1. Country and Sector Background

Surabaya, the second largest city in Indonesia, is the capital and economic heart of East Java. With a municipal population of 2.97 million (2010), Surabaya has emerged as an important center for business, industry and higher education. Home to one of the busiest ports in South East Asia and an airport, Surabaya also acts as the gateway to the larger Gerbangkertosusila metropolitan region, which has a population of approximately 9 million.

The city is now at a crossroads. Average density in Surabaya is low for East Asia (153 people per hectare) and a large part of the population is spread in clusters across a wide area (60km2). Continued population growth (0.9 percent in 2011), rising incomes (economic growth has risen to above 7 percent per annum since 2010) and the city’s continued low density development is resulting in high property prices in centrally-located areas, increasing urban sprawl and rising travel demand.

There are a growing number of commuters, who must travel from longer distances to reach their destinations. Meanwhile, Surabaya has extremely low area allocated to major roads (5.8 percent) within its city boundaries (compared to 31.8 percent in New York, and 13.6 percent in Seoul), exacerbating congestion, particularly at high-volume rush hour, during which traffic flow is severely impeded. Low-income residents pushed out to the city periphery to find affordable housing must spend longer getting to work and pay an increasing share of their income on transportation. Furthermore, non-motorized modes of transportation, such as bicycling or
walking, have become unattractive due to the lack of adequate facilities, low air quality, and poor road safety.

Current trends in transport use suggest a considerable challenge for Surabaya. Rising travel demand has been combined with falling capacity of the public transport system, prompting a continued increase in the use of private vehicles. Between 2008 and 2011, the vehicle population in the region grew by almost 5 times. More than 1.3 million motorcycles and motor scooters dominate private vehicle transportation in Surabaya, as they do in many cities in Southeast Asia, making up 51 percent of all trips in 2012. The other important modes of transportation in Surabaya are private automobiles, taxis, and angkot buses (minibuses). The transportation sector now accounts for the highest proportion (40 percent) of Surabaya’s energy consumption, and for 68 percent of the energy usage supplied by petroleum products, contributing to 20 percent of the city’s greenhouse gas emissions.

The public transport network is limited and generally unattractive to commuters due to infrequent and poor quality of services. Several modes account for the 6 percent of total trips that are made on Surabaya’s public transport network, including:

- Angkots, dominant public transport mode in Surabaya, which are 8 to 10 seat microbuses operated by owner-drivers. There are currently some 5,000 vehicles on 58 routes.
- The city bus service operated by (the state owned company) DAMRI with some 270 buses on 20 routes concentrated along the north-south corridor. With the exception of the 55 seat “Patas” air conditioned fleet, the majority of the fleet comprises of 85 seat city buses that are 12 to 15 years old.
- Becaks or cycle rickshaws that provide local neighborhood services. As of 2011, there were almost 900 becaks in operation.
- Regional commuter rail operated by the national railways company Kerata Api Indonesia (KAI) providing limited services, three or four times each morning, for commuters living in the surrounding areas of the city, accounting for a very small share of mode split (estimated at less than 1 percent). Trains stops at Gubeng station, near the CBD, and Wonokromo station, south of the river from Joyoboyo, which is also the angkots’ hub.

The rising number of commuters in Surabaya, and increasing pressure from growing traffic volumes, point toward significant potential for improvement in the operational efficiencies of the public transportation system, which can be used as a catalyst to support compact and competitive city development and improvements in the accessibility and affordability of urban services. The City Government of Surabaya (CGS) has recognized this potential, and the need to take action urgently to avoid becoming another car-dependent, congested, sprawling city, with rapidly growing levels of energy consumption from transport.

The Regional Mid-Term Development Plan (RPJMD) of Surabaya for 2011-2015 places an emphasis on developing a livable and accessible city. The city is focusing its planning efforts on the implementation of multimodal transportation systems, and in particular, the creation of an intra-city Mass Rapid Transit (MRT) System. Current proposals for the MRT System comprise an at-grade tramline along the historic north-south corridor and an elevated monorail along the east-west corridor, as shown in Figure 1. These initiatives are intended to serve heavy traffic
corridors into the city center by providing efficient, comfortable and sustainable transport alternatives.

The need for an integrated planning approach has also been recognized by Surabaya, to ensure that plans for public transportation systems, land use, street-scaping, public spaces, parking pricing, private vehicle policies, and residential and commercial development are adequately integrated and that there is an effective means for turning planning into practice. Campaigns to increase public awareness have already begun, including programs such as car-free days. A recent increase in the use of bicycles has also prompted plans for the development of bicycle and pedestrian facilities. Encouraging non-motorized modes, as well as effective neighborhood redevelopment strategies to promote densification and attractive mixed-use and socially-inclusive spaces, will be critical to mitigating congestion and improving the quality of mobility and accessibility in Surabaya, alongside the development of robust public transportation.

The City Government of Surabaya (CGS) has sought out the technical and financial support of the World Bank to prepare the design and assess the feasibility of this plan for Surabaya’s urban transport corridors and MRT System. The Program will be targeted on an East-West corridor, and a North-South corridor, that integrates improvements in Non-Motorized Transport (NMT), public transport, traffic management, land-use and urban development strategies.

16. These urban transport corridors will revive these two major axes in the city:

- Along the North-South route: consisting of the Central Business District (CBD), historical buildings, offices, hotels and shopping facilities, the project will improve mobility, pedestrian accessibility, revive historic distinctiveness and the environment, and reduce noise, pollution and safety risks. Based on the demand modeling conducted, some 800,000 trips currently originate and end within this corridor.

- Along the East-West route: the corridor development will link the eastern and western neighborhoods of the city to the CBD. These are relatively modern neighborhoods encompassing high-rise apartments, universities, and a number of modern shopping complexes. The preliminary concept is for an elevated transport system, which stems from the desire to avoid conflicts with traffic, although the technology has not been determined and the feasibility study plans to undertake robust analysis of alternatives to advise the city on best-match technology choices.

2. Objectives

The objective of the Project is to provide technical assistance to the Recipient to conduct a Feasibility Study to support the development of a Mass Rapid Transit System in Surabaya, which aims: (i) to facilitate improvements in accessibility and mobility in Surabaya, and; (ii) to strengthen the capacity for integrated urban transport planning and management in Indonesia, particularly for implementing agents Directorate for Transport under Deputy of Infrastructure Bappenas and the City Government of Surabaya.
3. **Rationale for Bank Involvement**

The effort will contribute directly to goals set out in the Bank’s current Country Partnership Strategy (CPS) for Indonesia for FY2013-2015, particularly that of promoting prosperity by improving connectivity and infrastructure, and of strengthening subnational governments by improving capacity for planning, implementation and management of investments as a means to support Surabaya’s continued development.

4. **Description**

The Urban Corridor Project aims to apply an integrated planning systems approach to link infrastructure investments in mass transit with the development of urban corridors, enabling Surabaya to maximize the social and economic returns from projects. Hence, this TA is one of three activities that form an umbrella engagement that will support Surabaya with advisory services at a total cost of US$1.63 million, of which the Feasibility Study component for the Surabaya Mass Rapid Transport System accounts for US$1.25 million of the budget.

The Feasibility Study will be conducted in two phases:

i. Feasibility Analysis:
   - Ascertain best alignments, alternative investment options and sequencing.
   - Review, and revise where necessary, the demand forecasts and travel patterns along the alignments.
   - Conduct an economic cost-benefit analysis and assess financial and technical feasibility of transport technology.

ii. Reference Design and Institutional Support:
   - Develop a reference design for core components of the thus chosen routes, stations, and corridor improvements.
   - Propose associated institutional reforms required to ensure quality operations and management of the Surabaya transport system.
   - Generate environmental and social impact assessment and implementation plans in compliance with the requirements of a possible loan from The World Bank or other sources of funding.
   - Generate Pre-Qualification Documents and Bid Documents for a detailed design and/or a DBOT contract, depending on the CGS’ chosen development and procurement strategy.
   - Recommend an appropriate formula for risk allocation and mitigation if a PPP arrangement is decided upon.
   - Assess regulatory environment and institutional setting to create a supporting environment for urban corridor management.

It is foreseen that the study will result in a choice of investments in alternative scenarios, such as developing first the N-S corridor, developing the E-W corridor in parallel or in sequence, or combining alignments to maximize ridership potential for each level of infrastructure investment.
Technical recommendations on regulatory, planning and institutional reforms and capacity-building will be made to ensure sustainable operations and management of the Surabaya MRT System, in line with the chosen financial structure.

5. **Financing Source:**

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6. **Implementation**

The proposed intervention will be executed through consultancy services engaged by the Directorate of Transport under Deputy of Infrastructure, Bappenas in the form of a RETF. The Directorate has longstanding experience in coordinating the preparation of multilateral investments in the roads, rail and urban transport sectors – including with the World Bank. In this role, the Directorate is responsible for building partnerships, setting up financing arrangements, promoting public private partnerships, providing investment support and research and development of infrastructure financing.

The Directorate of Transport under Deputy of Infrastructure, Bappenas has been selected as the executing agent for the Feasibility Study, due to its established mandate and experience in the structuring of complex infrastructure investments in the rail, roads and urban transport sectors. The Directorate will be responsible for procurement of consultants for the Feasibility Study, monitoring of the progress and quality of work products and regular reporting to the Bank. The Bank as Trust Administrator will remain in close coordination throughout the engagement.

The Project’s primary stakeholder is the City Government of Surabaya. CGS will also play a primary role in monitoring and overseeing the progress of the FS via a steering committee chaired by the Mayor of Surabaya. Representatives will also be present from the Ministry of Public Works (MPW), Ministry of Transportation (MOT), Bappenas and Ministry of Finance (MOF) to ensure continued coordination between local and national government agencies.

7. **Sustainability**

The proposed RETF grant will support a feasibility study for the Surabaya MRT investment. The feasibility study does not depend on additional funds and, as such, the activities initiated under the RETF are expected to be fully implemented under the grant. Additionally, the City Government of Surabaya has demonstrated strong leadership in developing the proposed investment.

8. **Lessons Learned from Past Operations in the Country/Sector**

The grant builds on important lessons from past recent World Bank experience in the urban transport sector including:
• A strong focus on developing sound institutional and tariff models for the management and operation of urban transport services are required to ensure the sustainability of service over the medium-term.
• Urban transport investments should be developed and designed with an increasing sensitivity to broader urban development considerations, in order to maximize the potential for transit-oriented development opportunities.
• Urban transport investments should be developed with the support of strong transit demand modelling work, helping inform design, modal and alignment choices.
• Potential environmental and social impacts should be identified and scoped well upstream during Project preparation.
• MRT investments should be accompanied with support for improvements in the urban transport management systems, including traffic management and the use of advanced IT applications.

The proposed RETF directly reflect these, and other, lessons in the design of the feasibility study and also as part of the broader Surabaya Urban Corridor Development Programmatic AAA engagement.

9. Safeguard Policies (including public consultation)

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10. List of Factual Technical Documents

Not Applicable.

11. Contact point

Recipient: Directorate of Transport, Deputy of Infrastructure, Bappenas
Contact Person: Bambang Prihartono

* By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas
Title: Director
Telephone No.: +62 21 314 8550 ext. 1208
Email: bambang@bappenas.go.id

12. For more information contact:
   The InfoShop
   The World Bank
   1818 H Street, NW
   Washington, D.C. 20433
   Telephone: (202) 458-5454
   Fax: (202) 522-1500
   Web: http://www.worldbank.org/infoshop