Managing the Challenges of Rapid Urbanisation

Rising to meet the Urban Mobility Challenge in Mandalay

This note is based on the World Bank Myanmar Subnational Public Expenditure Review 2019: Fostering Decentralization in Myanmar.

“A developed country is not a place where the poor have cars. It’s where the rich use public transportation”

– Gustavo Petro, Mayor of Bogotá

The Situation

Urban mobility is a key component of any successful city. A well designed, well managed urban mobility system allows citizens to access jobs and services, allows businesses to thrive and improves the city environment. In Mandalay, where investment in urban mobility to date has been limited, urban mobility presents an opportunity for MCDC and Mandalay Regional Government to turn urbanisation to their advantage.

Urban mobility is set to become an increasingly challenging issue for both the city and the region of Mandalay. Growing challenges include:

- **Congestion.** As Mandalay’s economy, motorization and population continue to grow, road congestion is likely to rise, particularly if infrastructure deployment does not keep pace with rapid economic growth. The lack of an effective public transport system means the number of motorbikes in Mandalay is growing, rapidly worsening the problem. Mandalay already has more than 2 motorbikes per household\(^1\) and the city faces a high risk of congestion problems in future (Box 1).

- **Road safety.** Within Myanmar, Mandalay is already second only to Yangon in the number of road fatalities per 100,000 people.\(^2\) Without action, safety standards are likely to deteriorate as the city continues to develop and densify.

- **Regional pressures.** The urban population of Mandalay region is forecast to grow by 37% between 2020 and 2040.\(^3\) During that time substantial foreign investment is expected in the region, increasing the pressure on the urban mobility system to sustain economic development.

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2. The number of road fatalities in Mandalay is significantly higher than the country average at 34 fatalities per 100,000 population.

Addressing the urban mobility challenges in Mandalay region is made difficult by unclear and fragmented lines of authority within government. This is exemplified by the fact that the division of responsibilities between MCDC and the Regional Government still appears blurry to many citizens and interested parties working on urban service provision. Large changes to the urban mobility system are constrained by a lack of coordination between different levels of government which creates a lack of clear accountability and constrains implementation.

Despite these difficulties, Mandalay has already demonstrated its ability to seize opportunities and innovate, as illustrated by MCDC’s recent smart parking initiative, SCATS traffic management system and the recent rise in wheel tax rates. If cross-government coordination on urban mobility in Mandalay can be strengthened, well-targeted urban mobility investments have the potential to transform the city and region. Improvements to the urban mobility system would help sustain economic development, contribute towards Mandalay’s smart city and green city ambitions, and set an example for other cities across Myanmar to follow.

In this policy note we recommend that in order to meet the urban mobility needs and contribute to the economic development of Mandalay city and Mandalay region, two broad, sequential actions are prioritised: (i) the creation and adequate staffing of a new Mandalay Regional Transport Authority - MRTA, and (ii) the development of an overarching Urban Mobility Strategy.

Box 1: The Cost of Congestion in Hanoi

Hanoi, like Mandalay, has seen rapid growth in the number of motorbikes. The city has approximately 560 motorbikes per 1,000 residents, more than the 400 currently estimated in Mandalay. Congestion has fast become an expensive problem in Hanoi, estimated to cost the city between $1 - $1.2 billion dollars each year. Pollution in Hanoi is also around 5 times higher than permitted levels.

Hanoi has struggled to tackle its congestion problem and has recently had to consider a policy of banning motorbikes in certain areas. Hanoi has learned the hard lesson that reducing vehicle use is tougher than preventing it in the first place.

Mandalay is a far smaller city than Hanoi and has time on its side, Hanoi nonetheless serves as a warning of what could happen if Mandalay does not act soon.

Traffic congestion in Hanoi
Source: Vietnam Investment Review

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5 Sydney Coordinated Adaptive Traffic System


7 Report published by the Institute for Transport Development and Strategy, Vietnam, reported by local news sources.

8 Report published by the Institute for Transport Development and Strategy, Vietnam, reported by local news sources.
Our Suggestions

By introducing broad institutional reform there is an opportunity to prepare Mandalay for the future and set the standard on urban transport planning within Myanmar. In our view, 2 reforms should be prioritised:

1. **Create a new Mandalay Regional Transport Authority (MRTA).**
   - The urban mobility challenges in Mandalay City and Mandalay Region are complex and intertwined. In response, solutions need to be well coordinated across government. For example, commuters coming into Mandalay city from the wider Mandalay region create congestion problems in the city centre at peak times. Equally, good urban transport links are crucial for spreading prosperity beyond the Mandalay city centre. In order to address these issues, a transport authority with broad jurisdiction is needed. An effective transport authority would also be well-placed to bring together initiatives already underway, for example the ongoing work on rail improvement with the Asian Development Bank and work on smart parking by MCDC.
   - However, the current organisation nominally governing urban transport in Mandalay, Ya Ka Ka, lacks the capacity to introduce modern transport solutions for the city, while fragmented lines of authority make it difficult for other government departments to act. For example, at present, policy making across jurisdictions can be difficult; the Mandalay regional government struggles to control trucks which arrive from other regions, while the city authority has little control over buses which enter from outside the city.
   - A well-organised, well-resourced MRTA would allow Mandalay to respond appropriately to the complex mobility challenges it faces. An adequately staffed and funded MRTA with a clear mandate to address mobility issues across the region would be better placed than Ya Ka Ka to design and implement transport solutions. It could provide the holistic approach needed to find smart transport solutions for the region.

2. **Produce a Mandalay Region Urban Mobility Strategy.**
   - MRTA should begin by producing a (5 or 10 year) urban mobility strategy which identifies a long-term response to the region’s urban mobility challenges. Many of the urban mobility challenges in Mandalay require a long-term perspective. For example, a key challenge in Mandalay City is rising motorbike registration and use intensity. The number of motorbikes in Mandalay, already the highest per capita in Myanmar, could still double before reaching its peak. Over time, a combination of push and pull factors are needed to simultaneously curb motorcycle use intensity and encourage a shift towards public, shared and non-motorised, more sustainable forms of transport. A well-researched mobility strategy would provide an opportunity to design appropriate long-term solutions.
   - An important function of an urban mobility strategy would be to plan key investment decisions. In the coming years, public transport, traffic management and the city’s urban infrastructure (such as bikepaths and sidewalks) will all require investment. In order to finance these investments, the city and region will need to review the existing funding instruments, consider new ways to raise finance and coordinate large investments across departments. A new MRTA would be well placed to take these decisions and coordinate these investments.
   - In creating new regional transport authority and urban mobility strategy, Mandalay would have a second mover advantage, able to learn from the successes and failures of Yangon and other cities. Below, we identify lessons from two nearby cities: Yangon and Chiang Mai.

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9 A similar suggestion was made by the Asian Development Bank in 2016.
10 Ya Ka Ka is a semi-formal, legacy institution. It operates separately from government with little accountability and has failed to modernise and keep pace with development in the city.
11 Based on discussions with Mandalay Regional Government.

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What can be Learned from Other Cities?

The cities of Yangon and Chiang Mai have implemented reforms similar to those proposed here. Chaing Mai, which has many similarities to Mandalay, has been transport planning since 1994 (see Box 2). Yangon has recently become the first city in Myanmar to experiment with a long-term urban transport vision and has recently established the Yangon Regional Transport Authority (YRTA). Below we identify 5 lessons learned from the experiences of these two cities.

1. Coordinate closely between the union, regional and city governments and define clear roles, budgets and responsibilities. Coordination between all levels of government must continue after an urban mobility strategy is published. In Yangon, the Mayor is the deputy chairman of the YRTA board which gives YCDC a lasting role in implementation. Mechanisms such as this for cross-government coordination should be embedded into any urban mobility strategy.

2. A new regional transport authority needs authority. Authority could be established by ensuring a new MRTA is well-resourced and has a clear mandate relative to other departments. In Yangon, not enough was done to build upon the capacity of the out-dated Ma Hta Tha organisation that preceded YRTA, leaving YRTA under-resourced. As a result, YRTA has - for example - faced delays in introducing performance based/qulity-incentive service contracts with bus operators (i.e. contracts remunerating and penalizing operators according to service standards). A regional transport authority in Mandalay would need substantial investment in staff and possibly changes in regulations to ensure that it has authority. A clear institutional mandate to address all urban transport challenges across the region will be key to addressing the problem of fragmented authority discussed above.

3. Allocate resources to sustainability-focused solutions. Supply-driven solutions, such as road building, are often prioritised as urban transport solutions. However, in the long run, building ever larger roads may in fact increase traffic flow and congestion. It is therefore important to also invest in sustainability-focused solutions – such as providing bicycle-friendly infrastructure – which will generate improvements in the long run and contribute to Mandalay’s smart city objective. In Chiang Mai, the city government has delayed investments in smart sustainability-focused solutions, MRTA should avoid making this mistake.

4. Be clear about funding and financing from the start. It is easy to write a mobility strategy with no costing. Instead, Mandalay should aim to develop a budget-constrained urban mobility strategy which both attracts political commitment for the up-front cost needed and sets out a clear strategy for funding future costs. Yangon has been successful in securing short-term finance for investments, however YRTA has been less successful in ensuring the long-term financial sustainability of the urban transport system. The lack of a unified YBS fare collection system for example, with cash flows currently managed by each bus company independently, makes it difficult for YRTA to centrally manage finances and coordinate investments.

For financing investment in the short term, MCDC may wish to use loans or donor support. To provide adequate funding for urban transport in the longer term, MCDC must consider which funding instruments - such as wheel taxes, bus fares and parking fees - are most feasible and best suited to the city’s needs.

5. Don’t forget monitoring and evaluation. Without effective monitoring and evaluation, it is easy for projects to run behind schedule or run over budget; a lesson Chiang Mai has learned. Accurate and regularly updated mobility data should be collected to allow MRTA to monitor its progress. MRTA should therefore include a monitoring and evaluation plan in any Mandalay urban mobility strategy produced.

13 Reflections from Chiang Mai are drawn primarily from Planning our way ahead: A review of Thailand’s transport master plan for urban areas (2017) Jittrapirom and Jaensirisak
Box 2: Transport Planning in Chiang Mai

Chiang Mai, situated close to Myanmar, faces many of the same challenges as Mandalay, including high motorcycle usage.\(^{14}\)

Chiang Mai’s first transport master plan was created in 1994. In 2019, Chiang Mai is now working to a Public Transit Master Plan which sets out its 2021 vision for the city’s public transport.

A series of transport master plans in Chaing Mai have been an effective coordination tool. The most recent plan brings together projects planned by different departments (e.g. the municipality, traffic police and land transport department) and sets out a total of 41 proposed projects for the city.

Possible Next Steps

To establish a Mandalay Regional Transport Authority (MRTA) and Urban Mobility Strategy, consider the following four steps towards implementation:

**Step 1: Get political backing.** Bring together representatives from MCDC, Mandalay Regional Government and the Union Government to discuss the creation of a Mandalay Regional Transport Authority as an opportunity to improve urban mobility in Mandalay.

**Step 2: Establish a strong regional transport authority.** Giving MRTA a clear mandate and enough funding to implement its ideas will be crucial for its success. A reliable rule to follow with the creation of any new authority is that ‘finance must follow function’; a new MRTA must have finance to support any functions delegated to it.

**Step 3: Collect reliable data.** If a new MRTA is to develop realistic policies and plans, then an important starting point will be reliable, consistently updated and sufficiently disaggregated data on expenditures, revenues and transport patterns. MCDC’s recent city survey has already led to better informed policy making and this approach of evidence-based policy making should now be extended to transport planning.\(^{15}\) Use of data should continue throughout the implementation process. For example, simple vehicle location and logging systems for buses are becoming increasingly affordable and could provide Mandalay with the necessary data to technically manage and monitor public transport service provision once introduced.

**Step 4: Consult widely and produce an Urban Mobility Strategy.** Within Myanmar and internationally there are many relevant experiences with mobility planning and implementation which MRTA could draw upon to design its own strategy. For example, Sweden has pioneered a new ‘vision zero’\(^{16}\) approach for addressing road safety and many Latin American cities have deployed modern bus systems with performance-based remunerations and integrated, smart farecards to ease payments and introduce transparent, performance-based remuneration mechanisms for operators. MCDC and Mandalay Regional Government should consult widely and draw a wide range of ideas and experiences into one strategy which fits Mandalay. Citizen participation should be an

\(^{14}\) Motorbikes make up approximately 60% of all private vehicles in Chiang Mai (Chaing Mai Urban Transport Master Plan)

\(^{15}\) See Mandalay: City of the Future (2019) Frontier Magazine which describes how MCDC is effectively using data to inform decision-making.

\(^{16}\) Vision zero has been widely promoted by governments and think tanks. Many cities, including bogota and Washington dc have developed vision zero strategies. For more detail see Why Sweden has so few road deaths (2014) The Economist.
important component of any consultations as it is, after all, citizens who ultimately pay for and experience the urban transport system daily.

**The Bigger Picture**

In Mandalay, linking transport planning to other areas of development will be important. Transport solutions for example will have implications for urban planning in Mandalay and vice versa. Transport is just one of a range of urban services which will be required to sustain the forecast economic development in Mandalay.

Politically, the reforms discussed above take a long-term perspective on Mandalay’s development. Practical ways to secure political support for these reforms could include a mixture of focusing on short term challenges such as road safety and long-term opportunities such as the forecast economic growth in the region.

Effective action on urban transport could be transformative in the long run. It presents an opportunity to support economic activity across the region, enhance the urban experience for city residents and contribute to Mandalay’s existing smart and green city objectives.
Further Information

During 2018 and 2019, the World Bank and the Renaissance Institute jointly reviewed the governance, revenues, and expenditure arrangements in Yangon and Mandalay regions and cities, and Shan state. They also examined the status of digital infrastructure, the delivery of solid waste management and transport services. The findings and their discussion are detailed in the “Subnational Public Expenditure Review 2019: Fostering Decentralization in Myanmar”. The above advice is based on these findings.

For more information, including Myanmar versions of these notes, please visit www.rimyanmar.org or contact renaissance@rimyanmar.org.

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