mobility Devices

2.1 Overview of Micro-mobility

Micro-mobility refers to a category of small, lightweight vehicles designed primarily for individual use over short distances. These include bicycles, e-bikes, e-scooters, and other compact electric vehicles.

Characterized by their affordability and agility, these devices can navigate dense urban spaces effectively, making them ideal for closing the gaps in traditional public transport networks.

2.2 Global Trends and Statistics

The global micromobility market has seen exponential growth, with projections indicating it could reach USD 300 billion to USD 500 billion by 2030. This surge is driven by increasing urbanization, environmental concerns, and technological advancements in battery and GPS technology.

Europe and Asia are leading the adoption, with cities like Madrid and Seoul integrating e-scooters extensively into their transport networks. The International Transport Forum reports that micromobility could reduce urban transport emissions by up to 40% by 2030.

Market Adoption:

- In Europe, over 30% of urban residents have used some form of micro-mobility device as of 2021.
- In Asia, countries like China and Japan lead in adoption due to high population density and strong government support for electric vehicles.

2.3 Benefits of Micro-mobility

The benefits of micro-mobility are multifaceted:

- Environmental Impact: On average, shifting to e-scooters from cars for just 10% of short trips can reduce urban transport emissions by up to 6%. Cities like Copenhagen and Amsterdam have demonstrated significant reductions in CO2 emissions by integrating micro-mobility into their transport ecosystems.
- Urban Congestion and Mobility: E-scooters and similar devices can decrease congestion. For instance, studies in cities like Berlin and San Francisco show that widespread micro-mobility adoption has led to a 15-20% decrease in traffic during peak hours.
- Economic Benefits: Users often find micro-mobility cheaper than owning a car or even using public transport for short distances. Additionally, the rise of micro-mobility has the potential to spur job creation in new sectors such as vehicle sharing services, maintenance, and infrastructure development.

3.0 Adoption in Other Countries

3.1 Guidelines on e-scooters

An analysis of the countries where micro-mobility solutions have been effectively implemented largely suggests that the best-practice has been for Federal Governments to set vehicle specification requirements while local authorities determine matters of road use, pavement use, minimum age and maximum speed. In addition, it is a widely accepted practice for e-scooters to be regarded as a means of "transport for commute" instead of "recreational and leisurely use". With this in mind, these countries and their respective local authorities allow e-scooters to be used on "Slow Roads" with a speed limit of up to 60 km/h and these vehicles are regulated similarly to bicycles:

Access	United Kingdom	United States	Indonesia	Germany	Australia
Road Use (Not demarcated)	Allowed (same as bicycles)	Allowed (same as bicycles and motorcycles)	Decided by Local Authority (Regent, Governor, or Mayor)	Allowed (same as bicycles)	Allowed on local roads only (50km/h or slower)
Road Use (Demarcated)	Allowed (bicycle lane)	Allowed (bicycle lane)	Decided by Local Authority (Regent, Governor, or Mayor)	Allowed (bicycle lane)	Allowed (roads 50km/h or slower)
Pavement (Footpath) Use	No footpath use (same as bicycles)	No footpath use (same as bicycles)	Decided by Local Authority (Regent, Governor, or Mayor)	No footpath use (unless there is signage)	Allowed
Authority for Permit Approval	City Council	City Council	Regent, Governor, or Mayor	No approval required	City Council

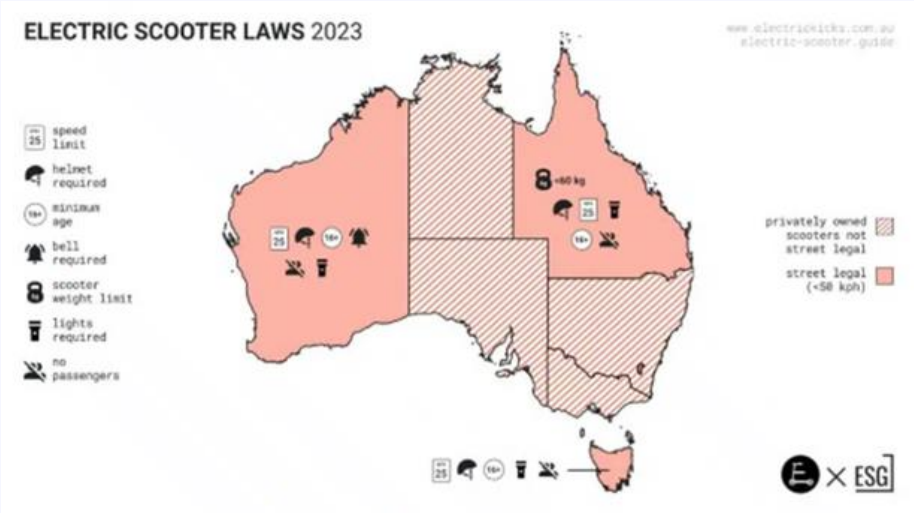
Vehicle Requirements	United Kingdom	United States	Indonesia	Germany	Australia
Speed Limit (km/h)	25 km/h	State-specific limits (24-57 km/h)	25 km/h	20 km/h	25 km/h
Weight limit (kg)	55kg	None	N/A	55kg	60kg
Power Limit (wA)	500wA	State-specific limits (750-2,500 wA, 50-125 CC, 1.5-5hp)	N/A	500 wA	Compliant devices of any power level
Design feature	2-wheels only 2 independent brake Bell or Horn Front & Rear light	State-specific limits (handle bar, lights)	Front lamp, position lamp or reflector on the back. Reflector on left and right. 2 independent brake system and horn/bell	2 independent brake Bell or Horn Front & Rear Light	Must have lights and reflectors to use at night or in hazardous conditions, and be fitted with effective brakes
Age (min/max)	Min age 16	State-specific requirement (minimum age range 12-18)	Min age 12	Min age 14	Min age 16
Vehicle Registration	Not required (same as bicycles)	Not required (same as bicycles)	Not required	Not required	Not required if max speed is <25 km/h
Rider License	Required (small vehicle license)	State-specific requirement (same as bicycles)	Not required	Not required	Not required if max speed is <25 km/h
Helmet	Not required	State-specific requirement (only 8 out of 50 states)	Required	Not required	Required

3.2 Case Studies

3.2.1 Australia

Australia's National Transport Commission (NTC) has released its recommendations for common micromobility legislation across all Australian States and territories. Australia's six states have their own jurisdiction and ability to create regulations and laws suitable for local contexts. There are, however, similarities between the states as follows:

1. Age: a. Minimum age 12 years, with parental supervision b. Minimum age 16 years, without parental supervision
2. Speed: Maximum speed of 25 km/h
3. License: Not required for operating an electric scooter



3.2.2 Japan

The government of Japan recently announced, in February 2023, a deregulation classifying e-scooters as "Slow Vehicles". Following this announcement,

(1) a rider will no longer require a driver's license to operate an e-scooter; and
(2) e-scooters are allowed to be used on roads, bicycle lanes, and footpaths.

For e-scooter operators, they are required to provide insurance to their customers. Operators have been participating in micromobility sandboxes in selected cities since 2021. While there are no specific micromobility guidelines/regulations, e-scooters are categorized under 'Small Motorized Vehicles' that were recently deregulated as follows:

1. Classification: Small Motorized Vehicles with a maximum speed of 20km/h or below
2. Rider License: No license required for special small-sized motorized bicycles
3. Age: 16 years or above
4. Insurance: Requirement for automobile liability insurance (insurance companies in Japan practice this norm, unlike in Malaysia).
5. Road Use: Small motorized vehicles have the same road access as Bicycles, as per national and local authorities.
6. Helmet: Not required.

4.0 Malaysia’s Ambitions to Improve Public Transport Usage & FMLM Connectivity

4.1 Current Transport Landscape

Malaysia's urban centers, notably Kuala Lumpur, suffer from high traffic congestion with significant air quality and mobility issues. Despite having a relatively well-developed public transport system, usage rates remain low, with only about 20% of commuters relying on public transport.

4.2 Government Initiatives and Plans

The Malaysian government has recognized the potential of micro-mobility to transform urban transport. The 12th Malaysia Plan outlines specific ambitions to increase public transport usage through better FMLM connectivity. Objectives include:

Increase Public Transport Modal Share

Targeting an increase in public transport's modal share to 40% by 2030.

Infrastructure Development

Investing in infrastructure that supports micro-mobility, such as dedicated lanes and automated parking systems.

Pilot Projects

Initiating pilot projects in major cities to test and refine micro-mobility integration strategies.

5.0 Challenges in Malaysia

5.1 Infrastructure Challenges

Lack of Dedicated Infrastructure:
Malaysia lacks the necessary infrastructure to safely accommodate e-scooters. Many urban areas do not have dedicated lanes for micro-mobility, leading to safety concerns if e-scooters are to share roads with cars and motorcycles.

Safety Concerns:
With the current infrastructure, there is a significant risk of accidents. This is exacerbated by Malaysia's high humidity and rainfall, making for slippery and generally unsafe road conditions for users of small, lightweight e-scooters.

5.2 Regulatory and Cultural Barriers

Regulatory Uncertainty:
There is currently no comprehensive legal framework specifically governing the use of e-scooters in Malaysia. This regulatory gap results in confusion among users, law enforcement, and city planners regarding rights, responsibilities, and legal protections.

Public Perception and Acceptance:
There remains a degree of skepticism regarding e-scooters among the Malaysian public, partly due to concerns about safety and the appropriateness of e-scooters for the Malaysian climate and topography. Cultural preferences for motor vehicles as status symbols also hinder the adoption of alternative transport methods like e-scooters.

5.3 Economic Considerations

Cost of Implementation:
The initial cost of setting up infrastructure for e-scooters, such as lanes and parking docks, can be high. There is also the ongoing cost of maintenance and management of the shared e-scooter systems.

Financial Sustainability:
Ensuring the economic viability of e-scooter programs in the face of fluctuating demand and the need for regular upgrades to the fleets and systems presents a substantial challenge for shared e-scooter operators.

6.0 Policy Suggestions

6.1 Infrastructure Development

6.1.1 Dedicated Micro-Mobility Lanes on roads that with speed limits of over 30km/h

We propose the construction of dedicated lanes for e-scooters (and other forms of micromobility such as bicycles) in all major cities, starting with high-density commercial and residential areas to ensure safety and ease of access. These lanes should at least be lightly segregated using flex poles or at best concrete dividers to ensure motorists do not drive into these lanes (a common occurrence in Malaysia).

6.1.2 Dedicated Parking Zone within inner city centres

While a dockless, anywhere parking model would serve users better in terms of availability in less dense areas, we suggest city councils convert some parking space meant for cars into e-scooter parking zones in city centres to encourage the orderly parking of e-scooters,.

These parking zones should ideally be at strategic locations such as public transport hubs, shopping centers, and office parks but also close enough to each other (no more than 1-2km apart) so as to ensure high availability to encourage usage.

6.2 Regulatory Framework

6.2.1 Establishment of a Standardized Framework for e-scooter Trials within city councils

City councils which have opted to run trials have done so on an individual basis with no clear picture as to what a successful trial outcome is. This issue is exacerbated by the fact that there is no comprehensive legislation that covers the jurisdiction of e-scooters across all government agencies especially PDRM, JPJ, and the Ministry of Transport which often hinders adoption by city councils.

6.2.2 Creation of a Public Registry

The creation of a registry for e-scooter operators and the mandating of data collection in a centralized database to ensure that all vehicles are safe, insured, and linked to an identifiable owner/user, which will aid in accountability and management.

6.3 Incentives and Subsidies

6.3.1 Subsidies for Users and Providers

The offering of financial incentives to users of e-scooter services such as multi-modal public transport subsidies and tax rebates to encourage higher adoption and usage.

For operators or providers, provision of financial support such tax waivers and grants for local assembly and the manufacturing of e-scooters.

6.3.2 Grants for Infrastructure Development

The provision of grants to local municipalities for the development of e-scooter-friendly infrastructure, encouraging cities to invest in this sustainable mode of transport as per the 2023 released Plan Malaysia Guidelines on Micromobility Lanes.

A good place to start would be pedestrian walkways and bicycle lanes within a 2km radius of public transport hubs such as MRT/LRT and bus stops.

7.0 Conclusion

This document has outlined the strategic importance of integrating e-scooters into Malaysia's urban mobility landscape to enhance first and last mile connectivity. The successful adoption of micro-mobility will lead to decreased urban congestion, reduced carbon emissions, and a more connected society. By addressing the outlined challenges through the proposed policy suggestions, we believe Malaysia can achieve a greener, more efficient, and more accessible urban transport system. It is imperative for policymakers, stakeholders, and the community to collaborate to drive the adoption of these recommendations to achieve the nation's ambitious public transport goals.

References

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