

MCC Advisory Council Briefing Memorandum: Sri Lanka Compact

MCC seeks the Advisory Council's advice on the transport activities of the proposed Sri Lanka Compact – an Advanced Traffic Management System for the Colombo Metropolitan Region (CMR), upgrades to a ring road in central Sri Lanka, and bus sector reform that seeks to improve this public transit mode, ensure a positive passenger experience, and lead to more efficient transportation of goods and people.

Project Elements for Discussion

MCC's proposed compact with Sri Lanka is in the final stages of development and will be submitted to MCC's Board of Directors for consideration in the near future. The Sri Lanka country team seeks input and advice from the Council on three project elements that will be further designed in the time between compact signature (estimated: December 2018) and compact entry into force (estimated: late 2019/early 2020). These activities are:

- **An Advanced Traffic Management System Activity**, to optimize the utilization of existing urban roadway network in moving people and goods and improve road safety along 205 km of the most heavily congested roads in the CMR, through the introduction of real-time based advance traffic management system and civil works improvements to approximately 130 intersections and 50 pedestrian crossings;
- **A Bus Transport Service Modernization Activity**, to arrest the steady decline in the use of bus transport by improving the reliability, comfort, service quality, and safety of the bus system in the CMR; and
- **A Central Ring Road Network Activity**, to resurface and widen approximately 130 km of roads connecting the economically lagging central region of the country with markets and ports and improve road maintenance capacity.

The Compact: An Overview

Sri Lanka was selected to develop a compact by the MCC Board of Directors in December 2016. This decision followed a year of threshold program development and the completion of the constraints-to-growth analysis, which is conducted in all MCC partner countries to identify the binding constraints to economic growth. The constraints-to-growth analysis identified the following three binding constraints to economic growth: (1) policy uncertainty, especially regarding revenue collection and tax policy; (2) transport bottlenecks resulting in traffic congestion in the Western Province and the slow movement of people, goods and services between the Western Province and other regions; and (3) the difficulty of the private sector in accessing state-owned land for commercial purposes.

The Government of Sri Lanka (Government) has developed an ambitious agenda to accelerate economic growth and reduce poverty. Its goal is to increase per capita income to \$5,000 per year by 2025, increase Foreign Direct Investment (FDI) to \$5 billion per year from its current \$1 billion, and further reduce poverty, which has decreased from 23 percent in 2003 to 4 percent in 2016.

The Government places at the center of its vision for “a country enriched” an accelerated plan to turn the capital, Colombo, into a hub for regional trade, commerce, and finance in the Indian Ocean. The Government is putting into place policies to expand trade and exports and encourage multinational companies to locate their operations in Colombo and use it as a springboard for business and investment in the rest of the subcontinent, especially India. Exports as a share of gross domestic product (GDP) has declined from 33 percent in 2000 to 13 percent in 2016. FDI as a share of GDP hovers around 1 percent, well below India and the economies of Southeast Asia against which Sri Lanka benchmarks its performance.

For Sri Lanka to leverage its strategic location astride major international sea lanes between East Asia and the Middle East and other advantages, it is critical that Colombo have a well-functioning transport network. The Port of Colombo is already

the 30th busiest in the world and the busiest in South Asia. If inadequate transport infrastructure, planning, and management cause traffic congestion in Colombo and its environs to follow the trajectory of cities like Manila and Delhi, with their severe gridlock and air pollution, Sri Lanka stands little chance of attracting foreign investment and realizing its regional ambitions. If it succeeds, however, it would place the country on a *sustained* high growth trajectory.

In designing the proposed compact, MCC and the Government carefully considered the need for inclusivity given Sri Lanka's historical context and agreed that the compact must acknowledge Sri Lanka's unique history of conflict, which includes the protracted civil war between the Government and Tamil separatists in the north and east of the country that ended in 2009. The conflict divided the country along ethnic lines, effects of which are still evident in current patterns of inequality. In light of this reality, MCC and the Government have developed an inclusive compact that invests in both the Western Province and the CMR in particular, and lagging and post-conflict regions such as the Central, Sabaragamuwa, Uva, and Eastern Provinces, which have relatively large numbers of poor and ethnic minorities.

The proposed compact has two projects – transport and land – each composed of several cohesive activities, which address the identified binding constraints to economic growth and their underlying root causes. Given the limited amount of time to consult with the Advisory Council, MCC is seeking feedback only on the Transport Project at the upcoming meeting. More details about the proposed transport activities and a list of specific questions are included below.

Transport Project

With approximately two million person-trips a day in the CMR alone, and in a country with a total population of 21 million people, traffic congestion is fast approaching a tipping point from which it will be difficult to recover if remedial action is postponed. Traffic congestion in the CMR has resulted in high costs incurred by workers as they access jobs and firms accessing other input and output markets.

The root causes of urban traffic congestion are largely rising population growth, urbanization, the attractiveness of private transport, and sub-optimal public transport. The average motorized trip speed in Colombo is 12 km/hour, while the average bus speed is 7-8 km/hour, punishingly slow for daily commuters and freight shipments alike. Travel time to and from Colombo within a 20 km radius exceeds two hours during peak time, reducing labor force efficiency and causing immense financial losses. One study by the University of Moratuwa estimated that congestion results in \$240 million in direct costs and \$2.4 billion in lost economic opportunities per annum. In addition, poor inter-regional transport infrastructure and services make economic expansion in other regions of the country more difficult, particularly in economically lagging and post conflict areas.

The Transport Project seeks to increase the relative efficiency and capacity of the road network and bus system in the CMR and to reduce the cost of transport in order to facilitate the flow of passengers and goods between the central region of the country and ports and markets. The Transport Project would accomplish this by upgrading the physical roadway network, modernizing the traffic system, improving the performance of the public transportation system, introducing an enabling policy and regulatory environment, providing technical assistance to transport agencies and other relevant stakeholders to ensure long-term sustainability of the transport infrastructure, and undertaking initiatives designed to reduce the harassment of women using the public transportation system. These investments are expected to result in a safer, more comfortable, and reliable public transportation system for the traveling public, and to reduce the transport costs required to move people and goods from lagging regions to markets and ports. The Transport Project is further expected to reduce the number of critical bottlenecks in the CMR roadway network and national road, facilitate the flow of vehicular traffic through the major urban corridors, ensure pedestrian safety, reduce traffic congestion in the CMR, and improve connectivity between regions in the central part of the country. The Transport Project is composed of three activities, detailed below.

The Advanced Traffic Management System (ATMS) Activity seeks to decrease relative travel time by reducing traffic delays and improving road safety in the most heavily congested arterial corridors of the CMR, unclogging the arteries

between the organs that represent big ticket infrastructure and last-mile capillaries that get people to their homes, schools, shops, and places of work. Civil works and technology enhancements along the roadways are expected to optimize vehicle throughput and improve road safety along 205 km of the most heavily congested roads in the CMR, through the introduction of coordinated traffic signals and civil works improvements to approximately 132 junctions and the creation of an additional 50 pedestrian crossings in the eight corridors within the CMR emanating from the Colombo Central Business District/port area to the Outer Circular Highway. The combination of civil works with technology enhancements under the ATMS Activity seeks to optimize the efficiency of the existing road network, without which other big ticket projects would, by themselves, fail to reduce congestion.

The ATMS consists of a real-time traffic management system and a traffic management center. The traffic management center will serve as the nerve center overseeing road traffic information, incident management, automated traffic enforcement, and bus prioritization and management. In short, the ATMS Activity provides the critical missing piece in the overall task of improving the urban transport sector. It will improve vehicle throughput between Colombo and the country's burgeoning expressway network and the existing interprovincial highways, and will optimize road safety for pedestrian and non-motorized transportation. The large amounts of data that could potentially be generated by the ATMS Activity, on road use and travel behavior, may also help the Government to optimize transport planning and spending.

Specifically, under ATMS Activity will support the following interventions:

- Civil works involving geometric improvements to traffic junctions and roadway segments;
- Installation of a real-time-based traffic management system that includes: (a) state-of-the-art traffic detection, communications, and data-processing and control system technologies; (b) synchronized and demand-responsive traffic signal and advance controller technologies; (c) an incident management system; (d) an automated traffic enforcement system; (e) a transport administrative support system; and (f) a bus priority management system;
- Establishment of a traffic management center including the control center equipment; communications interface; geographic information system-based automated network map covering the ATMS control area; closed-circuit television ("CCTV") monitors; data acquisition and analysis software computer systems; office furniture; and back-end administrative support systems; and
- Technical assistance and training to (a) ensure that the system will be operated and maintained effectively to deliver optimal performance, and (b) develop necessary protocols to enhance incident reporting and safety.

The Bus Transport Service Modernization (BTSM) Activity seeks to make significant improvements to the speed and quality of the public bus system and to slow down and reverse the trend of declining use of public transport and increasing use of private motor transport. Bus transport's modal share of all motorized trips in the CMR has been declining at the rate of 1-2 percent per year due to poor service. The BTSM Activity aims to arrest this decline by focusing on key institutional and regulatory reforms and reinforcing these reforms with supporting technology and infrastructure improvements.

Improving public transport is a critical element in the overall effort to reduce traffic congestion. Residents in the CMR must have access to viable public transport options, as well as the incentives to use it – otherwise, more people in the CMR will turn to automobiles and three-wheelers, ultimately negating the gains from the sophisticated ATMS. For this reason, the BTSM Activity will be closely integrated with the ATMS Activity to help reduce traffic congestion and journey times for users of public transport in the CMR.

The BTSM Activity will support the: (i) transition from the current farebox compensation model to a performance-based system with payments based on kilometers traveled and schedule adherence, (ii) use of smart card technology to track and monitor revenue and service, and (iii) establishment of an oversight mechanism to effectively monitor, regulate, plan, and execute essential activities within the bus sector. Sri Lanka has already introduced an innovative reform initiative,

known as Sahasara, in the second largest city, Kandy. The BTSM Activity will aim to scale up this initiative, which incentivized private bus operators to adopt practices that improved the safety and reliability of bus service while also increasing profits.

Specifically, under BTSM Activity will support the following interventions:

- Technical assistance and capacity building to assist bus sector agencies and relevant stakeholders, and develop a long-term funding mechanism to finance future Government needs;
- Investments in technology identified in the Bus Sector Reform Plan, such as global positioning systems (GPS), CCTV, monitoring equipment, a bus control center, and communications systems to support tracking and essential data gathering;
- Technical assistance to develop a code of conduct for passengers and public bus system stakeholders as well as training for the Sri Lanka Transport Board (SLTB) and private sector bus crews on safety and the prevention of harassment; and
- A “BTSM Grant Facility” that would focus on identifying opportunities for investments in the bus sector that could include upgrades to bus fleets and improvements to bus terminals, bus stops and shelters, bus parking maintenance depots, bus priority lanes and bus priority signals (in areas that overlap with the ATMS Activity interventions).

The Central Ring Road Network (CRRN) Activity aims to aims to reduce the transport costs of moving people and goods by improving five sections along the road network connecting Central, Sabaragamuwa, Uva, and the Eastern Provinces to the Western Province. The CRRN Activity focuses on improving the highway network in the central region of the country to expedite the interprovincial movement of people and goods. The central region accounts for a substantial share of the country’s export crops, is the most ethnically diverse, and has the largest number of poor people. Thus, improvements to this road network will net several benefits, by connecting the economically lagging central region of the country with markets and ports. The CRRN Activity will upgrade approximately 130 km of roadway to the national Class A road standard, and enhance the capacity and safety of the roadway. It will also rehabilitate the pavement structure and surface layers of these roads in order to extend their service life. Finally, the CRRN Activity will support the development of a multi-year road maintenance plan and a sustainable financing plan to ensure the continued maintenance of these and other interprovincial roads.

Specifically, under CRRN Activity will support the following interventions:

- Upgrading targeted road sections to bring the road to the national Class A road standard and enhance the capacity and safety of the roadway;
- Rehabilitating the pavement structure and surface layers of these roads;
- Providing technical assistance and training in the application of advanced pavement technologies and construction methods, data collection, modeling and calibration of the Highway Development Management software tool (HDM-4) that will be used to develop a prioritized road maintenance plan, and the application of asset management systems;
- Providing technical assistance to support the development of a multi-year road maintenance plan and a sustainable financing plan for a Road Maintenance Trust Fund to ensure the continued maintenance of these and other interprovincial roads; and
- Supporting a public outreach, education and communication strategy designed to highlight the expected improvements to Sri Lanka’s transport system and address harassment in public transport.

Questions for the Advisory Council

MCC seeks the Advisory Council's feedback to inform the development of the **ATMS Activity**, with the specific questions below.

- Given that this project will introduce new technology and systems, how can MCC best leverage the expertise of the private sector in designing, building, operating, and maintaining this critical system?
- It is envisioned that the ATMS would be best implemented using a Design-Build-Operate-Maintain (DBOM) project delivery system with a training component to ultimately allow transfer of the operations to the relevant agency. What is the risk appetite of the private sector to undertake a DBOM contract, especially in a country like Sri Lanka, given the possible challenges of ensuring operations and maintenance (O&M) funding from the Government?
- Knowing that there will be on-going O&M costs associated with keeping this system operating optimally, how should the Government, with MCC's support, start planning to cover these costs?
 - What domestic resource mobilization tools should be used (i.e. additional taxes, levies, fees, etc.)?
 - Is there private finance that could be tapped into?
 - Are there innovative ways the Government could raise these funds that we may not have considered?
- The sustainability of this system will be key to its success – both the behavior change associated with using the new system and the funding and human resources needed to maintain it. What role should the private sector play in this process? How should the Government balance the private versus public aspects of the system to ensure optimal performance? How should the Government handle the data that is generated from the system?
- What U.S. and international firms are you aware of that would be interested in procurements related to this project (system technology, infrastructure design, construction, and O&M)?
- Which experts in ATMS do you think we should seek to better understand these dynamic systems?
- Given that the perceived benefits of ATMS may not be as evident as brand new infrastructure, what role can the private contractor play in educating the traveling public on the subtle but measurable benefits that the ATMS provides?

MCC seeks the Advisory Council's feedback to inform the development of the **BTSM Activity**, with the specific questions below.

- Behavior change will be at the crux of success in this activity. How should the activity be designed to facilitate lasting behavior change from all stakeholders – public and private bus owners, operators, and drivers; passengers; and regulatory agencies?
- Given the age and condition of the buses in Sri Lanka, what approaches should be explored when fully designing the BTSM Grant Facility, which would provide funding for bus fleets and improvements to bus terminals, bus stops and shelters, bus parking maintenance depots, bus priority lanes, and bus priority signals? Is there a role for private sector financing in this facility? Are there public private partnerships that should be explored to improve bus terminals, stops, shelters and depots where a revenue stream could be generated?
- How can MCC best promote the BTSM Grant Facility to ensure a robust pipeline of viable proposals, and structure the facility to attract substantial interest and investment in the sector?
- Passenger safety must be a hallmark of an improved bus system. What experts should be consulted for additional thoughts on this critical element of the program? Are you aware of safety and anti-harassment programs that have been successful or could provide lessons learned for the Sri Lanka Compact?

- There are potential revenues that can be generated from advertisement on buses and at bus stops. What would be an approach to exploit such revenue potential? Are there examples that the BTSM Activity should consider from the U.S. and other major international cities?
- What U.S. and international firms are you aware of that would be interested in procurements related to this project (i.e. CCTV, touch card systems for buses, GPS technology, bus re-fleeting, infrastructure design, construction, etc.)?
- Which experts in bus sector modernization do you think we should be seeking out to better understand best practices in this space?

MCC seeks the Advisory Council's feedback to inform the development of the **CCRN Activity**, with the specific questions below.

- What advanced technology can be used to ensure these road improvement investments are high-quality and sustainable?
- It is envisioned that the works contractor will enter into a performance based maintenance contract as part of its construction contract. What risks (if any) do you see in structuring such a contract with the works contractor?
- Given that certain segments of the CRRN are heavily traveled, consideration is being given to providing incentives to the contractor(s) to reach early completion. What types of incentives can we incorporate in the works contract to achieve early completion milestones?
- What U.S. and international firms are you aware of that would be interested in procurements related to this project (i.e. design, construction, technical assistance regarding road maintenance, etc.)?

MCC seeks the Advisory Council's **overall feedback** on the Sri Lanka Compact:

- What are we missing at this stage in the process that we can address through detailed design work in the coming 12-18 months?
- How can we ensure U.S. firms are aware of the Sri Lanka Compact and are interested in bidding on procurements during the design phase and the compact implementation period? Likewise, how can we ensure the U.S. public and Sri Lankan diaspora residing in the United States and elsewhere are aware of the program?
- What are the partnerships with American universities and cities that we could explore within the context of this activity?
- Are there other partnership opportunities MCC should be considering that has not been mentioned here?
- Who in your networks would have additional, relevant information that may be helpful in optimizing the compact's final design?
- How can we best tell the story of the impacts of these investments to local affected communities and our stakeholders in the United States?