INTRODUCTION

As an approach to Sustainable Transport, the Kuala Lumpur Transport Strategic Plan defined by the ASEAN Secretariat\(^1\) features, as a generic first step, develop “Avoid – Shift - Improve” (ASI) strategies at regional and Member States levels. In ASEAN metropolitan regions, the process of implementing such strategies lags behind the growing challenges posed by rapid urbanisation and economic growth. This is in spite of the availability of proven, effective tools and technologies for each strategy, and of suitable financial instruments and capacities. ASI plans and projects do not materialise at the pace, scale or with the impact required to begin tackling the challenge.

The ASEAN Regional Strategy for Sustainable Land Transport\(^2\) has identified outright barriers to the implementation of sustainable land transport: institutional barriers, financial barriers, limited human resources and technical capacities, coupled with a lack of understanding of sustainable transport and adequate policy solutions.

To progress rapidly and avoid any missed opportunities due to lack of effective sustainable transport policies, an approach that enables ASEAN Member States to establish an efficient and responsible governance system. This must be capable of anticipating future needs, guiding actions and ensuring the integrated management and development of urban transport systems.

This project brief presents the key lessons learned from the MTE toolbox report\(^4\). It also presents solutions for regional configurations required to address transport issues on a new scale, such as conurbations that evolve along newly upgraded economic corridors, including cross-border regions.

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\(^2\) ASEAN Secretariat, 2019. ASEAN Regional Strategy on Sustainable Land Transport.
THE NEED FOR A NEW APPROACH AND A HIGHER ‘GOVERNANCE INTENSITY’

Governance of transport in metropolitan regions is not specific to ASEAN nations, but it is a timely issue for them. The tremendous economic expansion of recent decades has seen a rapid urban growth in ASEAN Member States, transforming towns into cities, which eventually evolve into vast and complex urban and regional systems.

This dramatic economic development of ASEAN member states in recent decades has seen their rapid urbanisation. This has seen not only a high rate of migration to established capital cities like Bangkok, Jakarta, Manila, Kuala Lumpur or Hanoi, but has also meant that many smaller cities - such as Da Nang (Vietnam) and Davao City (Philippines) - have become centres of industry and trade, developing into high level urban nodes. In the process, increasing land prices in the city centre areas are pushing the working population outward. This is leading to urban sprawl and the incorporation of nearby towns into the growing urban system and the formation of new metropolitan regions.

The size of the urban settlements in ASEAN member states is also a specific feature, one which dictates the unique evolution of urban centres. There are only a few megacities; more than half the urban population is situated in centres with a settlement size of less than 0.3 million population. While many larger ASEAN cities have adopted rapid mass transport systems for moving their populations, many smaller urban centres primarily rely on informal transport or public buses. The quality of these buses often does not meet the expectation of users and is perceived as ‘poor person’s transport’.

Furthermore, this demographic trend is expected to continue, accompanied by an exponential growth in mobility and transport service requirements. Local governments are frequently overwhelmed by the scale of the growing transport issues, which may extend far beyond their jurisdiction or geographic borders and require capacities beyond their own responsibilities, budgets and skills. Transport challenges in large metropolitan regions are of particular concern, because they impact large numbers of people and businesses. Transport also contributes significantly to the national contribution to greenhouse gas emissions. On one hand, projects to improve national and transnational transport corridors attract the attention required in national policy making. On the other hand, however, local and regional transport challenges often avoid attention until they reach a critical stage of inefficiency.

The challenge is to find a way out of the institutional labyrinth and overcome barriers, finally enabling design and implement suitable, sustainable transport policies that follow ASI strategies. A new approach and a higher intensity of governance is required to address this scale of challenge and promote new, sustainable mobility and management of transport systems. For this reason, the role of leading transport authorities is pivotal.

The generic concept for this new approach to transport governance is the Metropolitan Transport Executive (MTE), another denomination for transport authorities used by UITP. An MTE is a generic term that designates leading agencies with responsibility for effectively coordinating and executing - on a tactical level - the sustainable transport strategies decided on, and supported by, all the political and responsible authorities involved.

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<th>Annual Density Change (%)</th>
<th>Built-up Area Density (person/ha)</th>
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Source: Tzu-Ling Chen, 2020

THE CONCEPT OF AN MTE

The MTE concept originates in the public transport sector, but in reality encompasses all aspects and actors in the transport sector. This means not only policy makers, public administrators and private investors but also service operators – of transport services for people and goods that use multipurpose streets, roads and rail infrastructure that needs to be planned, implemented and managed. MTEs are visible where competition among transport operators for public resources and market shares needs arbitration, and where transport system performance needs to be improved through increased competencies and synergies.

Transport authorities throughout ASEAN member states face similar challenges and may identify similar, and even common, solutions. To compare existing and future governance structures, it is necessary to use a set of common analytical concepts that allow existing governance structures to be examined and new approaches designed, distinguishing strategic, tactical and operational level tasks.

The breakdown of tasks between strategic, tactical and operational levels.

<table>
<thead>
<tr>
<th>LEGAL FRAMEWORK</th>
<th>AUTHORITIES</th>
<th>TRANSPORT EXECUTIVE</th>
<th>OPERATORS</th>
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<td>Ticketing system Intelligent transport Systems Passenger information</td>
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Source: SMRR project

4 ASEAN Secretariat, 2022. Toolbox for the establishment of Metropolitan Transport Executives (MTE) in ASEAN Metropolitan Regions.
Using these concepts, this document examines the traditional and most-common models observed around the world:

- **The market-oriented regulator model**: The government strategy is to allow the operators of transport services to develop their business according to supply and demand. Intervention is limited to the regulation of these market forces, ensuring safety and fair competition;

- **The state-directed, vertically integrated agency model**: The government has chosen to fund, define and operate the transport services as a service. This is delivered according to public policy plans and criteria, such as coverage of the entire territory or low-cost services for certain groups or purposes.

This project brief presents a methodology for creating and developing an MTE approach that combines the respective advantages of the two models presented above.

Both these traditional approaches offer effective governance for different sectors of the transport system under different circumstances. However, neither delivers the tactical-level tasks in a satisfactory manner, yet it is the tactical-level tasks of integrated planning, provision of infrastructure, common services and support systems that are of the utmost importance. This is particularly relevant in large, complex metropolitan transport systems governed by several responsible authorities and made up of a variety of transport modes and their operators. Therefore, those strategic-level authorities around the world responsible for metropolitan transport have developed an intermediary MTE model, one that is designed to address the specific challenges of large cities and metropolitan regions.

Depending on the stakeholder landscape, the geographic configuration of the transport system and the transport modes deployed, each level – strategic, tactical, operational – can be organised in a range of configurations, with some degree of overlap. In real life, the three models of bodies responsible for governance – regulator, agency, executive – often co-exist, with an MTE at the centre of the metropolitan set-up.

The MTEs act as value-added vertical link between stakeholders on the strategic and operational levels of the transport system. They must also maintain effective horizontal relationships with other tactical level actors within the passenger transport sector.

**STRATEGIC LEVEL ACTORS**

Authorities responsible for metropolitan transport and related matters. These are typically national ministries along with those provincial and municipal governments in charge of transport and road infrastructure.

**TACTICAL LEVEL ACTORS**

An MTE, an agency owned and controlled by the authorities responsible for metropolitan transport. Other tactical level actors in the transport sector include the national railways for commuter rail, municipalities for parking management and spatial planning agencies.

**OPERATIONAL LEVEL ACTORS**

Small, medium or large enterprises, public or private, domestic or international.

Furthermore, strong MTEs can deal effectively with their tactical-level counterparts and cooperate in those related sectors pivotal to developing an effective metropolitan transport system. These include spatial planning, lifestyle policy makers, telecommunications, banking, energy and education. The recurrent task of any MTE is to proactively organise and develop those services being delivered by transport operators. This work of contracting these services to a transport operator – tendering, negotiating, controlling, evaluating, compensating – is a demanding task. It is a key competency of an MTE and is increasingly codified in international business practices.
Tasks and structure of the Metropolitan Transport Commission (MTC), Republic of Korea

**Strengthening infrastructure:**
- Construction of a metropolitan railway network with a travel time of around 30 minutes between major stops.
- Recovery of the function of arterial roads through strengthening road networks.

**Improving operations:**
- Significant enhancement of the number of metropolitan buses and improvement of services.
- Creation of a fast and convenient transfer system.
- Reduction of transport costs.

**Innovating systems:**
- Provision of proactive metropolitan transport measures.
- Restructure investment systems for metropolitan transportation facilities.
- Enhancement of metropolitan transport policy performances.

**Preparing for the future:**
- Implementation of a public transportation hub city with improved air quality.
- Provision of seamless point-to-point transportation services.
KOCHI METROPOLITAN TRANSPORT AUTHORITY

Kochi is the largest and most populous metropolitan area in the Indian state of Kerala. It is served by a diverse range of transport methods; trains, public and private buses (for short-, medium- and long-distance journeys), metro, boats, auto-rickshaws and taxis, as well as cycling and walking. However, it lacked integration and connectivity, creating inefficiencies.

As a part of National Urban Mobility Policy, the central government had set a precondition for approving a metro system; the integration of all public modes of transport under a single ‘command and control’ centre and the introduction of a common ticketing system for the convenience of commuters. With the opening of the metro rail in 2017, operator Kochi Metro Rail Limited (KMRL) formed a committee for the transport authority and drafted the Kerala Metropolitan Transport Authority (KMTA) bill, which was passed in November 2019.

As of November 2020, the KMTA is the independent body responsible for the operation, maintenance, development and supervision of public transport modes in the urban area. The body is chaired by the state’s transport minister, with the transport secretary acting as vice-chairperson. It has a maximum of 15 members, including the district collector/commissioner, city police commissioner, secretaries of local bodies, the mayor, local Member of the Legislative Assembly (MLA) and representatives from the state bus corporation.

Composition of the office finally stated

A single ticketing system for most modes of transport - the KochiOne smart card - has been implemented. The transformation of bus routes is also part of the plan and includes a common timetable to ensure seamless connectivity between different modes. A public information system has been launched, which includes a common mobility app. A parking policy is part of the transport strategy, as well as licenses to be issued for operators. A single command and control centre aims at supervising the entire system. Private bus owners have been aggregated into seven bus operating companies, while 27,000 autorickshaws under six trade unions have been aggregated into a Drivers’ Cooperative Society.
Correcting and imposing sanctions on violations of the Jakarta, Bogor, Depok, Tangerang and Bekasi Transportation Master Plans by agencies, operators and other parties.

Implementing other activities as determined by the Minister of Transportation.

**RECOMMENDATIONS**

To consider strengthening or enhancing the intensity of governance of mobility through an MTE, the following paragraphs offer five recommendations for setting up or consolidating such an approach.

**CONSENSUAL GOALS**

The restructuring of existing models of governance and/or the introduction of a transport executive may prove challenging. It may be subject to several significant political, institutional and legal hurdles. The most important step in any reform is to consolidate the political will of the decision-making establishment. Without this, the entire process risks stalling or even being completely derailed.

In an ideal world, it would best to form an MTE as early as possible, before responsibilities become scattered throughout existing departments, agencies and private sector organisations, to a point where structural lack of coordination and even opposition arises. A head start allows for the organic growth of an efficient MTE with well-defined competencies, in line with the local historical and socioeconomic background of the city, the surrounding metropolitan region and the national level institutions.

However, if “as early as possible” has already past, the MTE can be designed using many of the building blocks that are already in place. This may prove more difficult to manage but can yield very significant results in a very short time.

A thorough analysis of the current situation and baseline scenarios should be undertaken to ensure responsible authorities and other stakeholders are aware of scale of difficulties they will face if they do not undertake the necessary reforms. This exercise should be initiated by, and conducted under, the leadership of a legitimate champion and steering structure. It could, for example, be mandated by the central Government and led by the Minister of Transport or a senior official within the department, in close cooperation with local government leaders.
This analysis and baseline scenario will provide common answers to the following preliminary questions:

- What are the structural, mobility-related challenges that need to be tackled?
- What are the economic and financial constraints and the opportunities?
- What are the financial and budgetary tools available?
- How can all actors and stakeholders be brought on board?

On occasions, conflicting views over general objectives and strategies and conflicts over priority projects and scarce financial resources may become a barrier to change. In such situations, a pragmatic, stepwise approach can be adopted, as long as the achievable milestones do not divert from the general objective. Even if the beginnings are modest, long-term goals and the plan to reach them should be made as clear as possible and shared widely. It is important to establish a consultation and dialogue with all relevant stakeholders; this will allow for the better assimilation and legitimisation of any proposals for a new governance structure, which may often mean substantial shifts in competences, decision-making and established business models.

**DEFINING THE SCOPE OF THE MTE**

During the preparation phase preceding the set-up of the MTE, and during the stakeholder consultations, the following fundamental questions should be properly addressed.

**GEOGRAPHICAL AREA**

What is the best geographical delineation for an MTE? In principle, it is the metropolitan area, which is defined as the area from where a significant proportion of residents regularly commute to the central city. However, the MTE is not a geographic analysis, but rather an administrative tool for local governments. As a result, it is primarily a strategic decision of the responsible authorities at central, provincial and potentially municipal level as to whether or not to join a territory to the scope of the MTE.

For example, if the MTE’s main or first task is to consolidate a new mass transit system, its territory may initially be based on the immediate catchment area of that transport network. In this case, neighbouring local governments may request to join the MTE because they too want to obtain better connections to the transport network.

Setting up of an MTE is particularly relevant for those suburban and rural areas and small urban centres that are being absorbed into the expanding metropolitan regions. These regions have numerous transport service providers with ill-defined lines of regulatory control, and yet there is a high degree of interdependency on the better-organised core city. The MTE will bring greater structure and clarity in these situations.

**SCOPE OF RESPONSIBILITY**

What should be the extent and modalities of horizontal integration of the MTE at the outset and in its medium- and long-term perspective?

Should this be:

- Only local public transport in the centre of the metropolitan region, or all public transport services in the entire metropolitan region?
- Only formalised and subsidised public transport, or also informal services, such as shared modes, on-demand transit, e-hailing and taxis?
- Only the management of transport services, or also all transport infrastructure, parking, road traffic, non-motorised transport?
- Only transport services and infrastructures, or also spatial planning and urbanism, as in Transit-Oriented Development?
It is not feasible to include all functions of a widely integrated MTE from the outset. An MTE should be established with a set of core functions and subsequently be expanded and consolidated in stepwise fashion. This is particularly important in the current environment, which is volatile, uncertain, complex, and ambiguous. In the long run, it will be neither possible, necessary nor desirable to integrate all remote transport-related functions into a single, overarching MTE. Instead, looser and more flexible decision-making models with formal and effective coordination mechanisms can be created between tactical level actors and integrated decision-making processes in different fields and functions.

RAPID-O or similar concepts allow existing governance structures to describe and evaluate proposals for new governance structures in more detail and to cover greater fields of responsibility. These will prove useful tools for policy maker discussions on designing a common vision for an enhanced transport governance structure.

RAPID-O Decision Making Model

Core competencies provided to the MTE, such as transport planning and regulation/contracting of operators should be given in a full and exclusive fashion. This will create a clear and straightforward management chain as part of a linear decision-making and implementation process:

- The MTE recommends a course of action to the responsible authorities.
- Responsible authorities decide and task the MTE with their implementation.
- The MTE executes, namely by regulating or contracting operators.

For other matters that are also part of an integrated sustainable transport system, but fall under the competency of other local or national authorities and executives, the decision-making process is less linear, and the involvement of the MTE may be limited. For example, transport planning, land-use planning and infrastructure planning processes are rarely fully integrated. Rather, they are coordinated through formal requirements of information and agreement among executive agencies at key steps of the respective decision-making process.

The operators are not simply the recipients of orders from the implementing executive. If operators are independent companies contracted or regulated by the transport executive, they can agree - or not - to execute operations under the proposed conditions. Vertically integrated agencies may not have this option, but the resulting costs must be borne by the authority that owns the agency. In both examples, operators are requested to inform the transport executive of the operations they are conducting, and to make recommendations for improving operating conditions that transport executives and responsible authorities may - or may not - choose to follow.

The table on the next page uses a simple key - derived from RAPID-O - to establish a rapid scan of the MTE’s roles profile presented in this report:

- “+” = Contributor: has the right to inform the executive in charge of the matter under consideration
- “++” = Co-responsible: agreement is required in order for the executive in charge to proceed
- “+++” = Lead executive: has the prerogative to make recommendations to the responsible authority, taking into account the contributions and positions of other executives.

6 SMNR Project inspired by Bain. Available at: https://www.bain.com/insights/rapid-tool-to-clarify-decision-accountability.
### Table: Element of the integrated metropolitan regional transport system

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<thead>
<tr>
<th>Metropolitan Region (Strategic level responsible authorities)</th>
<th>Metropolitan Transport Executive (Tactical level organisation)</th>
<th>Spatial Planning</th>
<th>Transport Data Warehouse</th>
<th>Mobility Education/Training</th>
<th>Traffic Management</th>
<th>Parking Management</th>
<th>Road Infrastructure (ERP)</th>
<th>Road Vehicle Permits and Licences</th>
<th>Commuter Rail</th>
<th>Urban Rail</th>
<th>Intermodal Interchanges</th>
<th>Bus Infrastructure</th>
<th>Public Transport Service Planning</th>
<th>School Policy</th>
<th>Fare Policy</th>
<th>Public Transport Control Centre</th>
<th>Ticketing</th>
<th>Operator Licensing</th>
<th>Operator Contracting</th>
<th>Public Urban Transport</th>
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<th>Metropolitan Region XYZ</th>
<th>Geography</th>
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<th>Element of the integrated metropolitan regional transport system (as above, to be adapted in detail to the local situation)</th>
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- No involvement  + Contributor  ++ Co-responsible  +++ Lead Executive

Source: Kumar & Agarwal, 2013

If governments aspire to create an MTE that produces similar results to those of a given good practice model, it should probably have a similar roles profile. However, the transport governance of any metropolitan region cannot be described and understood by establishing the roles profile for the leading executive alone. Even in governance structures with a strong, widely integrated MTE — such as London’s TfL, Dubai’s RTA or Singapore’s LTA, other organisations contribute to, or oversee, important elements of the transport system. Therefore, any investigation into the necessities and possibilities of improving the transport governance within any given metropolitan region should commence with drawing up a bespoke Scope of Responsibilities Matrix. This should incorporate all responsible authorities, tactical level organisations, individual elements of the metropolitan transport system and those types of responsibility that best describe the existing situation.
BUDGETS

MTEs gain their strength from the centralised and integrated administration of budgets of all authorities responsible for transport in the metropolitan region. In many medium-sized metropolitan regions in ASEAN member states, transport budgets are limited to road infrastructure projects. Responsible authorities that do have significant public transport projects in the pipeline have already allocated their budgets to exactly these types of projects. In larger metropolitan regions, different responsible authorities likely pursue different large projects independently. Integrating - or at least coordinating - these projects within a common MTE already poses a significant challenge. However, an integrated transport system cannot be built on large projects alone. Budgets should be made available to develop a range of smaller projects and day-to-day activities that can be integrated into a dynamic, coherent system.

To ensure financing from limited budgets – which will always be tight - MTE must develop their ability to mobilise extra funds and use them more efficiently:

- Consolidate all transport infrastructure and transport services activities, with the clear objective of generating economies of scale and increasing the overall efficiency of multimodal transport system.
- Favour investments in facilities that increase the attractiveness and efficiency of the transport system over prestige projects and operating subsidies that compensate for bad planning and lack of facilities.
- Develop the capacity to work effectively with limited budgets, through first-rate planning and stakeholder management.
- Increase direct revenues related to its own activities, such as passenger revenue (direct or indirect), parking fees, road tax, congestion charging/road pricing, land value capture and asset valuation.
- Adopt favourable financing models, such as that used by most institutional funding agencies and public-private-partnership models, which require that an executive agency assumes coordination of large projects.

A well-established MTE can contribute substantially to risk management and provide confidence for funding agencies and private investors alike.

COOPERATE NATIONALLY AND INTERNATIONALLY

Transport systems are deeply rooted in territories and societies. They are impossible to delocalise. Therefore it is wise to rely on national public institutions and small and medium-sized enterprises with intimate knowledge of the circumstances and requirements. This way, national and sub-national governments and each MTE should help build national capacities for the large array of roles in the transport sector.

Sourcing the knowhow and investment capacity of international operating companies is an effective way to build capacities. This is particularly the case when introducing new, complex such as a Bus Rapid Transit (BRT) and metropolitan (light) rail, electric vehicles, cable-cars among other. An MTE is needed to organise a transport services market that simultaneously enables domestic enterprise to evolve and grow and mobilises international operating companies capacities.

ASEAN, its neighbouring regions and other trading partner nationals are home of some of the world’s most-renowned public transport systems. However, most metropolitan regions do not fully benefit from the remarkable resources that are available beyond domestic borders. An ASEAN model, or good practice for MTE contracting with local and international operators, will help develop the large ASEAN market for transport services operations, which in turn will lead to greater competition among suppliers and higher service standards for the consumers.

Many international networks of public authorities and transport executives also create opportunities for individual and institutional learning and capacity building. Participation in these should be encouraged on all levels.
CHECKLIST AND CONTINUOUS IMPROVEMENT

These high-level recommendations do not come with an instruction manual. For each city and metropolitan region, leaders of the national, provincial and local authorities responsible for parts of the urban and regional transport system should analyse the existing situation and the short- and long-term prospect of the transport system under their responsibility. They should evaluate whether the existing transport governance structure is sufficient for efficient day-to-day management, as well as for continuous improvements, innovation and upscaling.

Many will conclude that strengthening of the tactical level organisation would assist in developing a more ambitious and better transport system in their city or region. The three-level governance analysis, the regulatory, agency and MTE governance models and the RAPID-O decision-making model can help in this task, as can the checklist below. When policy makers responsible for mobility in any given metropolitan region can check all these boxes, the region will be able to progress to more effective and efficient mobility, with greater dynamism and prosperity.

The original setup of a MTE should not be considered as unalterable. In a fast evolving world, when responsibilities have been transferred to the new MTE and it has established its position and prerogatives, the organisation must be evaluated how far the new set-up meets its objectives and what adjustments might be necessary to do so. If the MTE has met its objectives, an evaluation will help to formulate new, more ambitious objectives.

- A regular evaluation of the MTE size and capacity can help to evaluate whether the setup of the executive is still aligned with its mission.
- Processes and decision-making routines should be reviewed to ensure that the MTE can still contribute effectively to delivering the strategic objectives.
- Contracts concluded with operators should encourage operators to contribute to the overall improvement of public transport.
- It is worthwhile to exchange experience with other metropolitan regions, particularly those that have gone through similar processes and can offer fresh insights.