

TA Subproject C: Promoting Socially Sustainable Transport through Improving Nonmotorized Transport

Under Cluster C-R-CDTA: Implementation of Sustainable Transport in Asia and the Pacific

A. Background

1. Transport and urban development are essential cornerstones in achieving livable cities that are economically competitive, socially inclusive, and environmentally sustainable, as articulated in ADB's long-term strategic framework, Strategy 2020.¹ To mainstream sustainable transport practices across ADB's operations and support poverty reduction in developing member countries (DMCs), ADB launched the Sustainable Transport Initiative (STI)² in 2010. Under the STI, ADB has prioritized renewed investment and effort in the areas of (i) urban transport; (ii) transport and climate change; (iii) logistics and cross-border transport; and, (iv) road safety and social sustainability.

2. Rapid urbanization in Asia and the Pacific is accelerating private vehicle motorization at an unprecedented rate across the region. In 1980, just 9% of the world's 360 million motorized vehicles were found in Asia and the Pacific. By 2030, nearly half of the world's projected 1.5 billion vehicles will be in the region. The impacts of rapid and uncontrolled motorization affect the realization of environmental and social sustainability objectives. This subproject will create quality demonstrations of nonmotorized transport (NMT) in order to help offset these trends.

B. Rationale

3. NMT encompasses the most fundamental of transport options, including walking, bicycles, tricycles, pedicabs, and other human powered vehicles. NMT represents the most affordable, base mode by which the urban poor use to access jobs and critical public services, such as education and healthcare. Of all income groups, low-income households often spend the highest percentage of their incomes on transport, reaching approximately 40% of income in some developing nations.³ This burden can be alleviated through quality NMT facilities and vehicles.

4. NMT facilities are particularly critical to the most vulnerable road users; these groups include the physically disabled, the elderly, women, road vendors, and students. Over half of the road fatalities in Asia and the Pacific are pedestrians and other NMT road users who incur the costs of motorization with few of the benefits. The quality of NMT facilities is determinant on whether vulnerable groups are able to participate effectively in society and the economy.

5. Despite nonmotorized transport's role in advancing economic and social development for urban low-income groups, NMT-related infrastructure and services typically receive little public investment.⁴ NMT, though, can be instrumental in local economic development as

¹ Available at: <http://www.adb.org/Documents/Policies/Strategy2020/Strategy2020.pdf>

² Available at: <http://www.adb.org/documents/policies/sustainable-transport-initiative/Sustainable-Transport-Initiative.pdf>

³ Vasconcellos, E (2001), *Urban transport, environment and equity: The case for developing countries*. London: Earthscan.

⁴ Prakash Menon, R. (2011), *Transport budget analysis: 2011-12*, Pune: Parisar.

demonstrated by successes in New York, London,⁵ Copenhagen,⁶ Tokyo,⁷ and Shanghai.⁸ The case of the Cheonggyecheon stream regeneration in Seoul is particularly noteworthy. In the first year after the replacing an elevated expressway with the restored stream, approximately 40 million persons visited the site. According to the Seoul Development Institute, the Cheonggyecheon stream regeneration has produced economic benefits of up to \$23 billion.

6. To date, relatively few high-quality pedestrian or bicycle facilities exist in the developing member countries (DMCs) of ADB. The lack of an understanding of NMT's development role has in turn led to a preference for many cities in the region to focus somewhat exclusively on roadway investments catering to cars and motorcycles. In turn, the economic, environmental, and social benefits of quality NMT facilities are not being pursued as development opportunities. Furthermore, this lack of NMT investment in cities of Asia and Pacific has led to heightened levels of traffic collisions, pollution, and community severance.

7. The activities under this subproject will develop demonstrations of quality NMT facilities. These demonstration efforts are being designed to encourage replication as a way to both mainstream NMT within ADB's investment portfolio and to deliver more NMT support across the Asia and Pacific region. This technical assistance will also support the creation of technical guidance tools that will help capture the lessons learned of the NMT demonstrations.

C. Impact and Outcome

8. The impact of this subproject is the delivery of efficient, safe, affordable, and sustainable NMT facilities developed in the three demonstration cities with replication across Asia and the Pacific. By facilitating the development and implementation of quality pedestrian areas and the demonstration of NMT facilities and technologies, this technical assistance will provide a basis for future scaling-up of these types of interventions. This project will lead to an outcome in which access and mobility to jobs and services for the urban poor and vulnerable groups are improved through the provision of quality NMT facilities in the demonstration cities. This project will particularly highlight the social sustainability benefits of NMT investment through the delivery of a technical design guidance tool. The specific design and monitoring framework for this technical assistance is provided in Appendix 1.

D. Methodology, Key Activities and Outputs

9. This subproject will provide pilot investment in capacity building, conceptual planning, and demonstration units of NMT facilities and vehicles in order to develop quality pedestrian and bicycle facilities for urban areas in three countries: Indonesia, Lao PDR, and the Philippines.

10. The demonstration countries and cities have been selected based on several criteria, especially from the perspective of complementing and enhancing ongoing and planned urban transport projects of ADB. The selection process has been undertaken in conjunction with key relevant stakeholders, including the Japan Fund for Poverty Reduction (JFPR), Embassies of Japan of the respective countries, ADB's Office for Cofinancing Operations (OCO), ADB's

⁵ The Commission for Architecture and the Built Environment (2007), *Paved with gold: The real value of good street design*. London: Commission for Architecture and the Built Environment.

⁶ Gemzoe, L. (2001), Copenhagen on foot: Thirty years of planning & development, *World Transport Policy & Practice*, 7(4): 19-27.

⁷ ADB (2011), Guidelines for Non-motorized transport measures: Policy and options. On-line document, http://sti-india-uttoolkit.adb.org/mod5/se5/001_1.html.

⁸ Wright, L (2005), *Car-free development*. Eschborn: GIZ.

Southeast Asia Regional Department (SERD), and local officials in the respective countries and cities. Indonesia, Lao PDR, and the Philippines all host urban areas in which income levels require the importance of nonmotorized mobility while simultaneously lacking sufficient resources to address these mobility needs. In consultation with local, national, and international stakeholders the cities of Davao in the Philippines and Vientiane in Lao PDR have been selected for the demonstration. These cities have been chosen based on local and national support of the demonstrations and the potential role these cities can play in wider replication. A final selection of the Indonesian city will be conducted during the initial scoping phase of the initiative.

11. The target groups of the subproject are local and national transport officials and staff in DMCs, social sustainability and social development professionals, business communities and civil society groups in the NMT demonstration sites, and ADB staff.

12. This subproject consists of three principal activities. First, capacity-building, stakeholder discussions, and initial planning analysis will be undertaken in three demonstration locations (Indonesia, Lao PDR, and the Philippines) as part of project conceptualization. In particular, the stakeholder discussions will lead to a needs assessment of the potential beneficiaries, which will shape the project design. At the conclusion of this effort, business cases are to be readied to move forward implementation. Second, a small number of demonstration NMT vehicles will be deployed in the cities to gauge applicability and to stimulate full implementation of the supporting infrastructure. Third, a design guide on NMT facilities will be produced to capture the lessons from these demonstration efforts and to especially highlight the social benefits of these types of projects. Outreach and knowledge product dissemination will be conducted both within ADB and to DMC representatives across the region.

13. Under the first activity, the city demonstration initiatives will consist of several planning subcomponents, including:

(i) Initial consultation and knowledge sharing with key stakeholders

A survey of existing national and local policies related to NMT will be conducted at the outset of this initiative. Capacity building engagement with local and national government officials will be provided to allow greater understanding of the technical options related to NMT facilities and identification of barriers. Discussions with the business community and civil society groups will also be undertaken to shape the appropriateness of the conceptual design. This engagement will continue through the conceptual planning process with the objective being the local approval for the further development of the proposed NMT intervention.

(ii) Conceptual planning

The conceptual planning stage will focus on the initial design work for the proposed NMT intervention. For pedestrian area and cycle way development, the conceptual design will include appraisal of the road design options and the production of renderings. While the focus of the conceptual plan will be upon NMT, such interventions will achieve optimal results when integrated with other forms of transport and especially with public transport. The conceptual planning process will also include a costing and financial analysis of the proposal.

(iii) Implementation planning

The final stage of this technical assistance will be the preparation of terms of references (TOR) for the implementation of the NMT proposal. The TOR(s) will

include the detailed design of the infrastructure and the implementation of a full stakeholder engagement process. This stage will also involve discussions with representatives of ADB's Southeast Asia Regional Department and the local and national entities to determine the funding and financing plan for the project.

14. The second activity will result in the provision of tangible demonstration units of NMT vehicles to the cities. Depending upon the outcome of the first activity and stakeholder discussions, a range of potential NMT demonstration units may be available for trials, including share bikes, pedicabs, and cargo bicycles. To determine the appropriate types and specifications of NMT technologies to be utilized, an international Design Charrette will be conducted, bringing together local stakeholders and international NMT specialists. The implementation of the demonstration units will include an analysis of the targeted beneficiaries and a determination of the appropriate mechanism for technology distribution.

15. The third activity is to develop technical guidance tools and knowledge products that will assist ADB and DMC technical staff in planning, developing, and implementing high-quality NMT facilities that realize socially sustainable outcomes. This technical assistance will encompass the following guidance tools and knowledge products:

- (i) ADB has developed an on-line resource entitled "Guidelines for Non-Motorized Transport Measures: Policy and Options".⁹ This technical assistance will provide further technical inputs into this knowledge resource.
- (ii) This technical assistance will also provide NMT-related inputs into ADB's current work on a "Sustainable Transport Appraisal Framework", which seeks to broaden the evaluation of transport initiatives to include a full array of economic, environmental, and social considerations.
- (iii) In order to capture lessons from the three demonstration cities, this technical assistance will also support the development of an NMT Design Guide that will provide practical guidance on planning practices, design options, and implementation issues for NMT.

16. An extensive outreach and information dissemination effort will then be conducted to share the technical assistance results with DMC officials from across Asia and the Pacific. The conceptual city plans and social sustainability assessment tool will be developed as knowledge products for wider distribution. In addition, a project workshop will afford the opportunity for government officials and other stakeholders to share the outputs and results between the three cities. Opportunities will also be provided to present the city conceptual NMT plans and the knowledge products to a wider regional audience at major conference events such as the UNCRD Environmentally-Sustainable Transport Forum. Finally, the results from these outputs will also be discussed and presented to ADB transport staff as a part of training exercises with the intent of creating the opportunity for greater NMT project replication.

E. Cost and Financing

17. The subproject cost is estimated at \$2.0 million and is financed on a grant basis by the Japan Fund for Poverty Reduction (JFPR), and administered by ADB. The cost estimates and financing plans for the subproject are in Appendix 2.

⁹ Available at: <http://sti-india-uttoolkit.adb.org/mod5/index.html>

F. Implementation Arrangements

18. ADB will act as the executing agency for the technical assistance. The subproject will be managed by RSDD's Sustainable Infrastructure Division (RSID) in coordination with the Transport Community of Practice and with regional departments. Interaction will also be sought with key other Communities of Practice (COP) at ADB, especially the CoPs for Urban Development, Health, Social Development, and Poverty Reduction. Regular progress reports will be submitted to the TCOP Management Committee. Close cooperation will be sought both with the relevant project officers in the regional departments and members of the TCOP Advisory Team on Social Sustainability and the TCOP Advisory Team on Urban Transport. The close coordination with the TCOP should help to ensure that the outputs of the subproject are fully utilized as an input to sector work by regional departments in support of the development of ADB's future transport efforts.¹⁰

19. The subproject will be implemented over 14 months starting from November 2012, and terminating at the end of December 2013.

20. The subproject will require an estimated 60 person-months of international consulting services and 76 person-months of national consulting services. There will be a total of three consultant appointments:

- (i) National individual consultant (13 person-months)
- (ii) International firm (56 person-months of international consultants, 63 person-months of national consultants)
- (iii) International individual consultant (4 person-months)

The firm appointment will be selected on a basis of QCBS with a quality-cost ratio of 80:20. All consultants will be engaged by ADB in accordance with its Guidelines on the Use of Consultants (2010, as amended from time to time).

21. This technical assistance does entail the procurement of goods and equipment, specifically the procurement of demonstration NMT units. All procurement of goods and other services under the subproject will be done in accordance with ADB's Procurement Guidelines (April 2010, as amended from time to time). As per discussions with JFPR, NMT demonstration units will not be considered vehicles in terms of the prohibitions noted in the JFPR implementation guidelines. As the NMT units are for the explicit use of demonstrating the potential of NMT, these vehicles are acceptable project outputs by JFPR. Procurement will be conducted directly by ADB as the executing agency. RSDD will consult with OAIS to determine the most economic means of procuring the items, with OAIS being responsible for signing the contract with the suppliers.

22. Upon completion of the subproject, any equipment, software or data procured by the consultants under the subproject will be turned over to ADB. However, the NMT demonstration units that are distributed to the local governments will not be turned over to ADB, as these vehicles are specific outputs of the project, as discussed with JFPR. Disbursements under the subproject will be done in accordance with ADB's Technical Assistance Disbursement Handbook (May 2010, as amended from time to time).

¹⁰ ADB-funded activities in a particular DMC will commence only after ADB has received a no-objection in writing from the government of the DMC.

DESIGN AND MONITORING FRAMEWORK*

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
<p>Impact Efficient, safe, affordable, and sustainable nonmotorized transport facilities developed in the three demonstration cities with replication across Asia and the Pacific</p>	<p>Number of high-quality NMT initiatives undertaken by 2020</p> <p>Reduction in pedestrian and bicycle accident and fatality levels by 2020 from a 2012 baseline</p> <p>Improvement in local air quality levels and reductions in greenhouse gas emissions by 2020 from a 2012 baseline</p>	<p>Data to be collected from local/national government and ADB sources</p>	<p>Assumptions</p> <ul style="list-style-type: none"> National and local government departments have sufficient staff capacity and resources that can be applied to NMT Financial plan can be developed that enables project financing to be realized Quality and communication of demonstration efforts is sufficient to lead to wider replication <p>Risks</p> <ul style="list-style-type: none"> Project plan does not lead to implementation Low-level of implementation quality results in little replication effect
<p>Outcome Access and mobility to jobs and services for the urban poor and vulnerable groups are improved through the provision of quality NMT facilities in the demonstration cities</p>	<p>Increase in number of persons making use of the NMT facilities in the demonstration area by 20% one year after project closure (with data segregated by gender and income)</p> <p>Increase in the number of persons making use of NMT vehicles in demonstration area by 100% one year after project closure (with data segregated by gender and income)</p>	<p>Data to be collected from ADB, consultant, and local government sources</p>	<p>Assumptions</p> <ul style="list-style-type: none"> Sufficient resources are applied to ensure a quality outcome for user groups NMT facilities are sustainably maintained over time <p>Risks</p> <ul style="list-style-type: none"> The national and local departments lack sufficient staff and/or financial resources to support NMT policy or project development
<p>Outputs 1. Local capacity building and conceptual NMT</p>	<p>Ten capacity building sessions held with local officials by the end of 2013</p>	<p>Project consultant and ADB records</p>	<p>Assumptions</p> <ul style="list-style-type: none"> The key stakeholder groups and individuals will participate in the

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
<p>plans</p> <p>2. Demonstration of NMT vehicles</p> <p>3. NMT knowledge products</p> <p>4. Project management</p>	<p>Conceptual NMT design plans for the three cities by mid-2013</p> <p>Terms of reference prepared for detailed design by the end of 2013</p> <p>Conducting international design charrette by the first quarter of 2013</p> <p>Demonstrating NMT vehicles put into operation by the end of 2013</p> <p>Updated on-line NMT guidelines by mid-2013</p> <p>NMT design guide, with social sustainability aspects, produced by the end of 2013</p> <p>Knowledge sharing workshop between the cities by the end of 2013</p> <p>Inception report produced by first quarter of 2013</p> <p>Midterm meeting conducted by mid-2013</p> <p>Final review and project completion by December 2013</p>	<p>ADB and local government records</p> <p>ADB records</p> <p>ADB records</p>	<p>capacity-building sessions</p> <ul style="list-style-type: none"> • Consultant team works closely with local government to ensure local ownership of plans • Funding is provided to allow tendering of implementation <p>Risks</p> <ul style="list-style-type: none"> • Key stakeholders elect not to participate in the process • Project plans are developed without the active participation of local government officials • Adequate financial resources are not available for actual implementation
Activities with Milestones			Inputs
<p>1. Local capacity building and conceptual NMT plans</p> <p>1.1 Complete review of existing policies that address and support NMT (complete within 2 months of project initiation)</p> <p>1.2 Conduct capacity building sessions with government officials in the three demonstration cities/countries (complete within 3 months of project initiation)</p> <p>1.3 Conduct stakeholder sessions with the local business community and civil society groups with an interest in the pilot project in each of the three cities (complete within 4 months of project initiation)</p> <p>1.4 Develop a conceptual NMT plan in each of the three cities, including conceptual operational, infrastructure, financing, and institutional plans (complete within 8 months of project initiation)</p> <p>1.5 Develop a conceptual operations plan for an inner-city public transport network for Vientiane (complete within 6 months of project initiation)</p>			<p>Japan Fund for Poverty Reduction \$2,000,000</p> <p>ADB staff time, office space</p> <p>International consulting inputs of 60 person-months</p> <p>National consulting inputs of 76 person-months</p>

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
<p>1.6 Develop an operational and capital cost estimate for the project (complete within 8 months of project initiation)</p> <p>1.7 Prepare the required tender documents for project implementation (complete within 9 months of project initiation)</p> <p>2. Demonstration NMT vehicles</p> <p>2.1. Conduct an international NMT vehicle design charrette to determine the types of demonstration NMT units to be offered to the three cities (complete within 5 months of project initiation)</p> <p>2.2 Distribute demonstration NMT units to the three cities (complete within 8 months of project initiation)</p> <p>3. NMT knowledge products</p> <p>3.1 Review the on-line ADB NMT guidelines and supplement with new material (complete within 4 months of project initiation)</p> <p>3.2 Provide input to NMT appraisal indicators (complete within 6 months of project initiation)</p> <p>3.3 Produce an NMT design guide that encompasses social sustainability aspects of NMT (complete within 9 months of project initiation)</p> <p>3.4 Conduct a knowledge sharing workshop between the three demonstration cities (complete within 9 months of project initiation)</p> <p>3.5 Assist with the dissemination of lessons learned from the project through workshops and other events (ongoing in conjunction with ADB).</p> <p>4. Project management</p> <p>4.1 Hold a project inception meeting with ADB for each consultant appointment (complete at time of project initiation)</p> <p>4.2 Complete an inception report, including a project Gantt chart detailing project activities and timelines for each consultant appointment (complete within 1 month of project initiation)</p> <p>4.3 Provide monthly update reports on project progress (ongoing)</p> <p>4.4 Conduct midterm meeting with ADB for each consultant appointment (complete within 6 months of project initiation)</p> <p>4.5 Conduct final review meeting with ADB for each consultant appointment (complete within 13 months of project initiation).</p>			

COST ESTIMATES AND FINANCING PLAN
(\$'000)

Item	Total Cost
Japan Fund for Poverty Reduction (JFPR)^a	
1. Consultants	
a. Remuneration and per diem	
i. International consultants	1,039.0
ii National consultants	364.0
b. International and local travel	114.0
c. Reports and communications	6.0
2. Goods, equipment, and services ^b	210.0
3. Publications and information services	10.0
4. Seminars, conferences, workshops and training ^c	100.0
5. Miscellaneous administration and support services	47.0
6. Representative for contract negotiations	15.0
7. Contingencies	95.0
Total	2,000.00

^a Administered by the Asian Development Bank.

^b Includes demonstration units of NMT technologies (e.g. bicycles, pedicabs, and cargo bicycles), see list below.

^c Includes tripartite meetings, as well as stakeholder and training workshops. Also includes staff travel as resource persons.

Source: Asian Development Bank estimates.

Itemized List of Goods, Equipment, and Services

Item	Estimated Cost (\$ thousands)
1. Bicycle sharing stations (7 units)	85.0
2. Share bikes, including locks (90 units)	30.0
3. Share bike system software	40.0
3. Pedicabs (10 units)	25.0
4. Cargo bicycles (10 units)	15.0
5. Helmets (100 units)	2.0
6. Translation services	13.0
Total	210.00

OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

1. The subproject will be implemented through three consultant appointments. The principal appointment will be for an international firm to undertake NMT planning and demonstration activities in the three cities. There will be two individual consultant appointments: (i) International Institutional Specialist for Vientiane, and (ii) National NMT and Social Sustainability Coordinator based at ADB Headquarters. The total level of effort represented will be 60 person months for international consultants and 76 months for national consultants. The consultants will be engaged by Asian Development Bank (ADB) in accordance with its Guidelines on the Use of Consultants (2010, as amended from time to time). The consultants' detailed tasks are described below.

2. A national individual consultant (NMT and Social Sustainability Coordinator) is to be appointed to provide a project coordination role across the various components of this overall initiative. The NMT and Social Sustainability Coordinator will assist ADB in facilitating activities, back-stopping project management, and coordinating the various consultant teams on the overall technical assistance project. The NMT and Social Sustainability Coordinator will report directly to the ADB Project Officer for this initiative. This position will also be the principal liaison between the project and the Advisory Team on Social Sustainability within the ADB Transport Community of Practice. A total of 13 person-months are requested for this appointment. The consultant will report to the Senior Transport Specialist within ADB's Sustainable Infrastructure Division (RSID).

The specific tasks of the NMT and Social Sustainability Coordinator are provided as follows:

NMT and Social Sustainability Coordinator (national, intermittent, 13 person-months)

- Maintain an overall project timeline and Gantt chart
- Maintain a contact directory of all stakeholders related to this initiative
- Act as a liaison between the project and the ADB Advisory Team on Social Sustainability
- Manage the preparation of the International Design Charrette on NMT vehicles
- Provide administrative support on ADB procedures, as requested
- Communicate with and convey information to the consultant teams
- Ensure knowledge sharing between the city projects
- Assist in organizing workshops, video teleconferences, and other project related outreach and communications activities, including a workshop between the three cities to share lessons
- Provide technical assistance support to the various project components
- Collect and distribute NMT guidance documentation to the city project teams
- Assist in producing additional knowledge products, such as a project brochure
- Provide summary of project updates to the ADB TCoP newsletter and the ADB transport website.

3. An international consultant firm is to be appointed to lead the conceptual planning work in Davao, Vientiane, and the Indonesian city. In the case of Indonesia, the city of Surabaya had been initially identified as a city option for this work, but subsequent indications have been given that the city may not be an appropriate option due to conflicting work being currently undertaken by another multi-lateral development bank. Additional background and capacity work will be

conducted to determine the final city choice for Indonesia. The final selection of the Indonesian city will be made in conjunction with the JFPR and the ADB Resident Mission in Indonesia. The terms of reference for this firm appointment specify a total of 56 person-months for international consultants and 63 person-months for national consultants.

The description of the required team members is provided as follows:

1. Team Leader/Senior Urban Planner (international, intermittent, 10 person-months)

- Act as the principal point of contact for communications with ADB
- Participate in an inception meeting with ADB
- Produce an inception report
- Engage with the international donor community and the national authorities to identify potential demonstration sites / activities within the selected cities
- Conduct capacity-building and information sharing activities with national and local government officials
- Conduct stakeholder sessions with business community in affected zone and any relevant civil society organizations
- Provide recommendations on policy and strategy documents that will support NMT facility development both locally and nationally
- Develop the conceptual plan for the NMT demonstration, including options for street lay-outs, conceptual outlines for street furniture and landscaping and utilities, and integration needs of proposed area (traders, public transport access, etc.)
- Propose the institutional plan for developing and maintaining the NMT areas
- Develop the financing plan for implementation of the demonstrations.

2. NMT Planning Specialist (international, intermittent, 8 person-months)

- Assist in the development of the conceptual plan for the NMT demonstration in each city, including options for street lay-outs, conceptual outlines for street furniture and landscaping and utilities, and integration needs of proposed area (traders, public transport access, etc.)
- Review ADB's Guidelines for nonmotorized transport measures
- Collect international source material on assessment indicators for NMT initiatives
- Provide comments and inputs to ADB's Sustainable Transport Appraisal Framework in relation to NMT components
- Conduct a survey of existing NMT design guidance documents and summarize a list of existing guides along with a description of the contents
- Conduct a planning workshop with ADB on the structure and contents of the NMT Design Guide
- Develop an NMT Design Guide for ADB staff and DMC partners
- Specifically incorporate social sustainability features into the Design Guide
- Conduct a brown bag session at ADB on the NMT Design Guide.

3. NMT Vehicle Specialist (international, intermittent, 7 person-months)

- Conduct a survey of current and potential user groups for NMT vehicles
- Devise a conceptual plan for trialing NMT vehicles in the area
- Facilitate the International Design Charrette on NMT vehicles

- Provide user training for the demonstration units
- Devise a plan for small business development around NMT vehicle repair and sales
- Conduct an evaluation of the demonstration and provide a summary report.

4. Infrastructure Design Specialist (international, intermittent, 8 person-months)

- Conduct a geometric study of the street environment in the proposed NMT area
- Conduct an audit of existing utilities in the proposed NMT area
- Develop street cross-sectional drawings of the proposed NMT area
- Provide designs of any required NMT parking and staging facilities
- Provide an itemized cost analysis for the capital requirements of the proposed NMT area
- Provide an itemized cost analysis for the likely maintenance and other operational costs of the proposed NMT area
- Provide a cost estimate of the detailed planning requirements for the proposed NMT area
- Develop and complete a terms of reference for the detailed design of the proposed NMT area.

5. Public Transport Planner (international, intermittent, 8 person-months)

- Conduct demand analysis of proposed inner city distribution system in Vientiane
- Interact with JICA team in Vientiane on overall bus rapid transit (BRT) project and work towards an integrated approach to system design
- Develop conceptual design of operations (routes, vehicle size, frequency, etc.) for the inner-city public transport system in Vientiane
- Specify designs for the close integration of NMT and parking facilities with the public transport system
- Outline the planning components and expected planning costs required to move forward the Vientiane project
- Develop terms of references for the detailed planning of the system.

6. Infrastructure Engineer (international, intermittent, 5 person-months)

- Conduct a geometric study of the corridors for the inner-city public transport system of Vientiane
- Conduct an audit of existing utilities in the proposed area
- Develop street cross-sectional drawings of the proposed inner-city public transport system
- Provide an itemized cost analysis for the capital requirements of the proposed inner-city public transport system.

7. Financial Modeler (international, intermittent, 5 person-months)

- Develop a financial model for the Vientiane inner-city distribution system to simulate the operational costs and revenues of the proposed system
- Define the key input costs to the system, including: (i) costs associated with institutional management of system (labor costs, utility and office costs, marketing and promotion of system); (ii) costs associated with vehicle operator

contracts (labor costs, fuel costs, vehicle maintenance costs, depot operation costs); (iii) costs associated with fare system contract (maintenance of hardware/software, labor costs); (iv) costs associated with control center contract, if any (maintenance of hardware/software, labor costs); (v) costs associated with station services contract (labor costs of fare collection, security, cash collection, station cleaning, trash collection/recycling); and (vi) costs associated with infrastructure maintenance

- Produce a summary report on the definition of key parameters into the financial model;
- Work in conjunction with ADB and city officials to define the specific scenarios to be modeled;
- Extract pertinent demand data from the demand model for each scenario, noting which existing services will be transformed into the new system and which existing services will continue to operate; and
- Run at least three different operational scenarios through the financial model.

8. Graphic Designer (international, intermittent, 5 person-months)

- Engage with project team to develop an understanding of the NMT vision
- Develop high-quality renderings of options for the proposed NMT areas
- Develop high-quality renderings of inner-city public transport services
- Develop graphics and imagery for the NMT Design Guide.

9. NMT Coordinators (national, 39 person-months)

- Provide local coordination support for each of the pilot cities (Davao, Vientiane and the final city of choice for Indonesia)
- Analyze existing NMT and public transport policies and project documents in the city
- Coordinate international consultant visits and activities in each of the pilot cities
- Conduct NMT capacity building sessions with local officials
- Develop and manage the application of the NMT demonstration units in each of the pilot cities
- Assist in the identification of the local demonstration sites and demonstration activities
- Assist in the planning and design of the demonstration initiatives
- Conduct a survey of property ownership of the proposed NMT area
- Assist in the development of terms of reference for the detailed design
- Assist in the development of the financing plan for the demonstration initiative
- Provide on-going project update reports and communications.

10. Communications Specialists (national, intermittent, 21 person-months)

- Develop a directory of all major stakeholders for each of the pilot cities (Davao, Vientiane and the final city of choice for Indonesia) including national government officials, local government officials, civil society groups and nongovernment organizations, private sector firms, and the local business community
- Produce NMT outreach materials targeting the key stakeholder groups
- Conduct a needs assessment of NMT users and potential NMT users in the city

- Lead stakeholder discussions with key groups in order to better inform the design and implementation of the NMT demonstration.

11. Demand Survey Specialist (national, intermittent, 3 person-months)

- Conduct a review of existing transport demand models in Vientiane and assess the level of accuracy of those models/projections
- Adjust the existing demand projections as necessary, using expert judgment and additional surveys
- Assist in the planning and design of the Vientiane inner-city distribution system.

4. An individual international appointment will be provided to Vientiane to assist in specialist activities in developing the institutional plan and institutional capacity of the national and local government to undertake the initiative. This consultant will possess detailed knowledge of current institutional structures and relationships in Lao PDR and build upon this knowledge leading to appropriately-designed institutions to foster socially-sustainable outcomes in transport planning and implementation. The rationale for this separate individual appointment is the specialized nature of the activity and its relative uniqueness in comparison to the other demonstration cities. A total of 4 person-months is requested for this appointment. The consultant will report to the Senior Transport Specialist within ADB's RSID.

The description of the individual international consultant for the Vientiane institutional development activities is as follows:

Institutional Specialist (international, intermittent, 4 person-months)

- Participate in an inception meeting with ADB
- Identify the key local and national government stakeholders required for consultation
- Provide a directory of the key project stakeholders
- Conduct briefing sessions with the local and national government officials on the merits of the NMT demonstration
- Deliver national and local government commitments to the implementation of the initiative
- Engage the wider donor community to discuss support for project implementation
- Ensure compatibility and integration between the proposed NMT interventions and other related transport projects (e.g. bus system upgrades)
- Develop an institutional plan for developing and managing both the NMT project and the bus system project in Vientiane
- Deliver a summary report on the outputs and conclusions from the capacity-building process.