



## Program Document

### Sustainable Urban Mobility in Asia (SUMA)<sup>1</sup>

#### I. INTRODUCTION

1. Asian cities and countries recognize the need to make their transport systems more sustainable and to improve their air quality as reflected in a number of key strategic documents including the: (i) Framework for Environmentally Sustainable Cities adopted in December 2003 by the Association of Southeast Asian Nations (ASEAN) member governments;<sup>2</sup> (ii) Regional Implementation Plan for Sustainable Development in Asia and the Pacific Region, 2006-2010 adopted by the Meeting of Ministers in the 5<sup>th</sup> Ministerial Conference on Environment and Development in Asia and the Pacific in March 2005;<sup>3</sup> and (iii) Aichi Statement on Environmentally Sustainable Transport adopted in August 2005 by representatives from ASEAN, Mongolia, People's Republic of China (PRC), and Republic of Korea.<sup>4</sup> All these documents acknowledge the importance of a regional approach to air quality management (AQM) in Asia, the contribution that sustainable urban transport (SUT) can make towards improving urban air quality management and the major role that regional organizations such as ADB can play in this effort.

2. The Program will assist Asian cities and countries in accelerating progress towards their air pollution reduction and sustainable urban transport goals. An important step in this direction is the integration of AQM and SUT into the economic and social strategies, policies, programs and projects of the Asian Development Bank's (ADB's) developing member countries (DMCs) as well as mainstreaming such concerns into the operations of ADB and other development agencies. The Program builds on the work of the Partnership for Sustainable Urban Transport in Asia (PSUTA) Project which was a joint project between ADB, CAI-Asia, the World Resources Institute Center for Transport and Environment (EMBARQ-WRI).<sup>5</sup>

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<sup>1</sup> The proposal was developed by the Clean Air Initiative for Asian Cities (CAI-Asia) Secretariat with active inputs from the World Resources Institute Center for Transport and the Environment (EMBARQ-WRI), Interface for Cycling Expertise (I-CE), The Institute for Transportation and Development Policy (ITDP), Sustainable Urban Transport Project of GTZ (SUTP-GTZ), and Environmentally Sustainable Transport Project of the United Nations Centre for Regional Development (EST-UNCRD). A needs assessment for the TA was conducted as part of the evaluation of the CAI-Asia ([www.cleanairnet.org/evaluation](http://www.cleanairnet.org/evaluation))

<sup>2</sup> See: [www.aseansec.org/framework.htm](http://www.aseansec.org/framework.htm)

<sup>3</sup> See: [www.unescap.org/mced/documents/presession/english/SOMCED5\\_5E\\_RIP.pdf](http://www.unescap.org/mced/documents/presession/english/SOMCED5_5E_RIP.pdf)

<sup>4</sup> See: [www.uncrd.or.jp/env/est/regional\\_est\\_forum/first\\_regional\\_est\\_forum\\_top.htm](http://www.uncrd.or.jp/env/est/regional_est_forum/first_regional_est_forum_top.htm)

<sup>5</sup> See Attachment 1 for a summary of the PSUTA project and [www.cleanairnet.org/psuta](http://www.cleanairnet.org/psuta) for the final report on PSUTA

## II. ISSUES

3. Cities are vital to the development of Asia. The ADB has estimated that 80% of the region's economic growth for the foreseeable future will be generated in its urban economies. Cities act as the markets for all types of products, goods and services and connect with the wider world through transportation and communication systems. However, about 70%, or 800 million of the world's poor live in Asia and about 240 to 260 million poor people in Asia reside in urban areas.

4. Economic development in Asian cities has been accompanied by environmental problems such as urban air pollution. An important contributing factor to the problems of urban air pollution, and associated impacts on climate change, as well as poor road safety and congestion is the rapid growth in motorization in Asia and inattention to the sustainability of transport systems in Asian cities. Vehicle numbers and kilometers driven have increased rapidly over the last decade and are expected to continue to grow considerably in the years to come; in many cases at the expense of Non-motorized Transport (NMT).

5. The transport sector is now responsible for almost a quarter of the world's carbon dioxide (CO<sub>2</sub>) emissions from fuel combustion activities, and it is the fastest growing source of global greenhouse gas (GHG) emissions. This share is expected to increase further, especially in developing countries with urban populations projected to double by 2030. Worldwide, the annual growth of CO<sub>2</sub> emissions from transport stands at approximately 2.1 percent, while in developing countries this stands at 3.5 percent.

6. Air pollution continues to pose a significant threat to the living environment, quality of life and health of urban populations in Asia. While some cities recently have been able to stabilize the emission levels for some parameters of such as sulfur dioxide (SO<sub>2</sub>), total suspended particulates (TSP) and particulate matter of less than 10 micrometers in diameter (PM<sub>10</sub>)—pollution levels in most cities are still above those recommended by World Health Organization (WHO) guidelines and national air quality standards.<sup>6</sup> Roadside pollution is even more severe than the average ambient air pollution conditions which form the basis for routine air quality reporting by cities.

7. Rapid motorization also has resulted in an increase in the number of deaths and injuries from road accidents. Recent figures estimate the number of people dying in road accidents in Asia each year at 500,000 and the number of injuries at 20 million, a large portion of which are in the cities of Asia.<sup>7</sup>

8. Another negative impact of rapid motorization has been an increase in congestion in many of Asia's cities. Congestion is becoming pervasive during peak hours. Even as the rush hours even as the rush hours are lengthening and the areas affected by congestion are expanding.

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<sup>6</sup> For a briefing paper on air quality trends in Asia see [www.cleanairnet.org/caiasia/1412/article-59689.html](http://www.cleanairnet.org/caiasia/1412/article-59689.html)

<sup>7</sup> Ross, A. and C. M. Melhuish. Road Safety in ASEAN: Introducing a Regional Approach. *Transport and Communications Bulletin for Asia and the Pacific*, No. 74, 2005b,

9. The majority of vehicles in Asia are now covered by vehicle emission and fuel quality standards, and in many cases firm plans have been formulated for tightening of these standards in the future.<sup>8</sup> The rise in the number of vehicles on the road and of vehicle kilometers traveled explain why technological solutions will not be sufficient to reduce vehicle emissions for improved urban air quality. Advances in transport technologies must be complemented by the development and the adoption of policies to reform the transport sector and make it more sustainable. Yet, few countries and cities in Asia have comprehensive plans for the improvement of mass and public transport, which lie at the core of sustainable urban transport. Most commonly cities have fragmented transport plans dealing with specific modes or subsections of greater metropolitan areas, plans that also ignore the informal modes of transport that still prevail in many Asian cities. The quest to expand road and highway networks has meant that non-motorized transport is increasingly marginalized. In Asian countries and cities there also is considerable fragmentation of responsibilities for urban air quality management and sustainable transport planning among national, state or provincial, and local city levels.

10. Moreover, air quality management and SUT policies and programs in Asia have not yet substantially addressed equity and other social issues. The marginalization of NMT in many cities is evidence of this. Similarly, the absence of gender and poverty considerations in new AQM and SUT policies and programs confirms the current status quo, in which the poor and women are not regarded as high priority target groups for sustainable transport programs and projects.

11. The lack of clear AQM policies and sustainable transport policies, backed up by appropriate institutional arrangements, has negatively influenced the ability of these cities to formulate and implement concrete programs and projects and to attract investments for sustainable urban transport. This lack of commitment and investment plans make it difficult for bilateral and multilateral development agencies to assist Asian countries and cities to improve their urban transport systems. Although development agencies such ADB, World Bank, and Japan Bank for International Cooperation spend on average \$4-6 billion per year on transport related projects, only a very small percentage of these funds currently go towards improving the sustainability of urban transport systems. Even where funds are allocated to urban public transport systems, there is a continued attraction to expensive rail or underground systems that haul relatively few passengers per unit of investment.

## **II. Scope, Goal, Purpose and Outputs**

### **A. Scope**

12. The Sustainable Urban Mobility in Asia (SUMA) program will focus on (i) improving urban air quality, (ii) improving road safety, and (iii) reducing transport's contribution to climate change. This will be accomplished primarily through the assistance to Asian countries and cities to strengthen the formulation and implementation of sustainable transport policies.

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<sup>8</sup> See [http://www.cleanairnet.org/caiasia/1412/articles-58969\\_new.pdf](http://www.cleanairnet.org/caiasia/1412/articles-58969_new.pdf) and <http://www.cleanairnet.org/caiasia/1412/article-40711.html>

13. To achieve the desired air quality improvements, AQM planning will be integrated with the adoption of sustainable transport policies.<sup>9</sup> Importance will be given to NMT in improving traffic systems. The SUMA program also will promote a co-benefits approach, integrating urban AQM and climate change mitigation.

14. SUT has a direct relationship with poverty reduction. According to a summary of the views expressed by poor people in a recent worldwide canvass of their opinions,<sup>10</sup> “The lack of basic infrastructure—particularly roads, transportation, and water—is seen as a defining characteristic of poverty.”

Transport investments can facilitate poverty reduction in two ways (i) by directly increasing the productivity of the poor through improved accessibility to schools, clinics, markets, businesses, etc, and (ii) by increasing the productivity of employment generating business and industry. Effective SUT systems allow the generation of economic growth without compromising economic and social dimensions to a point beyond repair. SUT has the potential to act as a catalyst in the development process. Providing mobility for the urban poor and other marginalized groups can help Asia achieve the Millennium Development Goals (MDG) set by the United Nations, through improving access to education, employment opportunities and healthcare.

**SUT and Poverty**

One cannot automatically assume that a BRT or NMT system will benefit the poor, but a BRT or NMT project creates the possibility of significantly improving conditions for the poor. Some data is available from Bogota and Jakarta. In Bogota, TransMilenio passengers, on average, save roughly \$134 per year and 325 hours per year over their previous travel time and travel cost [Unpublished data from TransMilenio, 2003. In a JICA study on TransJakarta BRT, roughly 40% of passengers were defined as ‘low income’. Some 87% of respondents said their travel time was slightly shorter, and only 2% said it was longer. In terms of travel cost, 47% said their travel cost was slightly lower, 29% said it was the same, and 21% said their travel cost was higher than before [unpublished survey data, JICA, 2004]. Although these data are not yet robust enough, they indicate that the poor benefited from the project. The principal advantage of BRT is that it allows significant improvements in services used by the poor without increasing the price. In TransJakarta and TransMilenio, many of the former bus owners were incorporated into the new system, but not given veto power over the quality of service provided to the passengers, many of which are also low income. Sidewalks and bike lanes also tend to have a significant impact reducing the mobility costs of the poor. Making it possible for the poor to walk or bicycle for short trips was shown in Surabaya to make possible reduction of daily travel expenses by as much as 1/3 and travel expenses amount to as much as 1/3 of daily expenses.

15. The geographical scope of the program will be all of developing countries of Asia excluding Central Asia.<sup>11</sup> Since sustainable transport planning is in many cases a local issue, the program will **focus on cities**.<sup>12</sup> Program activities will be open to megacities

<sup>9</sup> Asian countries and cities also need to implement measures to reduce pollution from stationary sources in order to reduce overall ambient air quality. Technological “tailpipe” fixes will need to continue as well. Activities aimed at reducing emissions from both mobile and stationary sources need to be incorporated into an overall AQM approach that also includes ambient and roadside air quality monitoring, emission inventories and source apportionment studies, the modeling of sustainable transport policies in terms of impact on air quality.

<sup>10</sup> Narayan, Deepa with Raj Patel, Kai Schafft, Anne Rademacher and Sarah Koch-Schulte. 2000. *Voices of the Poor: Can Anyone Hear Us?* . New York, N.Y. Published for the World Bank, Oxford University Press.

<sup>11</sup> The program might involve Japan, Republic of Korea and Singapore in order to learn from the experiences of these countries. It is not intended that they will be direct beneficiaries of the program and qualify for program resources. The countries of the Pacific also are excluded.

<sup>12</sup> Participation will be open to all cities that are committed to sustainable urban transport and better air quality management. Special efforts will be made to assess the possibilities to include Hanoi, Pune and

and to smaller secondary cities with populations of between 500,000 and 1,000,000 in order to help smaller cities put in place good AQM systems and sustainable transport systems before they get too big. As in the case of urban AQM, SUT requires that important decisions be taken at the national level. Thus, the program will also have **national elements**, where it concerns matters such as policies and investment modalities. To promote the exchange of experiences and concepts, the development of new tools and instruments, and networking, the program will also have a **regional dimensions**. SUMA will target engagement with the following stakeholders:

- Men, women and children in Asia who want reliable, affordable and secure transport systems.
- Policy makers and legislators responsible for approving sustainable transport and urban air quality policies and overseeing their implementation;
- Regulators responsible for maintaining environmental quality, setting transport prices, and regulating competition issues;
- Land-use planners and transport planners providing the conceptual ideas and directions on the shape and structures of cities and the urban transport systems;
- Land developers implementing land-use plans and thereby influencing the transport demands;
- Financing groups both local and international, public and private who invest in transport systems;
- Technology providers of, for example, vehicles, fuels, or “intelligent transport systems”;
- Public and private providers of commercial goods and passenger transport;
- Private companies and public organizations requiring the transport of goods and persons; and
- Consumer protection groups and community-based organizations advocating for sustainable transport in Asia.

16. The program will give importance to **local action**, identifying concrete projects to control air pollution, and strengthening sustainable transport activities by formulating project concept papers and undertaking feasibility studies. The program also will include knowledge management, capacity building, policy formulation, and networking to support local action.

17. The program will adopt a programmatic approach and will emphasize the synergy between the different components through clustering of activities. For example, in parallel to the financing of pre-feasibility studies in the Indonesian city of Yogyakarta, SUMA would also support activities related to (i) documenting current knowledge on urban AQM and SUT in Yogyakarta and Indonesia, (ii) training for decision makers and other stakeholders in Yogyakarta, (iii) support to networking of stakeholders in Indonesia and Yogyakarta, and (iv) development of supportive policies for SUT, urban AQM at the national, provincial and local level in Indonesia.

18. An important objective of the program will be the identification and formulation of investment programs and projects. The actual financing of these large scale investment projects falls outside the scope of this program, but CAI-Asia and other partners in the

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Xian in the project. These three cities were also part of the predecessor of SUMA: the Partnership on Sustainable Urban Transport. See <http://www.cleanairnet.org/psuta/>

program will work actively with multilateral lending organizations that are members of CAI-Asia (ADB and World Bank) or those that are regularly cooperate (Japan Bank for International Cooperation and European Union) to promote the inclusion of programs and projects developed under the program into the pipelines of these organizations. Both ADB and World Bank are now actively considering how to increase assistance for SUT as part of their overall support to the transport sector in Asian cities.

## **B. Impact and Purpose/Outcomes**

19. The program will focus on (i) improving urban air quality, (ii) improving road safety, and (iii) reducing transport's contribution to climate change, through the formulation and implementation of sustainable transport policies. To achieve the desired air quality improvements, AQM planning will be integrated with the adoption of sustainable transport policies. Importance will be given to NMT in improving traffic systems. It will promote a co-benefits approach integrating urban AQM and climate change mitigation.

20. The overall impact the program will seek to achieve is that air pollution levels have stabilized in major Asian cities, with a number of them even having achieved improvements in their air quality for selected parameters. The activities undertaken by the program will contribute towards a reduction in the increase of CO<sub>2</sub>, stabilized air pollution levels in major Asian cities for ozone (O<sub>3</sub>) and oxides of nitrogen (NO<sub>x</sub> and NO<sub>2</sub>), and an improvement of TSP, PM<sub>10</sub>, and SO<sub>2</sub> levels. To make this contribution to the planned impact the program will: accelerate the development of capacity for urban AQM and SUT in Asia through better integration of AQM and SUT into the strategies, policies, programs and projects of ADB, its DMC's and other development agencies (see Attachment 2 for the SUMA Logical Framework).

## **C. Results/Outputs and Activities**

21. The program will have six main result areas: (i) AQM knowledge management system institutionalized at the regional, national and local levels in Asia; (ii) capacity for AQM and SUT enhanced; (iii) networking for AQM and SUT strengthened at the regional, national and local levels; (iv) policies for AQM and SUT developed at regional, national and local level; (v) increased number and strengthened implementation of AQM and SUT activities in developing countries and development agencies, and (vi) program coordination, monitoring and evaluation established.

22. Initial activities have been identified for these result areas. It is expected that further opportunities will be identified in the course of the program.

### **1. Knowledge Management**

23. This component includes documenting information on SUT and urban AQM in Asian cities that is available on CAI-Asia website. This result area will also include some studies to generate additional information in areas where the lack of knowledge is believed to prevent the formulation and implementation of effective AQM and SUT policies and programs.

- a. *Indicator development for SUT and Simple Decision Support Systems*  
An analysis will be conducted with the objective of harmonizing the indicator systems used by different groups and promote the actual use of indicator systems in SUT planning. The program will assess whether existing decision support systems such as the one developed by the World Bank for AQM planning or others such as in the Integrated Environmentally Strategies methodology of the US-Environmental Protection Agency can be further developed into a simplified decision support system for AQM and SUT planning. As part of the indicator development, support will also be given to development of emission factors for vehicles in Asia.
- b. *Air Quality Planning, Land-use Planning and Sustainable Transport Planning*  
Activities under this element of the knowledge management component will include documentation of existing efforts to integrate air quality planning, land use planning and sustainable transport planning in Asian countries and cities. This will include a review of best practices in Asia as well as in Latin America, Europe, and USA with respect to the integration of AQ planning, land-use planning and sustainable transport planning.
- c. *Modernization of Public Transport and Effective Public Private Partnerships for SUT systems*  
Many public transport systems in Asian cities are outdated and not able to cope with growing demand. Considerable investments will be required to improve the quality of these public transport modes to allow them to meet increasing demands for transport services as well as stricter environmental and safety requirements. Public-private partnerships are needed to provide resources for SUT systems. The challenge will be to find models of public-private partnership which are environmentally, socially and economically sustainable. The activities under this element directly support the policies and plans to be drawn up for selected cities under the local action component.
- d. *Carbon saving from SUT*  
Transport is currently the fastest growing source of CO<sub>2</sub> emissions from energy use. Measuring direct changes in fuel use and CO<sub>2</sub> emissions associated with changes (improved fuel efficiency, higher load factors, etc) to publicly regulated buses alone is relatively straightforward. This element of the program will develop a clear methodology for measuring CO<sub>2</sub> savings in urban transport projects. The results will then be deployed in one to three projects, with cofinancing expected from the stakeholders in those projects (e.g., cities, vehicle and fuel providers) to verify the carbon savings. Related to this carbon saving effort is the development of an Emissions Inventory Package for Asian Cities. The objective is to tailor such a package to Asian conditions, particularly the preponderance of very high sulfur in diesel fuels and the large number of two and three wheeled vehicles that make unusually high contributions of particulate matter and other pollutants. This package would be tested in at least one city.
- e. *The potential of cycling and other forms of NMT as contribution to sustainable transport and AQM.*  
This analysis would look in more detail at the applicability to Asian cities of work done in other regions on the promotion of cycling and other forms of NMT. It will identify the institutional constraints and options to overcome these. Apart from

policy options, the analysis conducted will also outline investment options and their financial and economic returns. The analysis will be an important input to the various BRT programs and projects which are currently being planned across Asia.

*f. Social assessment guidelines for SUT*

This activity will include the review of existing procedures and guidelines used by national and donor agencies in the social assessment of urban transport projects and determine the extent to which social factors are part of the procedures and guidelines. An assessment will be carried out based on a review of a number of concrete projects on the manner in which social dimension of project review have been implemented. Following this review, a synthesis of social assessment guidelines will be drafted which are to be taken into account in the planning, formulation and implementation of concept papers and feasibility studies under the local action component of the program.

## **2. Capacity Building**

24. Training activities will be supported under the SUMA program as part of the Clean Air Training Network for Asia (CATNet Asia), which is the training network of CAI-Asia. The following training activities are planned:

*a. Deliver SUT related training courses developed under the GTZ SUTP Program*

The following training courses are planned:

- 4 training courses for master trainers from the three regional focal points with 15-20 participants each;
- 12 training courses by the regional focal points where trainers from national and or local training institutes will be trained, with 15-20 participants each; and
- 60 national or local level training courses with 15 – 20 participants each.

This will allow for the training of about 60 master trainers and 160 trainers and 1000 - 1200 participants in training courses. Topics for training are to be further decided but tentatively the following five main clusters are identified: (i) land use planning, SUT planning and AQM planning; (ii) potential of cycling and other forms of NMT to sustainable transport planning and UAQM; (iii) mass transit regulation and improvement; (iv) fuels, vehicle technology and Inspection and Maintenance; and (v) social dimensions of SUT

## **3. Policy Formulation**

25. The policy component of the program will make use of the results of pilot projects in Asia and experiences outside Asia.

*a. Integrate SUT and air quality policies at the regional level.*

The program will provide support to regional policy initiatives of United Nations Center for Regional Development –Environmental Sustainable Transport (UNCRD-EST program), and United Nations Economic and Social Commission for Asia and the Pacific (UN-ESCAP) and other regional bodies, by providing inputs in the form of resource persons and supporting the participation of national

and local representatives in periodic, high level, inter-governmental regional policy dialogues.

- b. *Integrate SUT and air quality policies at the national level in selected countries*  
A UNCRD program has started formulating National EST Action Plans in some of the ASEAN countries. These action plans and other national transport policies will be taken into account in designing policy frameworks and/or action plans for other Asian countries. The Program will contribute towards policy frameworks and/or action plans for 2 to 3 countries.
- c. *Integrate SUT and air quality policies at the local level in selected cities*  
To promote the integration of SUT and air quality policies, the program will work through the CAI-Asia local networks to increase awareness and knowledge on how to formulate integrated policies and action plans as well as contribute towards the formulation of SUT and AQM policies at the city level for selected cities.

#### **4. Networking**

26. The program will undertake or provide support to the following networking activities:

- a. *Develop integrated regional support structure for urban AQM and SUT planning.*  
Currently several organizations have their own real or virtual networks on AQM or SUT. Of all the organizations, CAI-Asia has the most extensive local network structure. The program will build on the institutional structure of CAI-Asia with its current and planned local networks while at the same time ensuring that the specialized knowledge and contacts of other groups are fully utilized. As part of the regional networking part of program, support will be provided to the Better Air Quality 2006 Workshop in Yogyakarta, Indonesia.

Several of the organizations proposed to be involved in the implementation of the program are already active in the Sustainable Transport Action Network for Asia and the Pacific (SUSTRAN). It is envisaged that through the program, SUSTRAN's role as main electronic discussion platform is maintained and further strengthened.

The interest of a number of Asian cities in Bus Rapid Transit (BRT) has grown in recent years. BRT plans are now either being formulated or implemented in more than 20 cities of Asia and it is proposed to form a network of cities interested in BRT in Asia. The objectives of such a network will be developed together with the Institute for Transportation and Development Policy (ITDP) which has already started to undertake such networking activities. Some possible objectives would be: (i) exchange of experience on issues like financing, management, information technology applications, and (ii) developing common training programs, particularly in the use of analytical tools, for BRT and other bus management systems.<sup>13</sup>

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<sup>13</sup> The BRT network will coordinate closely with the Energy Foundation, which is in the process of setting up a BRT Center in China.

- b. *Support local CAI-Asia networks in acting as local networks for SUT related stakeholders*

Support will be provided to local CAI-Asia networks to increase their capacity to coordinate AQM and SUT policy development and their implementation.

## **5. Local Action**

27. Local Action will be the core component of the proposed program. Preference will be given to proposals for local action which are innovative, replicable and which focus on all three dimensions of SUT: environmentally, economical and social sustainability. The following activities are planned:

- a. *Support small scale interventions in knowledge management, capacity building, policy formulation and networking*

Support will be made available for small-scale interventions at the local level such as knowledge management, capacity building, networking, policy formulation and/or identification of AQM and SUT projects or programs. Such small-scale interventions, which preferably will be cofinanced with a local counterpart contribution, can help to build a better understanding of an integrated approach to UAQM and SUT. It is expected that about 20 small-scale interventions can be financed under the proposed program.

- b. *Formulate concept papers and pre-feasibility studies*

The objective of the concept papers to be supported by the SUMA program ideas for inclusion in the program by international development agencies or by local or national governments. It is expected that a maximum of 10 concept papers will be prepared with a maximum financial support of \$15,000 per concept paper. The pre-feasibility studies are intended to develop detailed project concepts for future investment projects. The target audience for the pre-feasibility studies include: (a) local and national government; (b) local private sector; (c) bilateral and multilateral donor agencies; (d) Global Environment Facility Operational Program 11; (e) international private sector. A maximum of 6 pre-feasibility studies are expected to be financed under this component, with a maximum support per study of \$200,000.

- c. *Assist existing SUT programs and projects in the implementation phase.*

For SUT to become a credible and effective concept it is important that ongoing sustainable transport programs and projects adhere to SUT principles and generally succeed. The program will provide specialized advice in areas related to AQM and SUT.

## **III. Implementation Arrangements**

28. Program implementation will start in January 2006 and last 36 months. The program will be demand driven, and beneficiary countries and cities will be selected based on their commitment and their willingness to contribute towards the program. Active use will be made of the CAI-Asia local networks that have been established in Indonesia, China, Pakistan, Philippines, Nepal, Sri Lanka and Vietnam.<sup>14</sup> Program

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<sup>14</sup> See Attachment 3 for overview of the status of the CAI-Asia local networks.

resources will be allocated to build the capacity of these local networks to act as effective and credible facilitators in the development of SUT policies, programs and projects. The international cooperating partners described in para. 31 will be requested to coordinate their activities supported with program resources through these local networks.

## A. Implementing Organization

29. ADB will serve as the Executing Agency for the SUMA Program. Within ADB, the Environment and Social Safeguards Division (RSES) of the Regional and Sustainable Development Department (RSDD) will be responsible for the program's implementation. The Director of RSES will assign an RSES staff member as primarily responsible for overseeing implementation of the program. ADB will ensure that all funds are disbursed in line with the objectives of the program and relevant ADB guidelines on the selection and recruitment of consultants.

30. The CAI-Asia Secretariat in ADB, which is also overseen by RSES, will take the lead in the implementation of the Program on a day-to-day basis<sup>15</sup>. CAI-Asia Secretariat will be strengthened for this purpose by additional SUT specialists and project implementation specialists with one CAI-Asia staff member given lead authority for SUMA program implementation.

31. ADB is considering developing a special facility on Sustainable Urban Transport and Air Quality Management – the Sustainable Urban Air and Transport Facility (SUATF), which will be used to channel assistance to local CAI-Asia networks, cities and other organizations for the implementation of activities which fall under the scope of SUMA. This would also include partnership agreements to be drawn up with SUMA partner organizations. Eligibility criteria are being developed as well as a decision making procedure to ensure a transparent operation of SUATF.

### CAI-Asia and SUT

CAI-Asia has built up its involvement in the area of sustainable urban transport through the PSUTA project, which it implemented together with EMBARQ-WRI. This included the drafting of a Strategic Framework on Sustainable Urban Transport, the collection and documentation of resources on sustainable urban transport on the CAI-Asia website, the drafting of a manual for sustainable transport indicators and 3 city case studies on indicators for sustainable transport in Hanoi, Pune and Xian. CAI-Asia is also playing an important role in the Environmentally Sustainable Transport (EST) Forum of UNCRD in Nagoya, which has developed a Regional Forum consisting of government experts on SUT and high level government representatives from ASEAN+3. There is a tentative agreement with DG Transport and Energy of the European Union in Brussels, Belgium that CAI-Asia together with ADB will act as the strategic partner in the dissemination of the CIVITAS project results in Asia. CIVITAS is a program with 36 cities participating in which the EU has disbursed 300 million Euro in support of sustainable transport solutions. The close association of CAI-Asia with ADB and World Bank is an additional factor in having placed CAI-Asia well to coordinate the implementation of the SUMA project. The successful implementation of strategies and projects resulting from SUMA will in many cases require assistance from the development community.

## B. Partner Organizations

<sup>15</sup> For more information on CAI-Asia see [www.cleanairnet.org/charter](http://www.cleanairnet.org/charter), [www.cleanairnet.org/evaluation](http://www.cleanairnet.org/evaluation), [www.cleanairnet.org/strategy](http://www.cleanairnet.org/strategy), and [www.cleanairnet.org/businessplan](http://www.cleanairnet.org/businessplan)

32. Over the last few years the engagement of the development community on the topic of public transport and non-motorized transport in Asia has increased. ADB has decided that, in addition to implementing the program through CAI-Asia, it also will partner with a number of the leading bilateral and non-governmental organizations. These include: EMBARQ, the World Resource Center for Transport and Environment, Interface for Cycling Expertise (I-CE), Institute for Transportation and Development Policy (ITDP), Sustainable Urban Transport Program (SUTP)-GTZ and the Environmentally Sustainable Transport Program of UNCRD.<sup>16</sup> These are organizations which have a regional presence in Asia<sup>17</sup>.

33. All the SUMA partners have already been working together on various projects and activities over the last few years. EMBARQ-WRI implemented the PSUTA project jointly with CAI-Asia. The GTZ SUTP project has worked with CAI-Asia since its inception. ITDP is currently involved in implementing projects relating to Bus Rapid Transit (BRT), non-motorized transport (NMT), and traffic demand management (TDM) in several Asian cities and is already cooperating closely with several CAI Asia partners like EMBARQ, I-CE and GTZ.

#### CAI-Asia Overview

It was established by ADB and the World Bank in 2001. In consultation between ADB and World Bank it was decided that the Secretariat would be hosted mainly in ADB in Manila with some limited functions to be hosted by World Bank in Washington, DC. Within ADB, the CAI-Asia Secretariat is located within the Environment and Social Safeguard Division (RSES) in the Regional and Sustainable Development Department (RSDD). The staff of the CAI-Asia Secretariat is employed as consultants by ADB. The functions of the consultants can be divided into (1) serving as the CAI-Asia Secretariat; and (2) assisting in the mainstreaming of air quality issues into the lending and non-lending operations of ADB. Following the evaluation of CAI-Asia in 2004, ADB indicated that it will continue to host the Secretariat of CAI-Asia during Phase 2 of CAI-Asia which will run from 2005-2007. The CAI-Asia Executive Council has decided that ADB is authorized to receive and administer funds on CAI-Asia's behalf, and the CAI-Asia charter specifies that ADB will follow the official ADB procurement and accounting guidelines.

34. EMBARQ-WRI, ITDP, GTZ-SUTP and UNCRD have either co-sponsored one of the CAI-Asia organized Better Air Quality Workshops or have provided programming inputs. GTZ-SUTP, CAI-Asia and ITDP have been involved in the Regional Forum on Environmentally Sustainable Transport, which has been organized by UNCRD.

35. The roles of the partner organizations in the implementation of the SUMA program have tentatively been defined as:

- GTZ-SUTP: capacity building through the development of training materials, training of trainers and to oversee the actual training by trainers trained under the SUMA program.

<sup>16</sup> See Attachment 4 for a brief overview of the SUMA partners.

<sup>17</sup> A similar arrangement was made for the Swedish funded PSUTA project for which ADB under RETA 6016 entered in a partnership agreement with EMBARQ.WRI. The partnership agreements will call upon the SUMA partners to provide matching funds/inputs – with a minimum 4 : 1 ratio. Partner organizations can contribute by making available staff time and other in-kind contributions provided that these can be clearly quantified and monitored. The legal agreement drawn up between ADB and the concerned organization clearly defines the joint activities in terms of scope, objectives, deliverables and geographical location as well as the contributions from both sides and the progress and financial reporting mechanisms. The financial and progress reporting mechanisms included in the partnership agreements will need to comply with ADB and Sida requirements and the disbursement of funds provided by ADB will have to comply with ADB guidelines on the procurement of goods and selection of consultants.

- EST-UNCRD: policy development and dialogue. SUMA will work with EST program in the formulation of 2-3 national sustainable transport strategies as well as in facilitating a regional dialogue on Environmentally Sustainable Transport. It is under discussion whether the proposed UNEP/CAI-Asia Governmental Meeting on Urban Air Quality, proposed for 2006 can be merged with the Second Regional Forum on EST which is organized by UNCRD.
- EMBARQ/WRI: knowledge management and the following analyses: Social Assessment Guidelines, and CO<sub>2</sub> saving from Sustainable Transport. In the networking component EMBARQ/WRI will play a major role in the proposed BRT networking.
- I-CE. In knowledge management, ICE will co-implement the analysis on NMT. Under the capacity building component they will be involved in one of the training courses to be developed and implemented (dealing with NMT planning). They will provide inputs to strengthen the NMT expertise of local networks and help ensure that this is integrated in the policies to be developed with assistance of the local networks. In the local action component they will be involved in the formulation of selected concept papers and feasibility studies.
- ITDP: hands on involvement in the local action component in selected cities which possibly will include Jakarta and Ahmadabad.

36. All five organizations will be involved in sharing information and in giving guidance to the program management through their participation in the Program Coordination Forum.

### **C. Management of the SUMA Program**

37. The role of the SUMA partner organizations and their involvement in the management of the joint activities under the SUMA program will be spelled out in detail in the legal agreements between ADB and the partner organizations.

38. In addition to the involvement of the partner organizations in the management of cofinanced activities, they will also be invited to provide guidance to the overall coordination of the SUMA program. This will be through their participation in the Program Coordination Forum (PCF) which is scheduled to meet two times per year. The PCF is an advisory body and its tasks will be to:

- i) review the overall implementation progress of the SUMA program based on reporting by individual partner organizations, the CAI-Asia Secretariat and external reports;
- ii) review and discuss studies conducted under the Knowledge Management component of SUMA;
- iii) review the adequacy of implementation arrangements and where required recommend improvements;
- iv) review from time to time the poverty and social focus of the SUMA program and make suggestions on how this can be strengthened;

- v) recommend how results from the SUMA program can be utilized to strengthen urban transport and urban air quality management policies at the regional and national level in Asia; and
- vi) identify alternative sources of funding to increase the size and reach of the SUATF.

39. The membership of the PCF will include: representatives from (a) ADB and CAI-Asia; (b) SUMA partner organizations; and (c) Sida.<sup>18</sup> It is furthermore proposed that three regional representatives be selected from South-East, East and South Asia, respectively, to serve on the PCF.<sup>19</sup> These persons will be local experts on sustainable urban transport. The CAI-Asia Secretariat will conduct regular progress monitoring, and occasional external reviews will be conducted as well. The PCF meetings will consider the results of progress monitoring as well as other sources of information on program results and will formulate recommendations on possible modifications in the implementation schedule of SUMA.

## **D. Reporting**

### **1. Annual Work Plans**

40. ADB will submit annual work plans which will detail the activities that are planned for the year covered by the work plan. The annual work plans will take into accounts the results of narrative and financial progress reporting.

### **2. Progress and Financial Reporting**

41. Reporting will be the responsibility of ADB as the program manager. However, it will be expected that all partners contribute towards reporting. The reports will cover the entire scope of the SUMA program and not just the activities funded by Sida. ADB will report once per year to Sida on the implementation progress of SUMA. The reporting format will be based on the logical framework (Attachment 2). The emphasis in the reporting will be at the Impact, Outcome and Output levels of the logical framework. Each report will also contain a section describing the manner in which SUMA ensures a continuous poverty and social focus. The results of the bi-annual monitoring reports will be presented and discussed in the bi-annual PCF meetings.

42. ADB, as part of the cofinancing agreement with the SUMA partner organizations, will formulate reporting requirements to ensure that adequate information is available for the integrated reports to Sida.

43. ADB will submit once a year a financial report to Sida on the utilization of funds according to the cost estimate and financing plan in Attachment 5. The report will cover only those funds administered by ADB.

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<sup>18</sup> Sida can nominate Swedish experts who would be authorized by Sida to represent Sida in meetings of the PCF. The ToR of such nominated experts could also include more targeted inputs to specific SUMA activities such as (i) development and implementation of specific studies under the Knowledge Management Component; (ii) act as resource persons in selected capacity building activities and policy dialogues.

<sup>19</sup> The cost of participation in the SUMA PCF meetings for these three persons will be part of the SUMA budget.

### **3. External Evaluation**

44. Arrangements will be made for an independent evaluation of the program after the first year and then again at the end of the program. This will involve the hiring of an independent consultant for 15 days for the review at the end of the first year and 20 days for the review at the end of the program. The Terms of Reference (TOR) for the external evaluation will include but not be limited to:

- i) Review the overall program concept and judge its continued relevancy in terms of promoting sustainable urban transport and urban air quality management;
- ii) Review the balance between the climate change mitigation objectives, urban air quality management and sustainable urban transport objectives and SUMA activities implemented and planned;
- iii) Review those activities aimed at reducing CO<sub>2</sub> and other pollutants influencing climate change;
- iv) Review the extent to which SUMA is addressing poverty and social issues in its activities;
- v) Review the institutional arrangements for the SUMA program and their implementation; and
- vi) Comment on the need to make adjustments in the output and activity planning for the program.

### **3. Dissemination of SUMA Results**

45. To inform the sustainable transport and urban air quality community in Asia of SUMA findings and outputs, the following activities are planned:

- i) A special section will be created for SUMA on the CAI-Asia website and SUMA partners will be encouraged to do likewise;
- ii) A SUMA brochure will be developed for large scale dissemination and will be updated on an annual basis;
- iii) Study reports under the Knowledge Management component will be disseminated as SUMA outputs;
- iv) The weekly sustainable urban transport digest of CAI-Asia will be renamed as “SUMA Digest” and it will continue to be sent out informing on SUMA news and developments in SUT in Asia;
- v) SUMA program and its outputs will be presented at relevant national and internal conferences and workshops on SUT and UAQM in Asia;
- vi) Dedicated SUMA sessions will be conducted at BAQ 2006 and BAQ 2008 to present the results of SUMA; and
- vii) A concise final report will be developed and published on the SUMA program.

### **E. Program Sustainability**

46. The sustainability of the program will be promoted by adopting a partnership approach. All the partners in the program already have established programs on AQM

and sustainable transport. No new organizations or institutions will have to be created for purposes of the program, and it is expected that all of the partners involved in the SUMA program will continue to run sustainable urban transport programs. In addition, the SUMA program will try to ensure that all of the different components of the program have a natural home, e.g., knowledge management activities will be integrated into websites of existing organizations; capacity building will be undertaken in coordination with organizations which already have established training programs on AQM and sustainable transport; policy development will be coordinated at the regional level with relevant UN organizations and multilateral development organizations. All activities at the local level will be undertaken in close coordination with local CAI-Asia networks. These multi-sector local networks will help to ensure that program activities are not implemented in isolation and that there is an active follow-up. CAI-Asia will actively coordinate with its “parent organizations” ADB and World Bank to ensure that there is follow-up to the concept papers and feasibility studies formulated under the program.

#### IV. Financing

##### A. Cost Estimate

47. The cost estimate for the total program is \$5,185,000 of which SEK 20,000,000<sup>20</sup> will be contributed by Sweden (see Attachment 5 for more details on the cost estimates for the program). This includes an estimated: \$655,000 from the Government of Finland administered by ADB; \$1,000,000 from the Global Environment Facility Operational Program 11 to be administered by ADB; and \$600,000 from CAI-Asia private sector members to be administered by ADB.<sup>21</sup> In case some sources of cofinancing do not materialize, the budget administered by ADB will be reduced accordingly and the scope of the overall SUMA program modified.

##### B. Cofinancing

48. SUMA also is expected to receive parallel cofinancing from a range of sources, currently estimated to total \$1,500,000. See below for the likely sources of parallel cofinancing of SUMA and their status:

Parallel Co-financier (source)	Type	Amount (US\$)	Status
I-CE	Cash	600,000	See copy of commitment letter.
ITDP	Cash and in kind	200,000	See copy of commitment letter
EMBARQ-WRI	Cash and in kind	150,000	See copy of commitment letter
UNCRD-EST	Cash and in kind	150,000	See copy of endorsement fax.
GTZ-SUTP	In cash and in kind including staff time	400,000	See copy of commitment letter
<b>Total</b>		<b>1,500,000</b>	

49. Discussions also are ongoing with a number of bilateral development organizations, international NGOs and private sector organizations about their potential

<sup>20</sup> Based on exchange rate of 8 November, 2005, this is equivalent to approximately US \$2,430,000.

<sup>21</sup> Based on average private sector member contributions over the last three years. Private sector contributions are non-earmarked, they are administered by ADB on behalf of CAI-Asia and can be allocated by CAI-Asia by CAI-Asia Executive Council.

participation in the SUMA program. ADB intends to channel such funds, to be administered by ADB, to the subprojects and their management.

## **Attachment 1**

### **PSUTA**

### **Partnership for Sustainable Urban Transport**

The Partnership for Sustainable Urban Transport in Asia (PSUTA) is an initiative of the Clean Air Initiative for Asian Cities (CAI-Asia) with support from the Swedish International Development Agency, the Asian Development Bank and EMBARQ the World Resources Institute Center for Transport and Environment (<http://www.cleanairnet.org/psuta/>). PSUTA was established as a response to the extraordinary—and largely uncontrolled—growth of motorized transport which threatens air quality, has contributed to increasing congestion and is responsible for hundreds of thousand persons killed each year due to poor road safety. It developed partnerships with Hanoi, Vietnam; Pune, India; and Xian, China.

PSUTA has helped to raise the awareness on sustainable urban transport and encouraged cities and governments to intensify efforts to improve the sustainability of their transport systems. At the same time PSUTA has been instrumental in building the relationship between international and regional organizations working on sustainable urban transport in Asia. Together these organizations have now developed the Sustainable Urban Mobility in Asia (SUMA) Program. With an anticipated starting budget of \$ 6.5 million, SUMA will be able to take the sustainable urban transport agenda as developed under PSUTA and make a significant contribution towards its implementation.

Following the documentation of existing resources on sustainable urban transport (<http://www.cleanairnet.org/caiasia/1412/article-60116.html>) the PSUTA partners developed a Strategic Framework for Sustainable Transport. The Strategic Framework analyses the challenges facing urban transport systems in Asia and proposes that policy makers focus on improving access of people to work, services, leisure, and each other without compromising future generations' ability to do the same. (<http://www.cleanairnet.org/caiasia/1412/article-60117.html>). The Strategic Framework makes the linkage between sustainable urban transport and effective environmental management, poverty alleviation and inclusive social development. Decision makers on urban transport and other stakeholders are guided on how the Strategic Framework can be utilized in designing and implementing effective urban transport policies and programs by adopting a consultative and participatory approach.

PSUTA together with its partners in Hanoi, Vietnam; Pune, India; and Xian, China developed indicators of sustainable transport to help decision makers in these cities to better understand the current sustainability, or lack of it, of their urban transport systems and to develop more structured and quantified approaches to policy making. The goal was not a complete set of numbers, rather a recognition of which indicators counted the most for good policy development and a strategy to get the information required for those indicators. The process to formulate the indicators showed in all three cities that while transport related information is generally available at a general level it is not shared well and not properly accessible to interested stakeholders. Air quality information is still less well developed, especially information on the contribution of transport to overall air pollution levels.

Our overall view of the sustainability of transport in these cities was pessimistic. Congestion is increasing and access decreasing; transport-caused air pollution appears to be on the increase. Accident rates per km were falling, but total fatalities per km still remain among the highest in the world. Social issues are often not considered. The economics of public transport are marginally positive, but threatened by increased use of private vehicles. Perhaps most encouraging is the way in which governance is improving, pushing hard on cleaner fuels and vehicles, and better road safety. Whether the policy process can increase safety and access for the poor, for those who still walk or cycle, still remains to be seen

**Attachment 2**  
**Logical Framework**

<b>Design Summary</b>	<b>Performance Targets/Indicators</b>	<b>Data Sources/Reporting Mechanisms</b>	<b>Assumptions and Risks</b>
<p><b>Impact</b> Air pollution levels have stabilized in major Asian cities with a number of them achieving improvement of air quality for selected parameters.</p>	<ul style="list-style-type: none"> <li>• Growth rate for CO2 slowed down in selected Asian Cities</li> <li>• Improvements in air quality trends for SO<sub>2</sub>, TSP, PM<sub>10</sub>,</li> <li>• Stabilization of current levels for NO<sub>x</sub> and O<sub>3</sub></li> <li>• Road safety, congestion, and access to transport for poor ,women, elderly and children integrated in AQM and SUT policies and programs</li> </ul>	<ul style="list-style-type: none"> <li>• Clean Air Initiative for Asian Cities (CAI-Asia) - United Nations Environment Program (UNEP) Environment Knowledge Hub</li> <li>• Global Road Safety Partnership, national and local level policy documents</li> </ul>	<p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>• AQM and SUT sufficiently prioritized by local and national governments</li> </ul> <p><b>Risks</b></p> <ul style="list-style-type: none"> <li>• Lack of coordination among development agencies in supporting urban AQM and SUT in Asia</li> </ul>
<p><b>Outcome</b> To accelerate the development of capacity for urban AQM and SUT in Asia through better integration of AQM and SUT in the strategies, policies, programs and projects of developing member countries (DMCs) and development agencies such as ADB.</p>	<ul style="list-style-type: none"> <li>• AQM capability of Asian cities improved</li> <li>• Status of AQM and SUT in DMC and donor agencies policy documents on environment and transport, energy, urban development has been increased</li> <li>• Number of AQM and SUT related activities supported by bilateral and multilateral agencies has increased compared to the period 2000-2004</li> <li>• ADB engagement in AQM-related topics has increased upon completion of the TA compared to the period 2000-2004</li> </ul>	<ul style="list-style-type: none"> <li>• CAI-Asia Phase 2 Benchmarking study of urban AQM capabilities</li> <li>• Policy documents and survey undertaken by CAI-Asia Secretariat with inputs from local CAI-Asia networks</li> <li>• CAI-Asia Compendium of AQM Programs and Projects in Asia</li> <li>• CAI-Asia Compendium of AQM Programs and Projects in Asia and revised CSPs and CSPUs for the period beyond 2006</li> </ul>	<p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>• Development agencies other than ADB take an active interest in AQM</li> <li>• Local and national governments prioritizing AQM</li> </ul> <p><b>Risks</b></p> <ul style="list-style-type: none"> <li>• Development agencies are confronted with conflicting priorities whereby environmental priorities are reduced</li> <li>• Limited absorption capacity in Asian cities and countries for increased AQM and SUT assistance</li> <li>• Weak interagency institutional capacity and lack of incentives to implement complex, multi-sector projects</li> </ul>

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
<p><b>Outputs</b></p> <p>1. AQM and SUT knowledge management system institutionalized<sup>14</sup> and capacity and networking for AQM strengthened at the regional, national and local level</p>	<ul style="list-style-type: none"> <li>▪ Effective Air Quality Management Information System (AMIS) established in cooperation with UNEP and relevant programs</li> <li>▪ CAI-Asia website regularly updated with relevant AQM and SUT materials</li> <li>▪ Awareness and knowledge on AQM within ADB and other development agencies improved</li> <li>▪ SUMA studies implemented and study results disseminated</li> </ul>	<ul style="list-style-type: none"> <li>▪ CAI-Asia Website and AMIS documents</li> <li>▪ CAI-Asia website</li> <li>▪ Study results from studies conducted under the TA</li> </ul>	<p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>▪ Local, national and regional groups acknowledge the priority of knowledge management and make regular information available</li> </ul> <p><b>Risks</b></p> <ul style="list-style-type: none"> <li>▪ The use of different content management systems hampers the development of knowledge management coordination</li> </ul>
<p>2. Decision makers on sustainable urban transport are increasingly able to develop and implement SUT policies, programs and projects</p>	<ul style="list-style-type: none"> <li>▪ Clean Air Training Network for Asia (CATNet-Asia) network strengthened and medium term sustainability secured</li> <li>▪ CATNet Asia structure modified to incorporate partner organizations with SUT training capacity</li> <li>▪ 60 master trainers trained and 160 trainers</li> <li>▪ 4 training courses developed and delivered for 1000-1200 participants in training courses</li> </ul>	<ul style="list-style-type: none"> <li>▪ Revised structure and business plan</li> <li>▪ Organizational Chart and MoUs with training organizations</li> <li>▪ Training records</li> <li>▪ Curricula, teaching materials, training records</li> </ul>	<p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>▪ Agreement among partners on prioritization of training topics, methodology and delivery structures</li> <li>▪ Trained persons remain long enough in their job to implement what they have learned</li> <li>▪ Financial resources available for applying skills</li> </ul> <p><b>Risks</b></p> <ul style="list-style-type: none"> <li>▪ Development agencies not able or willing to make required staff resources available to support AQM thrust</li> </ul>
<p>3. Policies on sustainable urban transport have been developed and adopted at the regional, national and local level</p>	<ul style="list-style-type: none"> <li>▪ SUT and AQ Policies have been integrated in the regional policy discussions initiated or coordinated by: UN-ESCAP, UNCRD, ASEAN and AWGESC, SAARC and other groups.</li> <li>▪ Minimum of three</li> </ul>	<ul style="list-style-type: none"> <li>▪ Minutes of meetings, policy documents</li> <li>▪ National level and City</li> </ul>	<p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>▪ Regional organizations are willing to coordinate their AQM and SUT activities and have capacity to actively engage in, and participate, in relevant meetings and their follow-up</li> </ul>

<sup>14</sup> Institutionalized means that a long term solution has been developed with respect to who will be responsible for information collection on AQM at the regional level in Asia.

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
	national level and 6 city level policy initiatives where the TA has promoted the integration of SUT and Air quality policies in an integrated policy framework	level strategies	
4. Policy makers and other stakeholders on urban transport are increasingly organized in local, national and regional networks	<ul style="list-style-type: none"> <li>▪ Regional coordination mechanisms for AQM and SUT enhanced</li> <li>▪ 10 CAI-Asia local networks institutionalized with substantial SUT component</li> <li>▪ SUSTRAN 's role as virtual thematic network on sustainable urban transport in Asia has been strengthened</li> <li>▪ BRT network for Asia has been developed and formalized and is functioning</li> </ul>	<ul style="list-style-type: none"> <li>▪ Regional coordination meetings and MoUs</li> <li>▪ Local network strategies and business plans and MoUs with local networks</li> <li>▪ SUSTRAN activity record</li> <li>▪ Network description, membership list and activity record</li> </ul>	<p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>▪ Stakeholders at regional, national and local level willing to cooperate</li> </ul> <p><b>Risks</b></p> <ul style="list-style-type: none"> <li>▪ Sustainability of national and local networks is limited due to dependence on external donor support</li> </ul>
5. Portfolio of programs and projects has been developed to implement sustainable urban transport policies that integrate land-use planning, urban air quality management and sustainable transport	<ul style="list-style-type: none"> <li>▪ Minimum of 10 small scale interventions in support of AQM and SUT approved and successfully implemented</li> <li>▪ 10 concept papers to identify new SUT related programs have been formulated</li> <li>▪ Minimum of 6 full fledged pre-feasibility studies on SUT investment projects successfully completed and submitted for funding</li> <li>▪ Specialized inputs made to minimum of 10 ongoing sustainable transport projects</li> </ul>	<ul style="list-style-type: none"> <li>▪ Proposal and documents summarizing results</li> <li>▪ Concept papers</li> <li>▪ Pre-feasibility studies</li> <li>▪ Requests for assistance and project reports</li> </ul>	<p><b>Assumptions</b></p> <ul style="list-style-type: none"> <li>▪ Priority for urban AQM reflected in DMC policy documents and strategy documents of development agencies primarily ADB and key countries and cities in CAI-Asia network</li> </ul> <p><b>Risks</b></p> <ul style="list-style-type: none"> <li>▪ Government's unwillingness to allocate funds for implementation of proposals or to borrow funds for 'soft' AQM and SUT projects that show no direct and tangible financial return</li> </ul>
6. Program Coordination, Monitoring and Evaluation mechanisms	<ul style="list-style-type: none"> <li>▪ CAI-Asia Secretariat strengthened to coordinate implementation of TA</li> </ul>	<ul style="list-style-type: none"> <li>▪ CAI-Asia Secretariat structure</li> </ul>	

<b>Design Summary</b>	<b>Performance Targets/Indicators</b>	<b>Data Sources/Reporting Mechanisms</b>	<b>Assumptions and Risks</b>
have been developed and implemented	<ul style="list-style-type: none"> <li>▪ Program Coordination Forum meetings conducted on 6 monthly basis</li> <li>▪ Regular meetings with relevant Communities of Practice in ADB</li> <li>▪ Independent external reviews of TA activities after year 1 and in year 3 carried out.</li> <li>▪ Reporting to external donors carried out in a timely manner</li> </ul>	<ul style="list-style-type: none"> <li>▪ Meeting documents and minutes</li> <li>▪ Meeting Documents and Minutes</li> <li>▪ Evaluation ToR and Reports</li> <li>▪ Financial and Progress Reports</li> </ul>	
<b>Activities with Milestones</b>			
<ol style="list-style-type: none"> <li>1. Knowledge management on Sustainable Transport and Urban Air Quality Management enhanced and institutionalized <ol style="list-style-type: none"> <li>1.1 To establish Environment Knowledge Hub in coordination with UNEP and other programs, such as Regional Air Pollution in Developing Countries (RAPIDC) Program</li> <li>1.2 To design and implement phase 2 Air Quality Management Capability Benchmarking Study to assess progress in establishing air quality management capabilities in Asian cities</li> <li>1.3 To restructure CAI-Asia website to improve access and usability and strengthen linkage with ADB knowledge management system</li> <li>1.4 To agree on distribution of labor between partner organizations on knowledge generation and management for AQM and SUT</li> <li>1.5 To conduct study on integration of Air Quality Planning, Land-use Planning and Sustainable Transport Planning</li> <li>1.6 To conduct study on Modernization of public transport and Public Private partnerships for sustainable urban transport systems completed</li> <li>1.7 To conduct Study on Carbon saving from sustainable urban transport completed</li> <li>1.8 To conduct Study on the potential of cycling and other forms of NMT as contribution to sustainable transport and air quality management</li> <li>1.9 To conduct study on and formulate guidelines for Social assessment of Urban Transport</li> </ol> </li> <li>2. Decision makers on SUT are increasingly able to develop and implement AQM policies, programs and projects. <ol style="list-style-type: none"> <li>2.1 To strengthen coordination of CATNet-Asia to improve quantity and quality of Air Quality Management Training in Asia</li> <li>2.2 To develop and disseminate mainstreaming note on AQM in development agencies with special emphasis on ADB</li> <li>2.3 To conduct AQM briefings for regional departments in ADB with an AQM portfolio and minimum of 3 brown bag seminars</li> <li>2.4 To develop AQM briefing package for use in other development agencies</li> </ol> </li> <li>3. Policies on AQM and SUT have been developed and adopted at regional, national and local level <ol style="list-style-type: none"> <li>3.1 To prepare a co-benefits mainstreaming note which promotes a combined approach to climate change mitigation and urban AQM</li> <li>3.2 To include air quality dimension in ADB transport, urban development strategies</li> <li>3.3 To promote the development and or updating of air quality management strategies in partnership between local CAI-Asia networks and members development agencies of CAI-</li> </ol> </li> </ol>			

Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
	<p>Asia</p> <p>3.4 To promote the introduction of air quality management activities in cities which until now have no or only partial air quality management systems</p> <p>3.5 To compose country fact sheets on AQM status and programs for local decision makers and ADB staff</p> <p>3.6 To conduct policy dialogue with key decision makers in 5-7 selected countries, and make results available to relevant parties</p> <p>3.7 To utilize policy dialogue results and other information sources in providing inputs into a minimum of 4 ADB Country Strategy and Programs (CSP)</p> <p>4. Policy makers and other stakeholders on urban transport are increasingly organized in local, national and regional networks.</p> <p>4.1 To conduct SUT workshops as part of BAQ 2006</p> <p>4.2 To develop, produce and distribute 4-6 CAI-Asia newsletters distributed to about 750 relevant stakeholders</p> <p>4.3 To implement two capacity building workshops for CAI-Asia local networks</p> <p>5. Portfolio of Programs and Projects has been developed to implement sustainable urban transport policies that integrate land-use planning, urban AQM, and SUT</p> <p>5.1 To approve and review a minimum of 10 small scale interventions in support of AQM and SUT</p> <p>5.2 To approve and review 10 concept papers to identify new SUT related programs</p> <p>5.3 To approve and review minimum of 6 full fledged pre-feasibility studies on SUT investment projects</p> <p>5.4 To approve and oversee inputs to minimum of 10 ongoing sustainable transport projects</p> <p>6. Program Coordination, Monitoring and Evaluation mechanisms have been developed and implemented</p> <p>6.1 To strengthen CAI-Asia Secretariat in RSES to implement TA</p> <p>6.2 To conduct a follow-up evaluation survey on CAI-Asia with the clear objective to establish future AQM priorities</p> <p>6.3 To undertake timely financial and progress reporting to external donors and within ADB</p> <p>6.4 To conduct 2 external reviews of the TA</p> <p>6.5 To develop detailed guidelines for the Sustainable Urban Air and Transport Facility (SUATF)</p>		

### Attachment 3 Status of CAI-Asia Local Networks

- **Bangladesh.** The formal establishment of the local network and secretariat is planned for 2006. The International Union for Conservation of Nature (IUCN) has expressed its interest to host the secretariat as part of the sub-regional CAI-Asia–IUCN cooperation on air quality management (AQM). ITDP has in the past undertaken activities in Bangladesh and their organizational contacts will be integrated in the Bangladesh local network.
- **Bhutan.** With the support of the ADB SASEC TA, a national air quality network was established in 2004, a study of the air quality management system was conducted, and an air quality action plan was formulated in Bhutan.
- **Cambodia.** The establishment of the local network is planned for 2006. UNCRD has started the formulation of a national Environmentally Sustainable Transport strategy and the contacts developed under this activity will be integrated in the local network.
- **India.** Discussions are ongoing with the Ministry of Environment and Forests, the Central Pollution Control Board and IUCN on the establishment of a local network in India which is scheduled for 2006. The local network will be a city-based network and will include, among others, Pune (one of the PSUTA cities), Ahmedabad where ITDP has good contacts, as well as the cities included in the PAPA Project. World Bank is processing a new AQM project which will provide support for the CAI-Asia local network. ITDP and I-CE are undertaking activities in India and their organizational contacts will be integrated in the India local network.
- **Indonesia.** The Mitra Emisi Bersih, CAI-Asia's local network in Indonesia, was established in July 2002 and its secretariat is hosted by the Jakarta City Government. CAI-Asia received feedback from the local network that the participation of stakeholders in CAI-Asia activities gave the government the confidence to recommend to skip the Euro 1 vehicle emission standards and jump straight to Euro 2 standards. MEB has been instrumental in pushing for lead phase out which has been partially accomplished. It also played a lead role in lobbying for the hosting of the Better Air Quality 2006 workshop by Indonesia. BAQ 2006 will play an important role in catalyzing AQM policies and their implementation in Indonesia. ITDP is undertaking activities in Indonesia. Their organizational contacts will be integrated in the Indonesia local network.
- **Nepal.** Clean Air Network–Nepal (CAN-N) was established in November 2004 with the support of the ADB SASEC TA. There are currently almost 100 members of the network including organizational and individual members. An important first output has been the formulation of a 20 year Strategic Roadmap for Urban Air Quality Management in Kathmandu.
- **Pakistan.** IUCN, ADB and CAI-Asia have agreed to establish a local network for clean air in Pakistan. A coordinator for the network will be engaged in the last quarter of 2005. The office of the Pakistan local network will be located in the Karachi office of IUCN. There are currently two city networks in Pakistan: the Karachi Clean Air Committee and the Lahore Clean Air Commission. Among the tasks of the coordinator will be to support and coordinate the activities of these city-based committees. Involvement in CAI-Asia activities resulted in a lowering of sulfur levels in diesel by 50%.
- **Philippines.** The Partnership for Clean Air (PCA) was established in June 2001 with the support of ADB and USAID/USAEP. The Secretariat is hosted by the Manila Observatory. CAI-Asia provided active support to the PCA in its efforts to phase out leaded gasoline and implement the lowering of sulfur in diesel to 500 ppm. As a result of the post-BAQ 2004 follow-up meetings initiated by CAI-Asia in collaboration with EMB-DENR and PCA, a draft national roadmap for AQM from 2005-2010 has been developed. CAI-Asia is also actively involved in the process of having a BRT system piloted in the Philippines. It catalyzed stakeholders into action by bringing Enrique Penalosa, former mayor of Bogota, Colombia and an advocate for BRT systems to interact with stakeholders in Manila in December 2004. CAI-Asia assisted the PCA in getting the support of key government agencies to pilot the BRT in Metro Manila and in procuring funds for the BRT pre-feasibility study from UNCRD.
- **PRC.** The CAI-Asia China Project was established in July 2005 with the support of ADB Technical Assistance for Better Air Quality Management in Asia. The Project is a joint

initiative of China State Environmental Protection Administration (SEPA) and CAI-Asia. The Chinese local network is expected to initially consist of 9 city members: Changsa, Chengdu, Chongqing, Guangzhou, Guiyang, Hangzhou, Harbin, Luoyang, Qindao, Tianjin, and Urumqi. The inclusion of Xi'an, where the World Bank has a large transport project, is under discussion. A city mobilization workshop was conducted in October 2005. The China local network will ultimately implement activities on knowledge management, capacity building, policy development and project formulation. The CAI-Asia China Project is supported by a Secretariat with four staff: Senior Coordinator, Coordinator, Researcher, and Administrative Assistant. It is hosted by the Chinese Research Academy for Environmental Sciences. The Project has demonstrated its viability by attracting financial support from various donor agencies and foundations such as: ADB, Energy Foundation, the William and Flora Hewlett Foundation, and DEKRA. ITDP is undertaking activities in China and their organizational contacts will be integrated in the China local network.

- **Sri Lanka.** The Air Resource Management Centre (AirMAC) was established in July 2001 under the Ministry of Environment and Natural Resources. The organizations that supported the establishment of AirMAC and provided support for its activities are USAID/USAEP, World Bank, and ADB. Among the achievements of AIRMAC are: (a) development of the national policy on AQM; (b) passage of the regulations for mobile air emissions, fuel quality and vehicle specification standards for importation; (c) establishment of 3 ambient air quality monitoring stations including one mobile station which monitors ambient air quality in about 10 cities; (d) completion of 2 pilot vehicle emission monitoring programs which tested 700 vehicles; (e) holding of 20 awareness workshops on the proposed vehicle emission standards and implementation to private bus owners in 20 districts.
- **Thailand.** The “Developing Integrated Emission Strategies for Existing Land Transport” (DIESEL) Project aims at developing a comprehensive understanding of in-use diesel vehicles, testing various emission control options, and improving decision-making for better urban air quality in Asian cities. Bangkok was chosen as the pilot city for implementing the DIESEL Project. The project is implemented by the Thailand Pollution Control Department and the Department of Land Transport, with assistance from CAI-Asia, World Bank, USEPA and USAID/US-AEP.
- **Viet Nam.** In 2001, the ADB Technical Assistance for Reducing Vehicle Emissions in Asia encouraged multi-sector participation in the formulation of an action plan to reduce vehicle emissions. The USAID/USAEP continued its support to strengthen AQM in Viet Nam by appointing a Coordinator for Clean Air who continued to involve the different stakeholders in implementing the activities in the air quality action plan. Through the PSUTA, CAI-Asia was able to sustain the coordinating role in Hanoi. The Swisscontact Viet Nam Clean Air Program has offered to continue supporting the multi-sector activities for clean air in Viet Nam and is in the process of setting up a local CAI-Asia network. Vietnam Register has acknowledged CAI-Asia's direct or indirect influence in the following outputs: (a) Integrated Action Plan for Reduction of Vehicle Emissions, (b) Driver Manual (Chapter on environmental issues), (c) Developing a road map for achieving Euro standards in new vehicles and fuel to improve air quality in Vietnam (supported by USAID/USAEP), (d) Clean motorcycle pilot project (supported by Swisscontact), and (e) Vehicle emission inventory and measures focusing on motorcycles, buses, and trucks (supported by World Bank). UNCRD has started the formulation of a national Environmentally Sustainable Transport strategy and the contacts developed under this activity will be integrated in the local network

### Attachment 4: Partner Profiles

Organization / Program	Goals	Coverage	Activities related to SUT
Clean Air Initiative for Asian Cities (CAI-Asia) <a href="http://www.cleanairnet.org/caiasia">www.cleanairnet.org/caiasia</a> Cornie Huizenga (Head of Secretariat) <a href="mailto:chuizenga@adb.org">chuizenga@adb.org</a>	<ul style="list-style-type: none"> <li>• AQM knowledge and experience sharing</li> <li>• Enhance city capacity for AQM</li> <li>• Improve policy</li> <li>• Promote integrated AQM</li> <li>• Encourage innovation through pilot projects</li> </ul>	Bangladesh, Bhutan, Cambodia, China, Hong Kong, India, Indonesia, Malaysia, Nepal, Pakistan, Philippines, Singapore, Sri Lanka, Thailand, Vietnam	<ul style="list-style-type: none"> <li>• Partnership for Sustainable Urban Transport Program (i) Documentation of sustainable resources (ii) Indicator development for SUT; (iii) Formulation of a Strategic Framework on Sustainable Urban Transport</li> <li>• Pre-feasibility study on BRT in Manila</li> </ul>
Sustainable Urban Transport Program – GTZ <a href="http://www.sutp.org">www.sutp.org</a> Carlos F. Pardo (Project Coordinator) <a href="mailto:carlos.pardo@sutp.org">carlos.pardo@sutp.org</a>	Assist developing cities to meet sustainable transport goals, through dissemination of information on international experience and targeted work with particular cities	Thailand	<ul style="list-style-type: none"> <li>• Sourcebook of sustainable transport, 23 modules</li> <li>• Training courses on sustainable transport in 20 topics</li> <li>• Assisting Bangkok Administration in implementation of BRT project, cycleways and pedestrian areas</li> </ul>
Interface for Cycling Expertise <a href="http://www.i-ce.info">www.i-ce.info</a> Roelof Wittink, (Executive Director) <a href="mailto:roelof.wittink@cyclimg.nl">roelof.wittink@cyclimg.nl</a>	<ul style="list-style-type: none"> <li>• Cycling rights</li> <li>• Promote integrated urban, transport, environmental planning</li> <li>• Capacity building</li> <li>• Expert mobilization</li> <li>• Mobilization of public and political support</li> </ul>	India, Sri Lanka, Philippines	<ul style="list-style-type: none"> <li>• LOCOMOTIVES, program to support low cost mobility initiatives</li> <li>• Bicycle Partnership Program</li> <li>• Technical assistance on cycling and road safety</li> <li>• Velo-Info, web-based knowledge center on cycling</li> </ul>
EMBARQ, the World Resource Center for Transport and Environment <a href="http://embarq.wri.org/en/index.aspx">embarq.wri.org/en/index.aspx</a> Lee Schipper (Director for Research) <a href="mailto:schipper@wri.org">schipper@wri.org</a>	Act as a catalyst for socially, financially, and environmentally sound solutions to the problems of urban mobility	China, India, Viet Nam	<ul style="list-style-type: none"> <li>• Establish city partnerships</li> <li>• Create city-based <i>Center for Sustainable Transport</i> in Mexico</li> <li>• Identify appropriate SUT system for partner city</li> <li>• Sharing of experiences</li> </ul>
Environmentally Sustainable Transport (EST) Program –	<ul style="list-style-type: none"> <li>• EST policy instruments and</li> </ul>	ASEAN and Japan, China,	<ul style="list-style-type: none"> <li>• Inter-governmental Regional EST Forum</li> </ul>

Organization / Program	Goals	Coverage	Activities related to SUT
<p>UNCRD  <a href="http://www.uncrd.or.jp/env/est">www.uncrd.or.jp/env/est</a></p> <p>Choudhury Rudra Charan Mohanty            (Environment Coordinator)  <a href="mailto:mohantyc@uncrd.or.jp">mohantyc@uncrd.or.jp</a></p>	<p>Knowledge management</p> <ul style="list-style-type: none"> <li>• Strategic action planning</li> <li>• Awareness raising and capacity building</li> <li>• Exchange of information, tools, technology and experiences</li> <li>• Cooperation between Asian countries and donors active in EST</li> </ul>	<p>Korea, Mongolia</p>	<ul style="list-style-type: none"> <li>• Preparation of National Strategies-cum-Action Plans</li> <li>• Capacity-building on EST</li> <li>• Pilot/demonstration projects in EST related areas</li> <li>• Mobilizing research, and strengthening international cooperation.</li> </ul>
<p>Institute for Transportation and Development Policy – ITDP</p> <p><a href="http://www.itdp.org">www.itdp.org</a></p> <p>Walter Hook            (Executive Director)  <a href="mailto:whook@itdp.org">whook@itdp.org</a></p>	<ul style="list-style-type: none"> <li>• To shift travel from private motorized vehicles to buses and NMT</li> <li>• demonstrate how transport emissions and accidents can be reduced, or the basic mobility of the poor can be improved</li> </ul>	<p>China, Indonesia, India</p>	<ul style="list-style-type: none"> <li>• Supporting the development of Bus Rapid Transit (BRT) systems</li> <li>• Cycle rickshaw modernization</li> <li>• Improving non-motorized transport planning and safety</li> </ul>

**ATTACHMENT 5: COST ESTIMATES AND FINANCING PLAN (\$'000)**

<b>Item</b>	<b>Total Cost</b>
<b>I. Government of Sweden Financing</b>	
A. Program Coordination, Monitoring and Evaluation	
1. Consultants	
a. International Consultants	
i. Remuneration, Per Diem and Travel	375.0
b. Domestic Consultants	
i. Remuneration, Per Diem and Travel	205.0
3. Miscellaneous Administration and Support Cost	90.0
B. Sub-Projects (1)	1,400.0
C. Contingencies 15% (including 5% admin. Costs)	360.0
<b>Subtotal</b>	<b>2,430.0</b>
<b>II. Asian Development Bank Financing (1)</b>	
A. Program Coordination, Monitoring and Evaluation	
1. Consultants	
a. International Consultants	
i. Remuneration, Per Diem and Travel	415.0
b. Domestic Consultants	
i. Remuneration, Per Diem and Travel	165.0
2. Training, Seminars, and Conferences	65.0
3. Miscellaneous Administration and Support Cost	100.0
B. Sub-Projects (2)	1,180.0
C. Contingencies 15%	330.0
<b>Subtotal</b>	<b>2,255.0</b>
<b>Subtotal Beneficiary Contributions</b>	<b>500.0</b>
<b>GRAND TOTAL</b>	<b>5,185.0</b>

- (1) This estimate includes \$655,000 from the Government of Finland administered by ADB; \$1,000,000 from the Global Environment Facility Operational Program 11 to be administered by ADB; and \$600,000 from CAI-Asia private sector members to be administered by ADB. In case some of these sources of cofinancing do not materialize, the budget administered by ADB will be reduced accordingly and the scope of the overall SUMA Program modified.
- (2) The budget allocations for sub-projects are earmarked for the Sustainable Urban Air and Transport Facility, which ADB intends to establish in support of the implementation of the SUMA Program.