



**PROJECT DEVELOPMENT FACILITY  
REQUEST FOR PIPELINE ENTRY APPROVAL**

**AGENCY'S PROJECT ID:**  
**GEFSEC PROJECT ID:**  
**COUNTRY:** COUNTRIES IN LATIN AMERICA AND CARIBBEAN REGION  
**PROJECT TITLE:** SUSTAINABLE TRANSPORT AND AIR QUALITY PROGRAM  
**GEF AGENCY:** THE WORLD BANK  
**OTHER EXECUTING AGENCY(IES):**  
**DURATION:** NINE YEARS (3 FOLLOW ONS)  
**GEF FOCAL AREA:** CLIMATE CHANGE  
**GEF OPERATIONAL PROGRAM:** OP 11  
**GEF STRATEGIC PRIORITY:** CC-6  
**ESTIMATED STARTING DATE:** MAY 2005  
**ESTIMATED WP ENTRY DATE:** JANUARY 2006  
**PIPELINE ENTRY DATE:** MAY 2005

FINANCING PLAN (USD)	
GEF ALLOCATION	
Pipeline Estimate	USD 40,000,000
First follow on	USD 40,000,000
Project Co-financing (estimated)	USD 300,000,000
PDF B*	USD 350,000
<b>PDF CO-FINANCING</b> (details provided in Part II, Section E – Budget)	
National Contribution	USD 350,000
<i>Sub-Total PDF Co-financing:</i>	USD 350,000
<i>Total PDF Project Financing:</i>	USD 700,000


\* The PDF B will be requested when GEF Focal Point endorsement letters are received.

**RECORD OF ENDORSEMENT ON BEHALF OF THE GOVERNMENT\*:**

Date:

\*Endorsement letters from the participating governments are expected in the next several weeks. Therefore, only the GEF Pipeline entry is requested at this time.

This proposal has been prepared in accordance with GEF policies and procedures and meets the standards of the GEF Project Review Criteria for approval.

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## PART I - PROJECT CONCEPT

### A - Summary

#### Objectives

1. *General Objective.* To reduce greenhouse gas (GHG) emissions and improve air quality through rationalization and energy efficiency measures in the transport sector and sound land-use management in the Latin American region. This will be done through technical assistance (studies, workshops, experts, surveys) and pilot investments (e.g. non motorized transport facilities, improvement of urban landscape/facilities in transport corridors, mobility management systems) in selected mid-size and large cities in Latin America and the Caribbean.
2. The *specific objectives* of the project are to: (i) induce sustainable transport policies, and programs in Latin American cities that contribute to a long-term modal shift to more efficient modes of transport; (ii) promote sound land-use development planning consistent with sustainable transport principles; (iii) induce air quality improvements in Latin American urban centers; (iv) foster a regional common approach to sustainable transport, articulating land-use planning, and air quality policies; and (v) create a network of Latin American cities to allow sharing of regional experiences, enhance the analytical tools available at the institutional level, and make them available to all interested cities..

#### Project Duration and Costs

3. The project will consist of a programmatic World Bank operation, with the funds becoming available in three follow ons at a maximum GEF co-financing of USD100 million over the next 9 - 10 years. The programmatic approach allows for: (i) a staggered and continuous process of preparation work for new cities while subprojects are implemented with cities identified in earlier follow ons; (ii) learning and providing feedback for upcoming follow ons; (iii) decreased implementation risks, as resources are allocated and released in follow ons, after compliance with triggers agreed by the GEF and the Bank; (iv) gradual dissemination of results, and mobilization of co-funding resources; (v) decreased transaction costs and time attached to GEF/Bank processing; (vi) a more efficient use of the scarce GEF resources, as the demand driven development will bring competition for the funds allocation; and (vii) a common approach to common problems. The programmatic approach will in sum provide a higher level of confidence, reduced risks, and a more predictable flow of resources to eligible and qualified cities.
4. Only preliminary estimates can be provided at the time of pipeline submission. Specific cost estimates for the different sub-projects will be more clearly defined after project preparation

activities have been completed. It is expected though, that all assessed activities to be funded by the first follow on be co-funded in at least 2/3 by local and complementary funds.

## Project Rationale and Strategic Context

5. **Urban expansion, transport and air quality.** Latin America is highly urbanized (75%) and most of the region's income is generated in the main urban conglomerations. Typically, the largest cities are experiencing increasing economic activity, sustained population growth, and are struggling to maintain adequate infrastructure and urban services to ensure the quality of life of their citizens. Worsening the current situation, cities are sprawling, which is accompanied by increasing automobile use and lack of adequate public transport provision. Current land-use planning and controls still fail to consider the available and required transport systems to sustain the expansion of activities. The effects of this trend are traffic congestion, longer travel time, longer average trip lengths, poor traffic safety, inefficient use of existing infrastructure, urban degradation and, as a consequence, increasing environmental degradation and air pollution, leading to worsening of quality of life.
6. **Air pollution** is becoming a major if not the worst environmental hazard in urban areas in Latin America; and transport is often the largest source of air pollution emissions. Combustion of fossil fuels generates emissions of primary air pollutants such as NO<sub>x</sub>, SO<sub>2</sub>, NMVOC, PM, and CO. These gases are also precursors of very damaging secondary pollutants like ozone (O<sub>3</sub>) and PM<sub>10</sub> and PM<sub>2.5</sub>. The health effects associated with the exposure to these pollutants range from minor and temporal effects on the respiratory and nervous systems, to permanent damage and in some cases death. Air pollution in cities like Sao Paulo adds significant amounts per year in costs associated with mortality, morbidity and productivity losses. Moreover, the most affected are normally the most vulnerable people: the poor, children, and elderly.
7. Air pollutants generate and transform in the lower atmosphere as gases and particulate matter from fuel combustion, industrial processes, and natural sources undergo chemical reactions. Local geography and man-made structures also affect air circulation, temperature and the dispersion of pollutants in cities, and can exacerbate the impacts of pollution on health and environment. Therefore, direct exposure to air pollutants is often the highest in major transport corridors with a lot of transport and economic activity. People traveling in those corridors as well as people engaged in nearby activities are impacted by the high pollution levels.
8. **GHG and co-benefits from coordinated interventions.** Greenhouse gas emissions are directly linked to transport activity, which often generates at least a third of total GHG emissions in urban centers. Not only CO<sub>2</sub> is emitted as a product of fuel combustion, but also CH<sub>4</sub> vents from CNG-powered vehicles and distribution networks. In addition, the release of NMVOC and other gases that affect human health can have important global warming impacts. This fact has long been recognized by the IPCC<sup>1</sup> and there are many more ancillary

<sup>1</sup> The International Panel on Climate Change is an international panel composed of experts which role is to assess the science and economic implications of climate change. IPCC advises the Conference of the Parties to the United Nations Climate Change Convention, and to the Kyoto Protocol.

benefits of promoting climate change mitigation measures to reducing local pollution. A recent study <sup>2</sup> on the potential local health benefits of adopting greenhouse gas (GHG) mitigation policies in México City, México; Santiago, Chile; São Paulo, Brazil; and New York, USA showed that the adoption of readily available technologies to lessen fossil fuel emissions between 2000 and 2020 will reduce particulate matter and ozone and avoid approximately 64,000 premature deaths (including infant deaths), 65,000 chronic bronchitis cases, and 37 million person-days of work loss or other restricted activity. In addition, many environment-driven transport policies will also help improve the access of the poor to public transport systems and create incentives for walking and biking in cities. Therefore, addressing local and global environmental emissions can result in considerable benefits for accessibility and affordability of urban transport systems<sup>3</sup>.

9. The transport sector contributes to rising greenhouse gas (GHG) emissions in the form of CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O and gases responsible for the formation of O<sub>3</sub>, such as NO<sub>x</sub> and the VOCs. As carbon dioxide emissions are directly associated with fossil-fuel use in transport, the proposed project will lead to a reduction in greenhouse gases as less energy-intensive and zero-emission modes of transport will be promoted.
10. **Land-use planning, transport planning, and environment.** Proper coordination between land-use and transport plans can result in significant mid and long term environmental benefits. Urban transport planning normally considers and compares the travel costs and benefits of different modes of transport. Urban plans and land-use policies often only consider the demands for people and freight transport once the plans are already being implemented or long afterwards. A more efficient planning process should consider transport, land-use and environmental impacts at an early stage. Land-use densities have an important effect on the way people travel, impacting the average trip length, car dependency and public transport attractiveness, and inducing the use of more efficient modes of transport such as buses or non motorized transport. Urban regeneration and prevention of unnecessary sprawl will help lower non-motorized and public transport costs and travel time and reduce the need for private car trips and so result in lower air pollution and better quality of life. Adequate land-use policies should therefore be coordinated with transport plans, and with environmental strategies.
11. **Additionality of GEF contribution.** GEF funding has an important role in promoting long term modal shift to more efficient modes of transport. Although many local policies, plans, and programs may be oriented to promote efficient transport, there are normally many barriers in the actual implementation of these plans and/or related projects. These barriers include lack of support from local political groups and stakeholders (i.e. transport operators), market risks (i.e. concession bidding), performance risks (i.e. tariffs and demand), technology risks and financial constraints. GEF funds can be an important catalyst to speed up the process and an efficient trigger to leverage other investments. It can also help to introduce innovative interventions that integrate environment, transport and urban development concerns into a common framework.

<sup>2</sup> Cifuentes et al., Climate Change: Hidden Health Benefits of Greenhouse Gas Mitigation, *Science* 2001 293: 1257-1259

<sup>3</sup> Although there will be cases where air quality oriented measures will not necessarily bring about global benefits.

- 12. Scale-up regional intervention.** After workshops, training events, and forums organized by the Clean Air Initiative for Latin America and the Caribbean (CAI-LAC) and a number of pilot interventions in some of the main cities of Latin America and elsewhere<sup>4</sup>, it is clear that a three-tier approach involving transport, land-use planning, and environmental management is a solid and replicable way to improve air quality, transport efficiency, and reduce GHG emissions. Better air quality, as well as proper transport and land-use coordination are common goals for most urban areas with high levels of population<sup>5</sup>. The Bank is prepared to scale up the intervention on air quality, transport, and land-use management in the region so that air pollution can be improved while addressing transport needs. Instead of continuing preparing OP 11 sustainable operations on a project-by-project basis, the Bank has decided to rationalize its demand for GEF resources under this operational program according to a regional program structured in three follow ons, under a common methodological approach. The approach is inclusive, as there is much scope in the region to have other GEF implementing agencies and financial institutions working under the same principles in complementary areas of interventions. For example, a NMT intervention in a city like Concepción funded by a GEF operation under UNEP, may be complemented by the development of a BRT system co-financed by GEF and IRBD under the World Bank group.
- 13. Regional approach.** The project has a regional scope, to (i) fully utilize and cross-fertilize regional experiences; (ii) use common approach to common problems, in similar urban centers; (iii) capitalize synergies from horizontal cooperation; (iii) reduce transaction costs; (iv) obtain economies of scale from the Bank resources; (v) reduce risks and maintain quality at lower costs; (vi) leverage resources from other financing institutions; and (vii) allocate the scarce GEF resources in an efficient competitive manner. The regional approach allows to cherry-pick the most promising cities out of a wide universe of potential candidates on the basis of objective selection criteria, including sustainability, co-funding potential, technical soundness of the proposals, and institutional capability. This competitive approach should provide an incentive for those cities that will apply to put together solid proposals and at the end of the day it will reinforce the quality of the projects delivered and increases the replicability of the GEF-supported components. In addition, it will create a network of cities that will benefit from each other's experience, the same way some other cities in LAC and in the world benefited from the Bogota's experience or the same way cities such as Santiago and Lima can learn from each other through the informal link established between the GEF project local PIUs through the teams of the GEF administrator.
- 14. Clean Air Initiative's role.** CAI-LAC is evolving into a more independent knowledge partnership that includes all interested Latin American cities, and actively involves stakeholders from different government levels, key sectors (such as transport, energy, and planning), private sector, NGOs and academia<sup>6</sup> in developing knowledge and sharing experiences throughout the region and beyond. Since there is significant transaction costs involved in developing specific projects in every interested city, the Bank is proposing to

<sup>4</sup> There are on-going GEF (OP11) operations implemented by the Bank in Mexico City, Lima, and Santiago; and new pipeline additions for Bogotá and other Colombian cities, and for Sao Paulo. In other regions, the Bank is implementing or preparing sustainable transport projects for Manila, Hanoi, Bangkok, Accra, Dakar, Tehran, and a regional operation for Chinese cities.

<sup>5</sup> There are about 100 cities in the region with population over 500,000 inhabitants

<sup>6</sup> Until now, the CAI was limited to the environmental agencies of the 7 participating cities. In the future, other interested agencies and partners, including transport, and planning representatives can become a member as well.

develop a regional GEF project to facilitate the intervention in a number of selected cities. CAI-LAC could help encourage participation of all cities in the region, assess the demand, disseminate the lessons learned and build capacity for interventions in the region. Specific projects funded by GEF and/or other partners would take place where transport, land-use planning, and environmental concerns can be addressed within proper institutional and financial arrangements. CAI-LAC will help spur and manage demand for sub-projects, ensuring quality and ownership of proposals coming to the Bank. Moreover, CAI-LAC will also ensure that the process of submitting specific sub-projects for the potential cities is transparent and demand driven, while contributing to diminish the transaction costs involved with identification and preparation involved in regular Bank operations.

- 15. Linkage to Bank operations and strategies.** The proposed project will help add the global dimension to the Bank's investment portfolio in the environment and urban transport sector, through adding complementary measures that may contribute to sustainable environmental benefits in the long-run. The dialogue with local stakeholders from the transport, planning, environment, and finance sectors will create opportunities for new investments which otherwise would be difficult to materialize due to the transaction costs involved. The project will complement environmental policy lending in the region oriented to achieve specific environmental goals, such as air quality<sup>7</sup> (policy lending operations offer alternative channels for coordinating transport, land-use planning, and energy sector policies through the environmental dialogue). Finally the project will help achieve environmental, transport, and urban development goals, consistent with the Bank policies and strategies: Strategy on Energy and Environment, the Environmental Strategy, the Urban Transport Strategy, the Environmental Strategy for Latin America and the Caribbean, the Clean Air Initiative, and the Millennium Development Goals (MDGs).
- 16. Augment Leverage.** A regional program for sustainable transport and air quality supported by the revamped CAI-LAC is expected to leverage new sources of financing available at the region, including the Inter American Development Bank (IADB), the Caja Andina de Fomento (CAF), national development banks (e.g. BNDES), other bilateral donors, foundations, and, most importantly, the private sector. The regional project will help set a solid approach to address air quality, transport, and land-use planning in the region and to promote coordination instead of competition among financiers.
- 17. Screening process.** Cities will be selected after a screening process to check their commitment, technical capacity, their needs and the potential benefits of the project in different areas: (a) vulnerability to air pollution; (b) opportunities for rationalizing transport and enhance energy efficiency, (c) opportunities for environmental management in urban areas; (d) opportunities to coordinate land-use and transport policies; (e) institutional capacity; and (f) co-financing capacity. The Bank will select the cities after technical review by a panel of international experts ("Blue Ribbon Panel"). Demand from potential cities will be spurred and coordinated through the newly revamped Clean Air Initiative Center (CAI-LAC). Some of the targeted cities could be those (see map below) where the Bank is already providing financial support through an investment loan which brings the resources required

<sup>7</sup> There are environmental policy lending operations in Mexico and Brazil, one under preparation in Colombia, and potential operations in Dominican Republic, Peru, Argentina, and possibly Venezuela.

to materialize and make concrete sustainable transport policies. GEF support would be used to maximize the environmental benefits of such projects and disseminate them within the network of cities to be created under this operation.



### Integration of lessons learned

18. Curitiba, Brazil, has shown the benefits of coordinated land-use and transport policies. The densification along Bus Rapid Transit corridors has minimized the distance between the BRT and main economic activities, and zoning regulations have allowed for mixed land-use, encouraging commercial, residential, and leisure activities along these corridors. At the same time, good public transport is an important driver for urban development around the areas best served by the system. The result is a mutually reinforcing trend of increasing use of the BRT and a concentration of activities along main transport corridors.
19. In Santiago, using preparatory funds of the GEF Air Quality and Transport Project, a study simulated how densification of the city's central ring and the development of transport measures can produce important environmental benefits (measured in lowered emissions and, as a result, reduced health and climate change impacts). These measures also supported broader transport and urban development goals of Santiago.

20. Transmilenio in Bogotá is also moving towards better integration of land-use and transport policies. Current policies have mainly focused on addressing the public transport problems faced by the city. Areas close to the Transmilenio corridors have experienced increased attractiveness and renewal of formerly deteriorated areas, which has resulted in increased land prices along the corridors. A GEF project under preparation will induce better coordination between transport and land-use plans and help leverage private investment to accelerate the urban renewal process. A project in this area would have to address the concern that in such an urban scheme, land prices may rise and become unaffordable to the poorest<sup>8</sup>. In a similar fashion, a GEF pilot project in Sao Paulo, also under preparation, will help create incentives for private investments in land along planned transport corridors that can help finance the investment in the corridors and surrounding areas. In Mexico City, the on-going GEF project on Climate Friendly Measures on Transport and Environment will help build BRT corridors to complement the existing metro network. In Lima the GEF Sustainable Transport Project is addressing public transport oversupply through offering incentives to eliminate obsolete and polluting supernumerary public transport vehicles, as well as proper coordination with non motorized transport.
21. The Clean Air Initiative for Latin America, a partnership that includes the largest cities in the region (Bogotá, Buenos Aires, Lima, Mexico City, Rio de Janeiro, Santiago and Sao Paulo), bilateral agencies (GTZ, USEPA, Environment Canada), international organizations (World Bank, PAHO, ARPEL), and the private sector (Renault, Daimler-Chrysler, Volvo, Shell), has helped exchange expertise and experiences about air quality management, and about the links between transport, land-use planning, and global concerns<sup>9</sup>.
22. The Bank's experience that was built over the last decade in urban transport projects in Colombia, Lima, Santiago, Buenos Aires, Belo Horizonte, Fortaleza, Recife, São Paulo, Salvador de Bahia, Rio and secondary cities in Mexico and Venezuela will be key for the success of this program and the program will help disseminate the knowledge and develop the capacity in the region to address transport, energy efficiency and air pollution problems. It is possible to learn from experiences such as Brazil's Transport 1 and 3 loans, where a central agency prepared an operations and evaluation manual describing in detail how a city could be a candidate, what were the minimum prerequisites, standard TORs for the studies allowed so that they could easily adapt them, how the final reports should be prepared and the economic evaluation methods to prioritize their investments.

## **B - Country ownership**

### **Country Eligibility**

23. The program is aimed at countries from the Latin America and Caribbean region that have already ratified the United Nations Framework Convention on Climate Change. Although there is evidence of a high interest in the proposal from many cities in the region, this project proposal first needs to be considered by the national and federal governments.

<sup>8</sup> In Curitiba the government acquired land along new BRT corridors prior to their construction, making possible high density housing programs close to the main transport axes. In all, more than 20,000 low income families have been located close to the BRTs.

<sup>9</sup> The Bank is also partnering with the Clean Air Initiative for Asian Cities.



## Country Drivenness

24. As a result of the dialogue within the Clean Air Initiative for Latin America and the Caribbean (CAI-LAC), some of the member cities in the region have created Clean Air Committees to start coordinating sector policies and programs so that air pollution can be effectively abated. Moreover, some cities have already committed resources to undertake sustainable transport and air quality programs such as GEF Projects and/or loan for Santiago, Lima, Sao Paulo and Bogotá and other Colombian cities like Medellin, Barranquilla, Cali, and Pereira. Other CAI-LAC member cities, such as Rio de Janeiro, and Buenos Aires have expressed interest in OP11 sustainable transport operations. Other cities where there are opportunities to develop urban transport operations in the light of the principles pursued by OP11, include: Quito, Puebla, Monterrey, León, Córdoba, Mendoza, Bahía Blanca, Rosario, Santo Domingo, San Salvador, Montevideo, Fortaleza, Salvador, Porto Alegre, Cochabamba, and Maracaibo<sup>10</sup>.
25. During preparation of the Project Concept Document (PCN), the Bank discussed the potential of this project with representatives from the secretaries and ministries of transport, environment, and planning from cities which have already expressed interest in participating in the project. Moreover, a consultation workshop has been arranged for April 8, 2005, to receive feedback on the technical and political soundness of the proposal. Experience from cities where the sustainable transport concept has evolved will be presented, followed by presentations by policy makers on the challenges faced ahead. Secretariates and Ministries will be represented from Puebla, Santiago, Sao Paulo, Brasilia, Buenos Aires, Bogota, Porto Alegre, Rio de Janeiro, Monterrey, Mexico DF, and Quito.

### C – Program and Policy Conformity

#### Program Designation and Conformity

26. The proposed project is consistent with the Operational Program for transport, OP11, and the principles of the GEF, including that the project: (a) is country-driven and supports governments' efforts to promote sustainable development; (b) strives to leverage other funds; and (c) demonstrates cost-effectiveness of different measures to reduce GHG emissions associated with transport. The project is aimed at achieving long-term modal shift to more efficient modes of transport, and articulating land-use and transport planning to the local and global environmental objective of reducing air pollution and GHG emissions. To this end, the project would support studies and pilot interventions (a) to integrate urban land-use and transport planning; (b) for targeted research for environmental assessment (both local and global) of transport and land-use measures; (c) to pursue political dialogue engaging different actors dealing with transport, land-use, and environment matters at all levels of government; and (d) to facilitate dissemination of programs for a better participation of stakeholders at all levels.

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<sup>10</sup> All participating cities will first require endorsement from the respective GEF national focal point.

## Project Design and Institutional Arrangements

27. **A Regional facility.** The project is aimed at establishing a regional facility, where potential participating cities may prepare and apply for grants to co-finance eligible expenditures oriented to sustainable transport and air quality, in a demand-driven fashion. To encourage ownership and local commitment, eligibility criteria will be clearly defined so that cities can apply for the project's funds<sup>11</sup>. There will be a series of follow ons to identify local interest and cities will be selected for the first, second, and third project follow ons. During the preparatory follow on (PDF-B resources), the World Bank will act as implementing and contracting agency. This is necessary due to the regional nature of the proposal. Preparation resources will be used to prepare clear selection criteria and process, determine the best institutional setup and CAI-LACs role to assist cities in preparing for project and channel funds for the next follow ons. Additional funding partners will be identified during this follow on as well.
28. **Bank project funded in three GEF follow ons.** One of the reasons to prepare a regional project, as opposed to traditional city specific projects, is to reduce transaction costs linked to the identification and preparation follow ons. It is proposed to divide the project into three follow ons: the first follow on would include a number of cities that have been identified in the preparatory follow on, the so called "low hanging fruits". The GEF Council will be requested to approve each follow on, and subsequently submitted to the Bank Board for approval. To advance to the next follow on, it will be necessary to demonstrate commitment of at least 75% of the already approved project funds<sup>12</sup> and compliance with a set of triggers and implementation indicators (to be developed during preparation).
29. **Potential cities and clearance procedures.** A number of specific criteria will be established to select cities and eligible activities to be funded by this program. The selection process will be done through a couple of steps and using different criteria<sup>13</sup>. The initial target of the program will be the more than 130 cities with over 500,000 inhabitants:

**Table 1. Number of cities above 500,000 inhabitants in Latin America**

Sub-Region	Number of cities	%
Brazil	45	34%
Colombia and Mexico	42	32%
Bolivia, Ecuador, Peru and Venezuela	17	13%
Argentina, Chile, Paraguay and Uruguay	15	11%
Central America	7	5%
Caribbean	7	5%
<b>Total</b>	<b>133</b>	

<sup>11</sup> To that end, applying cities will have to fill a *proposal form* to be hosted at the project's website.

<sup>12</sup> It means that at least 75% of the resources are already contracted, and being procured following the Bank rules and criteria. This would be an unavoidable trigger to move from follow on to follow on.

<sup>13</sup> Initially, the selection process could be limited to 2 steps, whereby the first step is to identify the cities that comply with criteria and have submitted a proposal, the second step would be to evaluate the proposals based on the help provided by the Advisory Committee. Awarded sub-projects could then be prepared in more detail before receiving funding.

30. The cities will have to submit a proposal and provide some evidence of the environment and transport problem and commitment of different institutions and stakeholders to address the problem. The selection criteria include the following:
- 30.1. **Air quality data and impacts**, with more weight given to cities already experiencing air pollution problems<sup>14</sup>;
  - 30.2. **Urban transport and land-use information** like modal share and recent trends, public transport average speeds, fuel consumption per inhabitant, density, population growth rate, physical growth rate, ratio between those two growth rates, etc.
  - 30.3. **Ownership and political commitment** by the municipality, with policy statements on transport, environment, and land-use development
  - 30.4. **Opportunities** for implementation of specific sustainable transport management interventions<sup>15</sup> financed by the project. Only those cities with potential for important efficiency gains will be selected.
  - 30.5. **Institutional capacity** of the city to implement the project and willingness to work across agencies and with external stakeholders (private sector, NGOs, academia, etc); only those with reasonable capacity will be eligible.
  - 30.6. **Opportunities for GHG emission reductions** as a result of the subproject intervention.
  - 30.7. **Eligibility of proposed activities** and opportunities for co-financing are also going to be assessed before final selection of cities and projects are made<sup>16</sup>.
31. In addition, the program will ensure that cities selected will adequately represent the different sub-regions of Latin America and the Caribbean<sup>17</sup>, so that lessons learned can also be more easily replicated. At this early stage, the proposal aims at reaching out to a large number of cities, including both medium-size and big cities. Some medium-size cities in Latin America are growing fast and require some urgent coordination between land-use and transport planning, as in Curitiba where everything started when the city population had not reached yet 1 million inhabitants. These medium-size cities may not have yet a solid coordinated urban transport strategy and the GEF intervention will focus on helping them lay the groundwork for a sustainable transport and urban development policy. The focus will be basically on proposing sustainable transport options that will, among other positive impacts, generate emission reductions. Big cities will be targeted as well for the sheer volume of their emissions. Many may already have a solid coordinated strategy. The GEF intervention will then focus on maximizing the environmental benefits of an existing transport policy that may be sensible already but that can be fine-tuned to make it “greener” still.

<sup>14</sup> The thresholds and criteria to identify vulnerability to air pollution will be determined during project preparation. It is expected that this can be easily expressed in number of days exceeding the local or WHO standards for ambient concentrations of criteria pollutants per year. Preparatory studies will define which pollutants will be used as markers for passing the vulnerability to air pollution test.

<sup>15</sup> Cities where there is potential for improving public transport, for helping devise or implement sound urban transport plans; or land-use management plans that can be effectively linked to transport management.

<sup>16</sup> During project preparation incentives for leveraging local co-funding will be explored, so that those cities with larger levels of counterpart funding can be susceptible for augmented financing levels

<sup>17</sup> As a starter, it is proposed that the first set of cities to be explored during project preparation include at least 2 cities per CMU.

32. Starting with a varied representative sample of cities (mixing fast-growing unprepared medium-size cities, big metropolitan areas that are already well advanced in the definition of their urban transport strategies, heavy polluted cities that still don't have a strategy but which are willing to adopt a sustainable one soon, etc.) will enable a rich network of experiences which can nurture each member and be used as a catalogue of lessons learned for those cities joining the program at the second and third stage or even those cities that will not be part of this regional approach.
33. **Independent Advisory Panel.** In order to ensure transparency and objectivity in applying the set of selection criteria to interested cities, a panel consisting of international experts will review the technical proposals submitted by the eligible cities, and will provide advise to the Bank on the soundness and robustness of the proposed activities. The panel of experts will be selected on the basis of recognized knowledge and prestige at the international level, and will be composed of at least 5 experts<sup>18</sup> with an adequate mix of skills, including: transport, urban environment, land-use planning, and public policy.
34. **The CAI-LAC.** The new CAI-LAC, acting through its Clean Air Initiative Center (CAIC<sup>19</sup>), will prepare annual publications and conferences, and organize workshops and provide technical assistance to interested cities. Also, CAIC will receive the requests from interested cities, and will help channel the proposals through the formats, and according to the pre-established procedures. In this sense, CAIC will play a pivotal role in generating demand and managing and collecting information from potential cities interested in funding from the program, while assisting the cities preparing their proposals. This will help decrease transaction costs of the World Bank and other financiers interested in pursuing air quality and sustainable transport projects in the region<sup>20</sup>. CAI's role is mainly linked to promoting the project, channeling demand, and filtering proposals. It will only provide support to ensure compliance with pre-set standards and formats for proposals. Final decision on the cities will always be at the implementing agency's arena.

## Project Description

35. The project will finance technical assistance and some pilot interventions in selected cities. The eligible activities will vary from city to city, depending on the level of preparedness, institutional capacity, potential impact, and on-going activities. In many cases, the project will build on on-going transport and land-use planning processes, helping introduce and reinforce solid sustainable transport concepts, and helping erase existing political, technical, economic, regulatory and financial barriers. In some other cases, the project will have to help introduce the new concepts and potential benefits to the policy makers and stakeholders. The range of options includes the following areas or windows of intervention:

<sup>18</sup> With a sufficient number of back-up members.

<sup>19</sup> A business plan for CAIC is currently being prepared, and its incorporation is aimed to start around July 2005.

<sup>20</sup> Clean Air Initiative is a partnership with no resource allocation for investments or programmatic technical assistance. Its role is to allow exchange of information, amongst it channeling demand for programs such as the proposed GEF operation.

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### Potential Eligible Windows

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- Travel Demand Management
    - Traffic Calming
    - Congestion pricing
    - Traffic cells
    - Parking policies
    - Intelligent Transit Systems
    - Rationalization of travel behavior
  - Land-use and transport planning coordination
    - Comprehensive corridor development integrating various modes of transport
    - Urban upgrading and re-developments in conjunction with development of public transport systems
    - Recuperation of urban centers (historic, symbolic) while promoting accessibility
  - Modernization of Public Transport
    - Promotion of Bus Rapid Transit Systems
    - Improvements to and reform of existing bus services
    - Enhancement of public transport (landscaping, safety, comfort, design, image)
    - Fare and modal integration
  - Freight Rationalization
    - Freight transfer centers
    - Fleet standards
    - Rules on truck circulation
  - Non-motorized transport and urban space enhancement
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### Specific Objectives, Components, and Emission Reduction Possibilities

36. The project will be structured in 2 main components:

36.1. **Sustainable Transport Sub-Projects.** This component will consist of sub-projects with particular cities in the region, which will finance TA and pilot interventions according to the range of thematic areas or windows described below. At this point, it has been decided that activities aimed at improving the operation and maintenance of vehicles would rather be financed under baseline investments oriented to achieve sustainable development. Based on Bank experience from other cities in the region, it is expected that USD40 million will help finance incremental costs for a relatively small number of cities, including the large metropolitan areas that are already part of the Clean Air Initiative for Latin America and the Caribbean. At work program entry the project will have identified and appraised up till USD40 million in eligible incremental costs, resulting from a selective approach, based on competitive proposals from interested participant cities.

36.2. **Institutional strengthening and knowledge management.** This component will basically ensure that the project helps establish a solid network of cities involved in sustainable transport and air quality, using existing partnerships and institutions already present in the region. The activities funded by this component will include the development of implementation indicators, workshops, websites, and other dissemination activities to help add value to the regional approach.

## **Window 1. Management of Freight Transport**

37. *Background.* Almost all cities freight transportation in Latin America and the Caribbean face similar problems with freight within urban areas: (1) negative environmental impacts resulting from a very old and poorly maintained cargo transport fleet (averaging over 20 years); (2) long delivery times even on short distances as consequence of conflicts with other modes of transportation, traffic congestion and other logistical inefficiencies; (3) large number of inter municipal and intra municipal trips for delivery of goods; and (4) lack of regulation for proper and efficient freight transportation management (strategic regulations have not been implemented, that could make delivery of goods and freight transportation more efficient especially between and within urban areas).
38. *Objectives.* The objective of this window is to promote a more efficient transport of freight in the larger cities. Measures to improve freight transport include establishing appropriate regulatory measures that can be enforced and monitored; evaluating logistical plans for transport and delivery of goods (using trans-shipment nodes to improve cargo distribution); and regulations on the circulation of trucks
39. *Baseline.* Subprojects in this area will be focused on cities where there are no plans from the transport authorities at neither national nor local governments level to rationalize urban freight traffic or to regulate its operation within cities. Therefore under the baseline, it is expected that freight trips in the coming years will steadily increase with little overall planning as to road peak traffic hours, space requirements and poor design to reduce inefficiencies and conflicts with other modes. Freight transport into the cities will continue to be relatively unplanned with respect to other transport users, leading to additional congestion, air pollution and excess of CO<sub>2</sub> emissions.
40. *GEF alternative.* Under the GEF funded alternative scenario, the activities will help government agencies to identify the problems caused by freight transport and design measures to address its impacts on traffic and the environment. Selected measures will be implemented to start rationalizing freight movements in the larger cities that will result in important reductions in GHG emissions.
41. *GEF incremental financing.* The potential incremental activities that will be undertaken through GEF support include:
- Prepare an inventory of inter- and intra-city freight movement studies in participating cities.
  - Prepare a freight transportation management plan.
  - Design and implement economic incentives for fleet renewal.
  - Evaluate other alternatives for transportation of goods (like railway, waterways, and alternative vehicles).
  - Implementation of a pilot scheme for freight delivery in larger cities.
  - Look at the characteristics of frequent use trucks (i.e. garbage removal )

42. *Sustainability.* Since one of the most important aspects of this window is to promote the rationalization of freight traffic through a set of regulations, it is expected that companies will benefit in the long term from economic savings due to an improvement in the efficiency of their operations. Also sustainability will be achieved as result of the political will to enforce the new regulations but at the same time implementing an incentive program.

## **Window 2. Integration of land use planning, transport management and environmental management**

43. *Background.* Subprojects in this area aim at mixing land uses incentives with transportation and environmental policies, thus reducing trip lengths and promoting modal shift to more efficient transport methods. One of the main reasons for the environmental and public transportation problems has been the lack of coordination between the planning, environmental and transportation agencies, when defining the cities' development goals. This has led to a disarticulation between urban centers (historic and other key areas) and main transportation nodes.
44. *Objectives.* The main focus of this window is to promote high-density land use along public transport (such as BRT) corridors and to prevent the type of urban sprawl which forces people to use their own motorized vehicle; this would be of particular relevance to currently medium-sized but rapidly growing cities. This window will also aim at revitalizing urban centers for their cultural, social, educational or economic importance by a combination of land use, public transport and environmental incentives, while helping to recover public spaces and promote more efficient transport modes. It will also help design instruments and incentives, including action plans for implementation of changes in current land-use patterns. Pilot investments will be made in some areas, while in others the focus will be on developing information and proposing future investments.
45. *Baseline.* Studies and plans of actions in relation to urban and transport development being undertaken usually do not fully integrate all aspects of urban planning and may not take into account the long term temporality inherent to city planning. Development plans and urban planning tools are commonly disconnected from the transport and mobility master plans, if any.
46. *GEF alternative.* The project will help reduce the total traveled km (or average trip length). GEF assistance will help expedite and co-finance studies to develop plans of action to create business/housing/educational centers around major public transport corridors and non-motorized nodes, and create incentives to de-concentrate service areas that would lead to travel reductions. GEF funding would be complementing and leveraging locally available funding to carry out the studies and pilot interventions at the urban level. Also, GEF may help explore ways to co-finance the development of transport corridors through the use of land-use property value financing schemes, bringing forward future high property values into corridor re-developments. The GEF alternative will promote private investments and catalyze high-density land use along transport corridors that will trigger higher demand for public transportation and NMT in the long term. The presence of the GEF will attract the support of other co-financing, including local government, real-estate agencies and land developers.

47. *GEF incremental financing.* The incremental activities that will be undertaken through GEF support include:

- Design regulatory and financial incentives to facilitate private sector investments and attract high density land uses along main transport corridors;
- Design regulatory and financial incentives for mixed land use;
- Develop transport corridors that include busway infrastructure, urban development and mixed land use incentives, landscaping features and convenient access to public transport stops;
- Establish mechanisms to deploy property taxes and other funding sources from redevelopment and construction activities to help expand transport systems, especially along main corridors in the cities and in the cities' outskirts; and
- Create platform for public and community participation in transport planning and implementation.

48. *Sustainability.* Land-use pattern change is a long term process that is likewise expected to last. It takes time to change people's preference and behavior and to consolidate them, but pilot interventions will *clearly* show the benefits. During the preparation follow on, measures to ensure project sustainability will be devised. Public demand will be the key to ensure sustainability of this window.

### **Window 3. Modal Interconnection and improved efficiency of public transport**

49. *Background.* Many Latin American cities are in the process of modernizing their public transportation systems, some of them through the adoption of BRT systems, and some through other efficient public mass transport systems. As a result, public transport is being improved, but there is still need for technical assistance to ensure the best use of the new systems, and their complementarity to the other *transport* modes. Also, in many cases the BRTs operation is being concessioned to the private sector, but there is a lack of experience and know-how to develop a sustainable business model and also to ensure the renewal of the fleet. In some other cases, the process to explore BRT or other efficient mass transit systems is just starting, but there is need for public acceptance, and moreover, for involving the current service providers. In addition, the adoption of cleaner technologies is seldom considered due to the large economic and political costs already involved in restructuring the public transport systems.

50. *Objectives.* The main objective of this window is to maximize the use of public transportation in medium-sized and large cities, by facilitating the modal exchange, and by supporting its efficiency, safety, and image. This area of work also aims at integrating the entire public transport system in those cities. In cases where there is already a BRT in place, the project will seek to maximize its potential as a sustainable mode of transportation. In other cities it will attempt to integrate different transportation modes such as cycling, car commuting, car pooling, walking, pedicabs, and taxis with existing or planned Mass Transit System. It will also support the implementation of such systems in specific corridors. Planning of the corridors would include special attention to inter-modal transfers and



integration with bus feeder systems, densification and adoption of zoning and land-use regulations, landscaping features to increase the attractiveness of the corridor and incentives for walking and biking facilities. Incentives for the use of modern, low-emission buses along the corridors will be studied as well. Special attention will be given to improving accessibility and mobility of the urban poor to efficient and clean public transport systems. Finally, road safety will be promoted as a key element for enhancing the public transport offer to existing and new users..

51. *Baseline.* Baseline situation in this window will widely vary from city to city. In cities where BRTs or other efficient mass transit systems are already in the process of being implemented, there is usually a lack of emphasis on modal integration, linking non motorized transport, taxis and other modes to the new systems. In some other cases, the image of bus transport is poor and requires promotional and communication campaigns. In most other cities, the public transport systems are still inefficient, and restructuring has not been considered, or encounters political and economic barriers that need to be overcome.
52. *GEF alternative.* GEF funds will create conditions so local bikers, commuters and pedestrians combine their travel with public transport services, by connecting important trip generators and/or attractors with key links of the main transport systems. GEF funding will also help coordinate other forms of public transportation such as taxis and bici-taxis to the BRT system development and to promote a shift to non-motorized vehicles and reduce the use of private cars. Modal interconnection will result in a reduction of energy consumption per trip thus decreasing the overall GHG emissions from the transport sector.
53. *GEF incremental financing.* The incremental activities that will be undertaken through GEF support include:
- Develop in selected cities, pilot corridor investments integrating physical aspects (priority lanes, landscaping and integration with NMT). The corridor will further help integrate different modes;
  - Develop operational aspects favoring the strengthening of public transport modes (tariffs, management, revenue distribution, etc.);
  - Improving efficiency of bus operation on transport corridor, by optimizing number of buses, increasing passenger movements and improving overall quality and frequency of the service
  - Set up monitoring mechanisms for assessment and evaluation of introduced technologies;
  - Develop and implement promotion and communication campaigns about safety, efficiency, and environmental benefits linked to BRTs and efficient mass transit systems;
  - Provide TA and public support to enable efficient tariff integration and pricing;
  - Support the creation of agencies *a-la-Transmilenio* in charge of promoting and managing the development of BRT systems; and
  - Evaluate options to remove older and more contaminating transport fleet through operating contracts and regulations.
54. *Sustainability.* Where there is strong support by Government and civil society, this window is very likely to *sustain* itself after completion of the GEF project. Moreover, users and

operators of other forms of transportation may begin to perceive BRTs and the complementary bus transport systems as complements not competitors, inducing a favorable perception that may in the future result in higher and more sustainable modal shifts. Finally, the experience in cities where BRTs and similar schemes have been introduced has shown that operators will stick to the new business system, as their stream of revenues is secured, once concessions are awarded.

#### **Window 4. Non-motorized Transport**

55. *Background.* A large share of urban trips takes place on foot<sup>21</sup>. However, limited attention has been given to developing and *maintaining* proper walking facilities in most cities. Safe facilities and secure access to major corridors is needed to encourage walking trips. As for bicycles, experience in cities such as Bogotá, Lima and Santiago has shown that there is a good disposition to use this transport mode, provided that properly designed and safe bikeways are in place, and linked to the cities' activity centers, such as education and work areas. Also, it has been shown that infrastructure alone is not sufficient, and that communication campaigns are necessary to allow complementary measures, such as parking space and showers in buildings, to take place. The integration of non-motorized transport to public transport systems can be vital for the success of this window. *Even* a moderate shift to non-motorized modes of transport could provide substantial benefits. For the GEF-supported Marikina (a district of Metro Manila, Philippines) bikeway project, it was estimated that an increase of bicycle use from 1.6% in 2000 to 2.8% in 2015 would yield aggregate benefits of US\$4 million for an initial investment of US\$2.1 million.
56. *Objectives.* The window will explore, according to the specific conditions of each city, ways to further promote the use of bicycle and pedestrian ways in selected areas as a viable and safe alternative to private cars. It will also aim to promote a larger modal share of walking trips in Latin American cities. The project will provide and improve access to the transport system, attract business investments, improve local pedestrian and bicycle facilities and integrate them with metropolitan transport corridors.
57. *Baseline.* At this time, biking is limited and there are usually no concrete plans to promote bikeways. It is likely that without GEF intervention, the cities would continue to address walking and biking in a haphazard way. The current scenario has been to create sparse bikeways and pedestrian zones in the cities but without integrating them to the upgrading of public transport systems, thus reducing the potential of becoming effective alternatives for transportation.
58. *GEF Alternative.* The GEF project will help prepare overall guidelines for non-motorized transport facilities and bring these modes to the forefront of urban transport planning. The project will help promote non-motorized travel. GEF funds will also assist in developing walking and biking facilities in a selected neighborhood with access to public transport and to help convince car drivers to consider walking and biking for short trips and use a combination of NMT and public transport for longer trips. The GEF

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<sup>21</sup> In Sao Paulo's Metropolitan Area, walking trips represent about 6% of the total distance traveled.

alternative will promote private investments and catalyze mixed land use along transport corridors that will trigger higher demand for public transportation and NMT in the long term.

59. *GEF incremental financing.* The incremental activities that will be undertaken through GEF support include:

- Promotion and awareness building campaigns and events for bike use;
- Implement bikeways and pedestrian facilities and landscaping in specific areas;
- Create safe and secure non-motorized access to main public transport corridors; and
- Develop guidelines for biking and walking facilities.

60. *Sustainability.* It is also expected that the non-motorized transport window would have a positive *demonstration* effect which would strengthen political support for the bikeway and pedestrian programs.

### **Window 5 – Travel Demand Management**

61. *Background.* Since rising motor vehicle use trends have negative environmental externalities, measures addressing traffic demand management would have a positive impact on reducing local and GHG emissions from transport. In central London, motorized vehicle traffic decreased 20% in the first few months after the introduction of congestion pricing scheme, which also generates sources of funding for more efficient transport modes. Many other European cities have applied traffic calming measures and circuitous traffic circulation patterns with great success, restricting car use in central areas without affecting their commercial viability. In some Latin American cities such as Mexico, Bogotá, Santiago, or Sao Paulo, restrictions for private car circulation in alternative daily schedules have shown positive impact in reducing congestion and promoting modal shift to public transport, or to a more efficient use of the private car fleet<sup>22</sup>.

62. *Objectives.* This window aims at reducing and rationalizing the use of private vehicles in cities, and more specifically in the inner city centers, where normally most of the daily activities occur. Congestion pricing could help reduce these traffic volumes and associated costs and also generate sources of funding for more efficient transport modes. Other traffic demand measures to be explored include improved parking policies, park-and-ride facilities, and physical segregation of modes.

63. *Baseline.* At this moment there are hardly any signs that the governments at national or local level will carry out studies for exploring road pricing alternatives. As per other travel demand management measures, the range of action is very broad from city to city. But in most cases there still room to improve, even in cities like Sao Paulo or Bogotá, where the circulation restriction schemes have already proven their potential, and need further development<sup>23</sup>. In

<sup>22</sup> Car users are incentivated to car pooling, or to better distribute trips during the day  
In Sao Paulo and Santiago studies have been envisaged to look into congestion pricing schemes

<sup>23</sup> In Sao Paulo, the "rodizio" is only focused to transport within the center of the municipality of Sao Paulo, but excludes the rest of the Metropolitan Area. The Government is interested in enlarging the area of coverage. In Bogotá, the "Pico y Placa" works only for peak hours, and the Government is considering its expansion to the whole day. In both cases, TA is necessary to design the most efficient alternative.

most cities, however, there are no plans to restrict private car use, or sometimes there are even contradictions in the policies; for example, inexpensive parking at city centers may generate additional car travel demand and increase congestion.

64. *GEF Alternative.* The GEF will consider options to reduce and manage traffic flow in the cities, involving techniques such as Intelligent Transportation Systems and traffic re-direction. Also, efficient schemes for restricting private car circulation will also be explored. The GEF support to traffic demand measures will help leverage resources from state and local government agencies. With relation to congestion pricing the funds will be used to carry out baseline studies required to take this window forward in the larger cities. In this case, GEF would not only provide most of the financing required to advance road pricing to the regulatory stage by allowing the implementation of key studies and surveys, but also would leverage technical support to help advance the concept at the policy level. Measures such as selective street closures, parking controls, pedestrianization schemes, traffic-cell circulation patterns or congestion pricing could help reduce traffic volumes and associated costs.
65. *GEF incremental financing.* The incremental activities that will be undertaken through GEF support include:
- Evaluate and finance implementation of traffic management and parking policies;
  - Studies to assess the legal, financial and political impacts and feasibility of urban congestion pricing;
  - Prepare plans for traffic calming and /or pedestrianization schemes in specific areas of the city, especially the central district
  - Pilot s to demonstrate the intervention benefits of these policies; schemes
  - Cross-support to learn from Latin American cities that have successfully applied central-area traffic calming schemes (such as Santiago, Córdoba, Curitiba).
66. *Sustainability.* Road pricing and other schemes to reduce and restrict private car circulation may raise opposition even at the conceptual stage, therefore it will be very important to widely disseminate the results and benefits from experiences in other parts of the world where road pricing has been implemented. Nevertheless, the sustainability of the aforementioned measures will closely depend on how environmental management is applied. Proper environmental management would demonstrate that in the long term the benefits resulting from land use pattern changes and road pricing will be much greater than the costs, therefore improve the common well being of the citizens.

### **Incremental Cost Analysis**

67. GEF intervention is crucial if this project is to produce global benefits through reducing green house gas (GHG) emissions. Without GEF intervention, lack of funds, performance risks and institutional risks would mean that the interventions would either not take place, not be fully implemented, or take much longer to implement.

68. Forerunner projects to those being proposed here are already being undertaken in cities such as Santiago de Chile and Sao Paulo. These forerunners demonstrate the detailed, quantified incremental cost analyses that are possible for such projects and for each particular city chosen that this project will work in, similar detailed analyses will be made. However this will only be possible in future stages of project preparation, during discussions with selected specific municipalities and governments, when the necessary data are available. Alongside these analyses, the interventions' expected Global Environmental Impacts will be calculated similarly to the example in the project document for Santiago's Air Quality and Transport.
69. Although the necessary statistics for a full analysis and an estimate of global environmental impact are not available at this stage, it is nevertheless possible to give an outline of where the incremental costs lie and what their global environmental benefits will be. Such an outline is given below for each window of intervention. Further information about each window is given in Annex II.
70. In all of these activities, the lessons learned would have significant transferable value and provide advertising for interventions that would help catalyze further interventions in more cities, thus leading to further GHG reductions and increased global environmental benefits.

### **Sustainability (including financial sustainability)**

71. The project will finance demand-driven projects under a competitive approach, which will allow to select proposed activities that are technically sound and sustainable. Strong consideration will be given to the financial sustainability, additional benefits of the project, political commitment, social-economic impacts, and opportunities to attract additional resources for investment. The project will also emphasize the preparation and assessment of policy instruments that are realistic and provide long-term financing opportunities for the government agencies involved. The lessons that will be drawn from some subprojects will therefore benefit other metropolitan regions and cities.
72. The GEF project windows and proposed measures to reduce greenhouse gas emissions are designed to complement and be fully integrated into transport and urban development objectives. Promoting the overall efficiency of the transport system and reducing fuel consumption are measures that will save resources, especially of operators, and ensure compliance in the long-run. Attracting businesses and people to main transport corridors, which will further promote public transport, will reduce km traveled and further promote real-estate and business development along these corridors (like what happened in Curitiba).
73. The continuous and active involvement of the private sector in policy design, implementation and evaluation is another important way to ensure sustainability. Regulatory and financial measures to facilitate private sector involvement will be inherent to most of the windows of the program. Long-term public sector contributions will also be sought for the project, in

such a way that they are independent of potential policy changes, and therefore avoiding some of the problems of other similar international efforts. The technical teams will be strengthened and should provide long-term assistance and support to transport and environment related programs in the cities of Latin America and Caribbean..

74. The project will involve the environment sector in the design and implementation of transport and urban development related interventions, helping to change the image of these agencies being sole “regulators” instead of active participants in the design and implementation of sustainable projects. At the same time, the project will help assess and enhance the capacity of the environment agencies to become stronger and effective partners in working with other sectors and include environment considerations in strategic policy assessment and interventions.

### **Replicability**

75. The project has as main objective to disseminate lessons learned and replicate project in different cities in Latin America and the rest of the world. Once the viability of the project windows are demonstrated through pilot activities, the same regulatory, technical and economical mechanisms can be developed not only in the region but also other cities worldwide. As mentioned, several existing GEF projects on sustainable transport and air quality are being implemented in the region in Mexico DF, Lima, Sao Paulo, Santiago, Bogota, and other Colombian cities. The CAI-LAC, which has been disseminating lesson learned, will continue to be the platform for dissemination and cross-fertilization between different cities and projects. The proposed regional approach will try to promote replicability as the funds will remain limited considering the large number of cities with more than 500,000 inhabitants in the region. Instead of coming back to the GEF every year with a limited number of large and midsize project proposals for all interested cities, the proposal aims at maximizing the use of resources for pilot investments only in those cities prepared and ready, and where the project can have an impact. Also, the project will finance small TA projects to help catalyze regulatory reforms and set up funding mechanisms in cities that might later do investments on their own. The proposal was first devised to help save resources while attending the growing demand for OP11 operations.

### **Stakeholder Involvement/Intended Beneficiaries**

76. Representatives from local, state and federal environmental and regulatory agencies, transport, urban development and environment departments and other stakeholders will be invited to participate in early project preparation discussions as well as during project implementation. The involvement of both local and national representatives will be critical, given the various sources of funding envisioned for the project and the importance of inter-institutional collaboration necessary for the success of this project. A number of meetings involving different state and local agencies already took place and this project is seen by many as an important way to improve collaboration and develop stronger institutional framework with all relevant stakeholders. Private sector participation is obviously central to the success of the project, and will involve representatives from the transport, automotive,

petroleum, real estate and infrastructure development sectors and their associations. Scientific institutions and academia, NGOs, and civil society will also be invited to participate in project preparation and implementation activities. The Strategic Environmental Assessment (SEA) methodology will be used as a tool to assess different alternatives and provide a framework for involvement of different stakeholders and their interests.

## **D – Financing**

### **Financing Plan**

77. The project would have a duration of about 3 years per follow on, at an estimated cost of up to USD100 million from GEF, leveraging resources of at least USD300 million from local governments and private sector<sup>24</sup>. GEF will finance USD40 million for the first follow on, and up to USD30 million for the two subsequent follow ons. To advance from one follow on to next, it is necessary that at least 75% of the previous follow on are already contracted. During implementation of the PDF-b activities a better sense of costs and details about implementation will be obtained. The Bank already has a reasonable good knowledge of potential cities that might have projects, as the Bank has on-going dialogue with many of them. The table included in Annex I provides information about potential allocation of resources for the first follow on, according to the type of cities. Since the mechanism is competitive, the Bank has decided not to include any specific city at this stage. Nonetheless the proposed mechanism will most probably lead to allocating the first follow on to a relatively small number of cities (10-15), while allowing preparatory activities for the cities to be included in the following follow on.

### **Co-Financing**

78. Co-financing will be provided by the local and national governments and the contributions from the private sector will be explored throughout the PDF-b implementation. It is expected that cities are engaged in urban development and transport projects and plans, most notably in the downtown area and studies are going on to reduce traffic in the central area of the urban centers. The GEF funds will complement ongoing projects in the Latin American cities by specifically integrating environmental and climate change concerns in the decision-making process. To participate in the project, cities will have to prove interest in leveraging existing funding and seek additional funds to co-finance the project windows. In cities like Sao Paulo, the design and policy development linked to re-developing a corridor, may bring about millions of dollars in private investments, transfer resources to improved transport facilities, and long-term profits for stakeholders from induced higher land-use prices.

**Table 1. Estimate Budget for first follow on<sup>25</sup>**

<b>Window</b>	<b>Government (* (USD 000)</b>	<b>Private (USD 000)</b>	<b>GEF (USD 000)</b>	<b>TOTAL (USD 000)</b>

<sup>24</sup> Better budget estimates will result from the preparation process, which will finance the identification of co-funding resources

<sup>25</sup> This Budget Table is indicative, as specific project proposals will be gathered during PDF-b implementation

**Table 1. Estimate Budget for first follow on<sup>25</sup>**

<b>Window</b>	<b>Government (*)(USD 000)</b>	<b>Private (USD 000)</b>	<b>GEF (USD 000)</b>	<b>TOTAL (USD 000)</b>
<b>W1 – Rationalization of Freight Transport</b>	<b>3,750</b>	<b>11,250</b>	<b>5,700</b>	<b>20,700</b>
- Freight movement studies	1,000	200	1,800	3,000
- Studies on alternatives and incentives	250	50	700	1,000
- Plans and pilots design and implementation	2,000	11,000	2,700	15,700
- Surveys	500		500	1,000
<b>W2 – Land-use planning and urban development to reduce motorized travel</b>	<b>4,500</b>	<b>25,400</b>	<b>9,230</b>	<b>39,130</b>
- Regulatory and financial studies	300	200	750	1,250
- Pilot design/implementation	4,000	25,000	8,000	37,000
- Workshops and awareness activities	200	200	480	880
<b>W3 – Traffic Demand Management</b>	<b>2,050</b>	<b>10,700</b>	<b>5,300</b>	<b>18,050</b>
- Legal and technical studies on TDM	600	500	900	2,000
- Pilot ITS, Parking, Circulation Restraint	1,150	10,000	3,200	14,350
- Workshops and tours	300	200	1,200	1,700
<b>W4 – Incentives for use and improved efficiency of public transport</b>	<b>10,100</b>	<b>24,100</b>	<b>6,370</b>	<b>40,570</b>
- Workshops and public awareness	600	100	450	1,150
- Studies on legal and economic incentives	700		920	1,620
- Pilot corridor investment design and implementation	8,000	24,000	4,000	36,000
- Monitoring mechanisms	800		1,000	1,800
<b>W5 – Non Motorized Transport</b>	<b>17,650</b>	<b>9,000</b>	<b>10,000</b>	<b>36,650</b>
- Promotion of bike use	400	1,500	1,500	3,400
- Pilot bikeways/landscape/pedestrian	17,000	7,000	7,000	31,000
- Safety	150	500	800	1,450
- Guidelines	100		700	800
<b>Knowledge Management and Administrative budget</b>	<b>2,270</b>	<b>-</b>	<b>3,400</b>	<b>5,670</b>
- Local implementation support	1,500		1,500	3,000
- CAI-LAC coordination	770		1,900	2,670
<b>Total Cost</b>	<b>40,320</b>	<b>80,450</b>	<b>40,000</b>	<b>160,770</b>

(\* ) State and Municipality



## E – Institutional Coordination and Support

### Core Commitments and Linkages

79. The countries with participating cities, will have to have an adequate implementation framework within the Country Assistance Strategies (CAS). The CAS will have to provide for sustainable development activities, strengthening of government environmental agencies, structural adjustment loans in the environment or transport sectors, urban development, or transport and infrastructure oriented activities. Support for activities that aim at complying with international agreements, among others the Kyoto Protocol, will also provide adequate framework for the project.

#### Links to other Bank related projects

80. Recently approved, the Colombian National Urban Transport Investment Loan (NUTP) will finance USD250 million to cover part of the share that corresponds to the GOC contribution to the implementation of integrated Bus Rapid Transit Systems in some of the cities targeted under the National Development Plan (NDP), namely Pereira, Cartage, Soacha, Bucaramanga, Barranquilla and Medellin. In Bogotá it will also support NorteQuitoSur, one of the trunk corridors required for the expansion of the already existing Transmilenio transport system. NUTP is an open ended program that envisages GOC's annual transfers until 2016.

81. The US\$ 100 Million World Bank loan supporting the Bogotá Urban Services Project, contributes substantially to the improvement of public transportation services in the city. The project supports the increase of Transmilenio's coverage, promotes the use of non-motorized transport means, aims at reducing private car use by 10% and will extend the city mobility strategy to the metropolitan region. Bogotá's new transport policies in general and Transmilenio in particular have received wide international recognition for its environmental sustainability. Also, this loan is funding about USD2 million for capacity building and institutional strengthening of the Environment Agency in Bogota<sup>26</sup>; under this component, a multi-annual, multi-sector Plan for Air Quality Management Plan for Bogotá will be developed.

82. The USD65 Million Bogotá Urban Transport Project, carried out between 1996 and 2001, assisted the city in rehabilitating major transport corridors, upgrading environmental conditions and initiating the financing of Transmilenio. It also contributed to the Administration's policy of recovering public space for the city, and to improve accessibility to some of the city's poor neighborhoods.

83. Last December, a GEF project on sustainable transport and air quality for Bogotá and other cities of Colombia entered the pipeline, to complement and add the global dimension to the BRT developments happening in the Colombian cities. A similar operation was approved for

<sup>26</sup> Departamento Administrativo de Medio Ambiente (DAMA).

Sao Paulo. These operations now complement other GEF sponsored sustainable projects that are currently under implementation for Lima, Mexico City, and Santiago.

84. In December 2003, the World Bank and the IDB each approved a US\$45 million loan to finance a sound Bus Rapid Transit system for Lima-Callao, which was blended with US\$ 7.9 million GEF grant approved simultaneously. The GEF grant's objectives are to maximize the environmental benefits expected from the BRT system through (i) rationalizing the current public transport supply through providing incentives to scrap old polluting vehicles that contribute to the oversupply and offering social mitigation programs for those transit workers that might have to leave the transport sector when the BRT is implemented, (ii) expanding and refurbishing the bikeway network of Lima and encouraging bike use through promotion campaigns and (iii) strengthening local capacity in the area of sustainable transport through training programs targeting municipalities and public institutions.
  
85. In January 2002, the Bank approved a \$209 million loan to the State of São Paulo, Brazil, to assist the financing of the São Paulo Metro Line 4 Project. The project is currently being implemented and will help improve the quality and sustainability of urban transport in the São Paulo Metropolitan Region by interconnecting the existing subway, commuter rail and bus networks through the construction of Metro's Line 4, and improving the access of low-income urban populations to safer, faster, and more reliable transport. The project will promote modal and fare integration between buses, subway and rail, in such a way as to minimize the overall cost of travel (tariff, travel time, reliability and safety) to the low income users of the system. Previous Bank-financed transport loans in SPMR have funded the integration of over 270 kilometers of suburban railways by linking the Barra Funda and Roosevelt Stations and the successful decentralization of rail services from federal to state government, which included the extension and rehabilitation of rail systems.
  
86. A new Development Policy Operation is being prepared for Santiago, to support the development and implementation of the policy reforms underlying the public transport system in Santiago (TRANSANTIAGO). The reforms will allow an integrated system of trunk and feeder bus services, integrated also with the metro system, with a centralized farebox revenues collector and financial administrator. With a limited number of service areas concessioned to private operators, transparent competition for the system was achieved, with possibilities for fleet renewal and cleaner technologies.
  
87. The Clean Air Initiative for Latin American Cities (CAI-LAC) is a special initiative spearheaded by WBI and the LCR region aimed at promoting dissemination of best practices and capacity building on air quality management in Latin American Cities. With a current operating budget of about US\$ 600,000 per year, CAI-LAC brings together the efforts of leaders from the public and private sectors, NGOs, research and academic institutions, government agencies and international institutions, which cooperate to improve the capacity of city leaders to address air quality management. CAI-LAC is proposed as the platform for

disseminating the lessons learned under this innovative project. As stated above, CAI-LAC is evolving into a self sustainable Think Tank, which aim is to incorporate key development sectors into its managing structure, besides environment. The topic to be covered during the first years of operation under the new structure is sustainable transport, as it has been clear that transport represents the main cause of emissions in urban centers in the region. CAI-LAC will serve as the channel to handle the demand from member cities to participate at this regional program.

**Consultation, Coordination and Collaboration between and among Implementing Agencies, Executing Agencies, and the GEF Secretariat, if appropriate.**

88. The project will be structured into specific subprojects for the participating cities, which will in turn have different areas of intervention from the windows offered by the project. The eligibility of the cities, and of the specific windows and activities for such cities will be determined according to a pre-established set of criteria. Thus, depending on the specific institutional capabilities, and characteristics of the cities, the subprojects will have different combination of activities to be funded. A city like Cochabamba, for example, could have a subproject consisting of activities only related to the Non Motorized window, while a large city like Buenos Aires or Rio de Janeiro, is expected to have activities in the whole array of areas or windows.
89. The approach is inclusive, as the project could complement other projects being administered by other GEF implementing agencies, regional banks, or international donors. The proposal has been designed to foster partnership and collaboration amongst implementing agencies. Specific intervention in cities in one area may not and should not preclude specific intervention in another area. For example, UNEP's proposal to work in Concepcion is only linked to NMT. That should not preclude the city to have some other sustainable transport operations in other valuable areas such as preparing for a BRT, with the bank or any other implementing agency. Limiting the right for the cities to go back to GEF for additional, complementary funding, would have the perverse incentive of preventing cities to undertake any specific sustainable transport activity with any agency unless they can include financing in all potential areas at a given time<sup>27</sup>. The proposed scope of intervention is wide, but specific activities should only occur in cities where it is technically feasible and where there is adequate political support (including counterpart budget allocations). However, in cities where more than one international financier is co-funding sustainable transport activities, a close coordination will be mandatory.

**Implementation/Execution Arrangements**

Project Follow on

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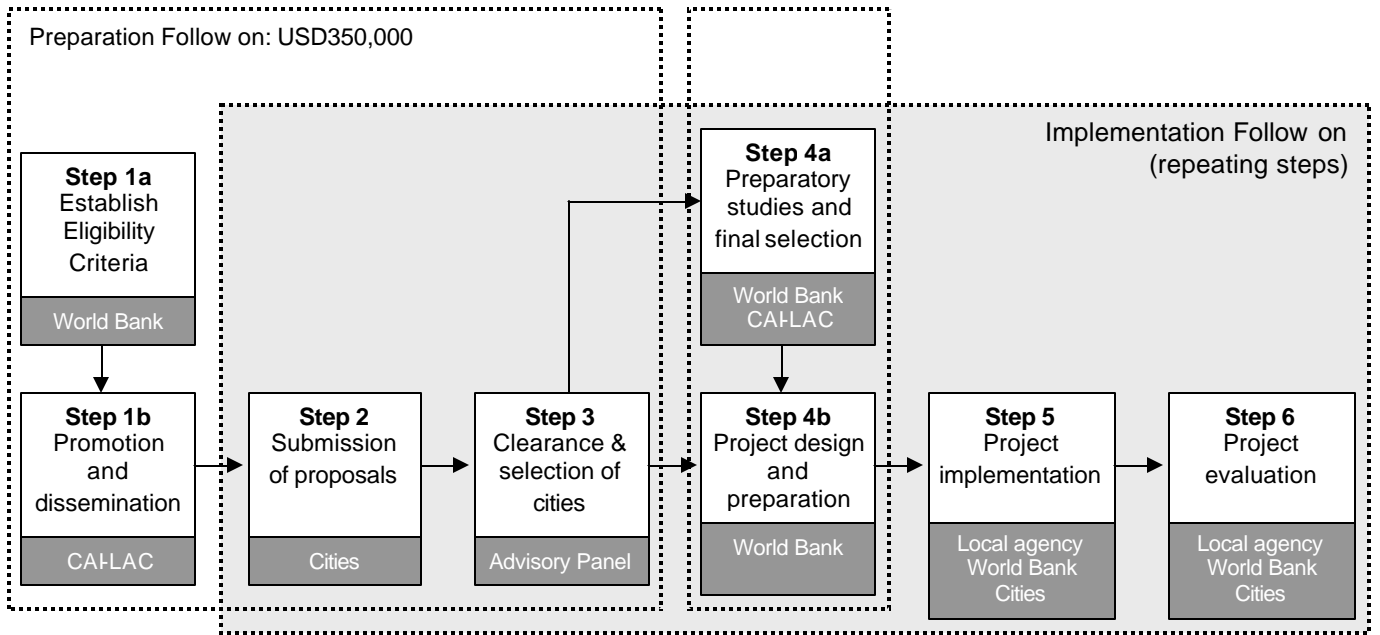
<sup>27</sup> As the return to GEF for additional funding could be limited.

90. The project will be implemented by the World Bank, and will be executed through the respective Municipal Secretaries of Transport with support from selected municipal, state, and national agencies, and other relevant stakeholders as described earlier in this document.
91. **Local implementation.** At the local level, the project will be implemented by the local agency appointed by the municipal or metropolitan authorities, although in most cases it will normally be the local Secretariat of Transport. Secretariats of Planning, Environment, or Urban Development can also be suited local institutions to implement the project. Following the experience of other cities with on-going operations, each subproject will normally have one coordinating institution (Secretariat of Transport), and a set of implementing institutions for the specific windows (ie. Non motorized transport can be handled by the environment or urban development secretariats, while public transport and freight windows will always fall under the scope of the Transport Secretariat. The implementing agencies will be in charge of coordinating with other local stakeholders, but will ultimately decide on draft TORs, selection of consultants, monitoring of studies and project implementation, and payments authorization.
92. **Management and clearance of Subproject Requests.** CAI-LAC will receive proposals from interested cities in the areas covered by the project windows and check whether the minimal pre-established criteria are met and whether the proposals include the required information<sup>28</sup>. The cities with interest in the project will submit the proposals in the format arranged to that end. Workshops and website material about the project will be prepared to ensure the program is sufficiently known amongst the community cities of Latin America and the Caribbean. Once cleared by CAI-LAC, the proposals will be reviewed by the Advisory Panel of experts previously appointed. Finally, the Bank will complete preparation and will appraise the projects and prepare the most appropriate institutional arrangements to implement the projects. Projects will be ranked according to the pre-established criteria so that the best proposals will be allocated the available resources per follow on.

#### Preparation Follow on (PDF-B)

93. **Preparation studies and activities.** All studies and preparation activities will be contracted by the Bank (Bank implemented), although in close coordination and according to the priorities set out by the participating cities. Specific preparation studies and workshops linked to subprojects with particular cities will require a more direct participation of the local authorities. This will ensure that the TORs, selection of consultants, and monitoring of studies will be done according to the local agency in charge of preparing the subprojects.

<sup>28</sup> Information, such as air quality indicators, indications on sources of emissions, status of preparation of transport master plans, status of urban development plans, budget committed to sustainable transport, and the like. Specific information requirements will be developed in this follow on to facilitate participation from the cities.



**Figure 1. Selection And Clearance Process Of Cities Receiving Support From Gef Funds**

## PART II - PROJECT DEVELOPMENT PREPARATION

### A – Description of Proposed PDF Activities<sup>29</sup>

94. PDF-B resources in the amount of USD 350,000 will be requested from GEF to carry out the project preparation activities outlined below. A contribution of at least US D350,000 will be made by international, local and state agencies to complete the proposed activities.

94.1. **Air pollution assessment in main urban areas**

There will be a set of regional studies to assess vulnerability to air pollution in selected cities with population larger than 500,000 inhabitants. The studies will not only show levels of saturation of airsheds, but also reflect health impact costs and effects on poverty.

94.2. **Evaluation of sustainable transport policies in the region**

After assessing ownership of potential participants, there will be studies to assess the potential for transport efficiency interventions in the region. Cities will be ranked according to the potential impact of transport measures in terms of reversing the general trends and help rationalize transport and enhance fuel efficiency.

94.3. **Early evaluation of environmental and land-management opportunities and challenges**

Potential cities offering opportunities to develop urban transport projects, will also be screened considering opportunities for coordinating with environment and land-use policy developments.

94.4. **Capacity assessment in participating cities**

There will be a screening and assessment of the local overall capacity to prepare, implement, and supervise the projects.

94.5. **Screening and assessment of potential co-funding resources**

Taking into account the candidate cities and potential interventions per city, there will be an early assessment of co-funding resources from official, and private sources.

94.6. **Workshops to introduce concepts and mobilize opinion**

Complementing the studies and assessments described above, the preparation activities will include workshops to mobilize opinion and co-funding resources behind the project.

94.7. **Assessment of institutional needs for the Clean Air Initiative**

As explained above, the pivotal role of the new CAIC will be key to trigger and filter the demand from interested cities. In that respect, during preparation, the project will assess on the required institutional capacity of the new institution, and recommend, if needed, measures to strengthen it.

<sup>29</sup> THIS SECTION IS PENDING. The release of PDF-B funding will be due upon endorsement letters from the countries with the initially identified cities (mainly Mexico, Ecuador, Argentina, Uruguay, and Bolivia. Brazil's potential participation is also pending on SEAIN's endorsement).

### B – PDF Block B Outputs

95. PDF-B resources are requested to finance the following preparation activities and associated stakeholder consultations for the potential GEF-funded windows of the project outlined above:

- Reports of the stakeholder workshops and the final management workshop.
- Complete scoping of the project and draft terms of reference of the assessment in terms of both the characteristics of potentially relevant interventions to be considered and political support and counterpart funding and other resources committed.
- Bibliography of major reviews and metadata sources of relevance to the assessment.
- Selection of evaluation tools to assess and compare the cost-effectiveness of different policies interventions in terms of global and local emission reductions, includes: transport and land-use models, local and global emission inventories, cost-effectiveness analysis.
- GEF Project Brief for the Urban Transport and Air Quality Subprojects in the selected cities.

### C – Justification

96. PDF-B grant will be used to design the full assessment project and provide sufficient detail so that the analysis is conducted in the most cost-effective manner and maximize the benefits of the GEF project, and ensure complementarity to existing policies and interventions. To this end, many different stakeholders at the local and national levels will be involved.

### D – Timetable

Timetable	Date
Submission of PDF-B proposal and pipeline entry	April 2005
GEF approval of PDF-B proposal	May 2005
Start of PDF-B implementation	July 2005
Preparation of PAD	December 2005
GEF STAP Expert Review	December 2005
GEF Work Program Entry	January 2006
Completion of PDF-B	March 2006
PAD Review and Appraisal/Negotiation	April 2006
GEF CEO Endorsement	May 2006
Bank Board Approval	June 2006
Project Effectiveness	September 2006

### E – Budget

97. The preparation budget amounts to USD700,000. PDF-B funding will amount to a total of US\$350,000, according to the following table:

PDF-B Budget Activity	US\$ (000)	
	GOB and others (*)	PDF-b
1. Air pollution assessment in main urban areas	80	70
2. Evaluation of sustainable transport policies in the region	120	95
3. Early evaluation of environmental and land-management opportunities and challenges	25	60
4. Capacity assessment in participating cities	25	25
5. Screening and assessment of potential co-funding resources	60	30
6. Workshops to introduce concepts and mobilize opinion	20	30
7. Assessment of institutional needs for the Clean Air Initiative	0	20
Administrative and operational costs	20	20
<b>Total</b>	<b>350</b>	<b>350</b>

(\*)In-kind contribution from local governments

### F – Project Team

Member	Specialty/Role
Juan Lopez-Silva	Senior Environment Specialist, LCSEN, Co-Task Team Leader
Pierre Graftieaux	Senior Urban Transport Specialist, LCSFP, Co -Task Team Leader
Paul Procee	Environmental Specialist, LCSEN -WBI
Gerhard Menckhoff	Urban Transport Expert
Hernán González	Environmental Specialist
Beatriz Iraheta	Project Team Assistant
TBD	Urban Development Specialist, Anchor?
TBD	External Relations



## PART IV – RESPONSE TO REVIEWS

### A – GEF Secretariat

#### Project Design

##### Issues

1. The project is divided in 3 follow ons, but the concept does not clearly explain rationale for these three follow ons, including goals and objectives, except for a timescale for disbursement of funds from the GEF to the WB.

RESP: The programmatic approach allows for: (i) preparation work for upcoming cities while subprojects are implemented with cities identified in the previous follow on (incl. PDF-b); (ii) learning and providing feedback for upcoming follow ons; (iii) taming implementation risk as to go from one follow on to the next there is a performance threshold condition; (iv) gradual dissemination of results, and mobilization of co-funding resources; (v) decreased transaction costs and time attached to GEF/Bank processing; (vi) demand driven development; (vii) better phasing of GEF resources and Bank's resource deployment; and (viii) common approach to common problems.

2. The project consists of two main components: Sustainable transport subprojects and Institutional Strengthening and Knowledge Management. The concept focuses on several options (windows) for sub-projects, including: management of freight; integration of sustainable transport into land-use planning; improving public transportation; improving O&M of urban vehicles (this activity is not eligible for GEF support); NMT; travel demand management. For each window sample, a baseline scenario and GEF intervention are described. However, as neither the cities nor the countries have been selected yet (the PDFB includes developing selection criteria and city selection, among other activities) the baselines are undefined, therefore the estimate of the incremental cost (\$40 million for the first follow on) is arbitrary.

RESP: Basing on Bank experience from other cities in the region, we are safe saying that USD40 million will help finance incremental costs for a relatively small number of cities, including the big ones (Rio and Buenos Aires) that are already part of the Clean Air Initiative for Latin America and the Caribbean. As said in the proposal, at work program entry we'll have up till USD40 million in eligible incremental costs. That is one of the key features of the proposal, as it allows for a selective approach, basing on competitive proposals from interested participant cities.

3. This project is directly linked to the Clean Air Initiative for LAC. A significant number of measures (if not all of them) have air pollution-related local benefits. The incremental cost related to GHG emission reduction and global benefit should be relatively low, as the clean air initiative would be part of the baseline.

RESP: Clean Air Initiative is a partnership with no resource allocation for investments or programmatic technical assistance. Its role is to allow exchange of information, amongst it channeling demand for programs such as the proposed GEF operation.

4. The activities proposed under the windows of sub-projects provide a comprehensive list of desirable options for successful sustainable transport projects (except for the O&M component that is ineligible for GEF support). This program may also build on the successful experience in the region. On the other hand, the concept does not even identify the countries involved (the only criterion is LAC countries that have ratified the UNFCCC). Under these circumstances, on which basis would a GEF grant be justified?

RESP: Countries are not listed in the proposal at this stage, but potential cities are. We have a reasonable good knowledge of potential cities that might have projects, as the Bank has on-going dialogue with most of them. We'll be glad to disclose a report on it. O&M activities are focused to practices that do reduce GHG emissions, such as driving practices. Considering that the GEFSEC has suggested that O&M activities are not eligible for GEF funding under OP11, the bank has removed the activities initially proposed.

5. Duplication: cities already receiving GEF support for transport include, among others, Mexico City, Bogotá, Lima, Sao Paulo, Santiago, Valencia (UNDP) etc. No cities in these countries are eligible for GEF support under OP11 until existing projects are completed and independently evaluated.

RESP: The proposal has been designed to be inclusive, and to foster partnership and collaboration amongst implementing agencies. Specific intervention in cities in one area may not and should not preclude specific intervention in another area. For example, UNEP's proposal to work in Concepcion is only linked to NMT. That should not preclude the city to have some other sustainable transport operations in other valuable areas such as preparing for a BRT, with the bank or any other implementing agency. If cities get limited their right to go back to GEF for additional, complementary funding, the effect would be that all cities would not commit to anything less than all possible eligible activities at a given time, creating a perverse incentive.

6. The concept mentions that CAI is going to be spun-off and incorporated. Please explain what this means for project structure and governance.

RESP: CAI's role is only linked to promoting the project, channeling demand, and filtering proposals. It will only provide support to ensure compliance with pre-set standards and formats for proposals. Final decision on the cities will always be at the implementing agency's arena.

7. Please provide more information on the KM component (who pays how much for KM?).

RESP: KM will be a relatively small component, used for workshops, websites, dissemination material and the like, all of it incremental.

#### **Sustainability (including financial sustainability)**

*At pipeline entry:*

8. Sustainability, especially for OP11 projects, depends on local circumstances and on the specific transport-related measures included in the project design to ensure financial sustainability. At this stage, the concept includes a number of general assumptions, such as: strong consideration will be given to the financial sustainability; the measures implemented will reduce fuel consumption and therefore will save resources; and regulatory and financial measures to facilitate private sector involvement will be inherent to most of the program windows. All these assumptions cannot be in any way substantiated and are therefore insufficient.

RESP: As explained above, the demand driven competitive approach allows the selection of only those sub-projects which will prove sustainable. We'll add sustainability criteria to the eligibility conditions to ensure that.

#### **Replicability:**

*At pipeline entry:*

9. On one hand, one of the project's main objectives is to disseminate lessons learned and replicate the experience; on the other hand, the project design basically implies that a large number of cities will replicate sustainable transport experiences within this program, and therefore utilizing a GEF grant. A common approach for similar cities, as well as the creation of a network of cities that exchange information and best practices are welcome. However, the GEF should act as a catalyst, by creating a model to be replicated without an ongoing cash flow. The large amount of money requested for each and all the follow ons of this program implies a scaling up, replication process within the program itself.

RESP: The objective is the opposite. Instead of coming back to the GEF every year with a bunch of large and midsize project proposals for all interested cities, we want to maximize the use of resources only in those cities prepared and ready, and where we can have an impact. Also, the project will finance small TA projects to help catalyze regulatory and financial processes in cities that might later do investments on their own. We'll save the pilot investments only for a small number of interventions. The proposal was first devised to help save resources while attending the growing demand for OP11 operations. Keep in mind that the Bank is well positioned to complement relatively small TA operations aimed at reducing barriers, with financial investments.

## B – Other Ias and relevant ExAs

### UNDP

UNDP fully endorses the comments made by UNEP with regard to the above submission. In addition, we would like to add the following comments.

The programme objectives are to:

Induce sustainable transport and programs in LAC, promote sound land use development planning consistent with sustainable transport principles, induce air quality improvement, foster a regional common approach and create a network in LAC.

The programme contemplates financing of \$100 million from GEF with co-financing of 3 times this amount. The exact proportion of government contribution and private/leveraged co-financing is not provided. For Follow on 1, leveraged co-financing represents 2/3 and government/bank loan co-financing represents 1/3 of the total co-financing amount. It covers the whole LAC region and 133 cities.

Specific access windows are contemplated covering OP11: Management of freight transport, integration of land use planning transport management and environmental management, modal interconnection and improved efficiency of public transport, improved operation and maintenance of public and urban transportation systems, non-motorized transport and travel demand management.

The proposal is well written and in fact represents an excellent effort to clarify GEF eligibility criteria in each of the above mentioned windows of the OP11 programme.

While general statements are made and are certainly correct, little information is provided on the status of transport in the LAC region. Moreover, the exact scope of the project, the benefit of the project's regional focus, country drivenness, replicability, or complementarities with existing GEF initiatives lack clear definition. As far as the last point is concerned, a mere description of WB projects and action in transport in the region today is hardly sufficient.

RESP: The Bank has built on its experience in OP11 projects to reduce the burden on GEF, the clients, and its own resource, by eliminating the need to produce a single project for each single city. So far the demand for projects in Latin American cities is high, and attending each one at the time would deplete the resources in an inefficient manner. The competitive approach allows for efficiency while attending demand. The programmatic approach allows for: (i) preparation work for upcoming cities while subprojects are implemented with cities identified in the previous follow on (incl. PDF-b); (ii) learning and providing feedback for upcoming follow ons; (iii) taming implementation risk as to go from one follow on to the next there is a performance threshold condition; (iv) gradual dissemination of results, and mobilization of co-funding resources; (v) decreased transaction costs and time attached to GEF/Bank processing; (vi) demand driven development; (vii) better phasing of GEF resources and Bank's resource deployment; and (viii) common approach to common problems.

UNDP cannot support the project for the following reasons:

1. This proposal would result in programming most, if not all, of GEF funding in transport for the LAC region to one single project and one single agency for the entire GEF 4 period. The proposal states that “the approach is inclusive, as the project could complement other projects being administered by other GEF implementing agencies, regional banks, or international donors.” However, cities selected by the World Bank under this project would not be eligible for further GEF support under OP 11 until the 9-year project is completed and independently evaluated. This will in effect severely crowd out IA efforts to promote sustainable transport in Latin America and the Caribbean for the foreseeable future. This effect will be compounded by the impending Resource Allocation Framework.

RESP: USD100 million in 9-10 years is less than the average the Bank has shown to date with the regular project by project approach. The Bank believes that cities could obtain complementary funding from different agencies. As said above, the proposal has been designed to be inclusive, and to foster partnership and collaboration amongst implementing agencies. Specific intervention in cities in one area may not and should not preclude specific intervention in another area. For example, UNEP’s proposal to work in Concepcion is only linked to NMT. That should not preclude the city to have some other sustainable transport operations in other valuable areas such as preparing for a BRT, with the bank or any other implementing agency. If cities get limited their right to go back to GEF for additional, complementary funding, the effect would be that all cities would not commit to anything less than all possible eligible activities at a given time, creating a perverse incentive.

2. The World Bank is already implementing a number of major transport projects in the LAC region including Mexico, Santiago, Sao Paulo and Bogota in the near future and there is no evidence that effective cross fertilization has taken place among these projects. While a programme approach is certainly justifiable in one given country, a regional focus is highly questionable. The CAI-LAC initiative is certainly interesting but does not justify this proposal. The indicated transaction cost reduction does not seem justified either.

RESP: Cross fertilization is taking place. Experts from the different cities are exchanging views and technical knowledge with each other. Examples include the Chilean experience with Decontamination bonds being replicated in Sao Paulo after technical visits. Also, an expert from Bogota on the promotion of bicycle use is working in Lima and Santiago. CAI-LAC is just potentiating the experience.

3. The catalytic and innovative nature of GEF is not represented in this proposal where in effect GEF funding will be used for replicating experiences and not to trigger replication. UNDP is not convinced that the demand driven approach will resolve this issue.

RESP: As shown in annex I, the demand driven approach will ensure that the projects funded can be selected on their merits. It is expected that a relatively reduced number of cities will finally get their proposals funded in the first follow on. Funds are still scarce, and replication is the answer to get to all interested cities.

4. The proposal has been prepared without any type of consultation with other IAs or EAs. This is unacceptable in the GEF context, in particular when it concerns an initiative of this size.

RESP: A better coordination will ensue.

5. Furthermore, there is no evidence that a coordination effort has been made with the governments of the countries concerned. We believe that participating countries should be identified, as much as possible, prior to pipeline entry. This programme would in effect reduce the choice of governments in the region leaving only the WB as IA for the GEF. This is in contradiction with GEF principles.

RESP: Cities and governments at the national level have already been contacted. Although there is evidence of a high interest at the local level, endorsements have not been collected as yet. As explained above, funding should come basing on programs nor cities or countries, consistent with GEF principles.

6. We believe that the project should be follow ond as opposed to tranced. That way, successive follow ons would be admitted into the pipeline only following successful completion of Follow on 1.

RESP: The proposal calls for GEF Council approval of each follow on. Moreover, the proposal requires that at least 75% of the first follow on is committed before advancing to the following follow on.

7. Finally, we would question the cost effectiveness of the approach. The estimated full project budget for Follow on 1 includes \$4.9m for studies, \$2.1m for workshops (both of which should be carried out during the PDF B stage) and an additional \$3.4m on administrative support and coordination. Together, these activities, which would not lead to any direct CO<sub>2</sub> reductions, account for over ¼ of the total budget.

RESP: All activities are aimed at removing barriers for a long-term reduction of GHG emissions. Direct and short term reductions in emissions are not contemplated in the proposal.

In light of the above, we would encourage the World Bank to submit a smaller-scale follow ond project to Pipeline 21, taking the above considerations into account.

RESP: As said above, an average of USD10 million per year cannot be considered as large as perceived. We are adding efficiency to the allocation of the scarce resources with the proposed approach.

## Annex I

### Proposed allocation of GEF funds for 1<sup>st</sup> Follow on

GEF Window	Possible GEF Funded Activities	Estimated costs	Estimated costs
	Size of cities:	> 2 million	0.5-2 million
	Number of cities:	4-6 cities	6-8 cities
<b>W1- Management of Freight Transport</b>		<b>1-2 million</b>	<b>0.5-1 million</b>
	<ul style="list-style-type: none"> <li>▪ Prepare an inventory of inter- and intra-city freight movement studies in participating cities.</li> <li>▪ Prepare a freight transportation management plan.</li> <li>▪ Design and implement economic incentives for fleet renewal.</li> <li>▪ Evaluate other alternatives for transportation of goods (like railway, waterways, and alternative vehicles)</li> <li>▪ Implementation of a pilot scheme for freight delivery in larger cities.</li> <li>▪ Look at the characteristics of frequently used trucks (i.e. garbage removal )</li> </ul>	<ul style="list-style-type: none"> <li style="text-align: center;">v</li> <li style="text-align: center;">v</li> <li style="text-align: center;">v</li> <li style="text-align: center;">v</li> <li style="text-align: center;">v</li> <li style="text-align: center;">v</li> </ul>	<ul style="list-style-type: none"> <li></li> <li style="text-align: center;">v</li> <li style="text-align: center;">v</li> <li style="text-align: center;">v</li> <li></li> <li></li> </ul>
<b>W2-Land-use, transport planning</b>		<b>1-2 million</b>	<b>0.5-1 million</b>
	<ul style="list-style-type: none"> <li>▪ Design regulatory and financial incentives to facilitate private sector investments and attract high density land uses along main transport corridors; Design regulatory and financial incentives for mixed land use;</li> <li>▪ Develop transport corridors that include busway infrastructure, urban development and mixed land use incentives, landscaping features and convenient access to public transport stops;</li> <li>▪ Establish mechanisms to deploy property taxes and other funding sources from redevelopment and construction activities to help expand transport systems, especially along main corridors in the cities and in the cities' outskirts; and</li> <li>▪ Create platform for public and community participation in transport planning and implementation.</li> </ul>	<ul style="list-style-type: none"> <li style="text-align: center;">v</li> <li style="text-align: center;">v</li> <li style="text-align: center;">v</li> <li style="text-align: center;">v</li> </ul>	<ul style="list-style-type: none"> <li></li> <li style="text-align: center;">v</li> <li style="text-align: center;">v</li> <li style="text-align: center;">v</li> </ul>
<b>W3- Modal Interconnection and Public Transport</b>		<b>1-2 million</b>	<b>0.5-1.5 million</b>

GEF Window	Possible GEF Funded Activities	Estimated costs	Estimated costs
	<ul style="list-style-type: none"> <li>▪ Develop in selected cities, pilot corridor investments integrating physical aspects (priority lanes, landscaping and integration with NMT). The corridor will further help integrate different modes;</li> <li>▪ Develop operational aspects favoring the strengthening of public transport modes (tariffs, management, revenue distribution, etc.);</li> <li>▪ Improving efficiency of bus operation on transport corridor, by optimizing number of buses, increasing passenger movements and improving overall quality and frequency of the service</li> <li>▪ Set up monitoring mechanisms for assessment and evaluation of introduced technologies;</li> <li>▪ Develop and implement promotion and communication campaigns about safety, efficiency, and environmental benefits linked to BRTs and efficient mass transit systems;</li> <li>▪ Provide TA and public support to enable efficient tariff integration and pricing;</li> <li>▪ Support the creation of agencies <i>a-la-Transmilenio</i> in charge of promoting and managing the development of BRT systems; and</li> <li>▪ Evaluate options to remove older and more contaminating transport fleet through operating contracts and regulations.</li> </ul>	V V V V V V V V	V V V V V V V V
<b>W3-Non Motorized Transport</b>		<b>1.2-2 million</b>	<b>0.5-1 million</b>
	<ul style="list-style-type: none"> <li>▪ Promotion and awareness building campaigns and events for bike use;</li> <li>▪ Implement bikeways and pedestrian facilities and landscaping in specific areas;</li> <li>▪ Create safe and secure non-motorized access to main public transport corridors; and</li> <li>▪ Develop guidelines for biking and walking facilities.</li> </ul>	V V V V	V V V V
<b>W5-Travel Demand Management</b>		<b>0.8-1 million</b>	<b>0.3-0.7 million</b>
	<ul style="list-style-type: none"> <li>▪ Evaluate and finance implementation of traffic management and parking policies;</li> <li>▪ Studies to assess the legal, financial and political impacts and feasibility of urban congestion pricing;</li> </ul>	V V	V V

GEF Window	Possible GEF Funded Activities	Estimated costs	Estimated costs
	<ul style="list-style-type: none"> <li>▪ Prepare plans for traffic calming and /or pedestrianization schemes in specific areas of the city, especially the central district</li> </ul>	V	V
	<ul style="list-style-type: none"> <li>▪ Pilot s to demonstrate the intervention benefits of these policies; schemes</li> </ul>	V	V
	<ul style="list-style-type: none"> <li>▪ Cross-support to learn from Latin American cities that have successfully applied central-area traffic calming schemes (such as Santiago, Córdoba, Curitiba).</li> </ul>	V	V
<b>Total for each city</b>		<b>4-7 million</b>	<b>1-3 million</b>
<b>Total(*)</b>		<b>25-30 million</b>	<b>12-15 million</b>

(\*) Estimated ranges

GEF Window	Type of GEF Funded Activities	Estimated Amount
<b>Preparatory studies for next follow on</b>		<b>2,000,000</b>
	<ul style="list-style-type: none"> <li>• Identification of transport and land-use plans</li> <li>• Identification of baseline and alternative scenarios</li> <li>• Evaluation of counterpart funding and financing mechanisms</li> <li>• Institutional capacity assessment</li> <li>• Regulatory appraisal</li> </ul>	
<b>Knowledge Management</b>		<b>900,000</b>
	<ul style="list-style-type: none"> <li>▪ Dissemination of information and</li> <li>▪ Dissemination of lessons learned in Latin America</li> <li>▪ Technical training of staff on relevant topics related to the different windows</li> <li>▪ Distance learning courses to reach out to mah cities</li> </ul>	
<b>Project Management</b>		<b>500,000</b>
<b>Total</b>		<b>3.4 million</b>



Large city = City with at least 2 million inhabitants  
Mid-size city = City with 500,000 – 2 million

NOTE: This initial hypothetical allocation would finance projects in 10-14 cities. The competitive approach might provide a different outcome. Funding allocation will be aimed at reaching the USD40 million for the first follow on, which may result from various combinations of interventions in large and mid-size cities. .

## Annex II

### Elements for Incremental Cost Analysis per Window

In future stages of project preparation, it will be possible to make quantitative estimated of the global benefits these measures will achieve and how much they will cost. The so-called ASIF Methodology is proposed to undertake such efforts. Following is a short explanation of the methodological approach, followed by the elements on incrementality pertaining each of the project windows of intervention.

#### ASIF Methodology

The basic approach to calculate the global environmental impact of the project, measured as reduction of GHG emissions, is based on the so-called ASIF methodology<sup>30</sup>. ASIF is a useful analytical framework for analyzing changes in emissions and for confronting possibilities for the future. It stands for Activity, Structure, Intensity and Fuel Choice. Basically, the methodology principle is the following :

$$\text{Consider that } G = \sum_{i,j} A * S_i * I_i * F_{ij}$$

Where G is the carbon emissions from the particular transport sector, A is the total travel or freight activity (in passengers-km or ton-km),  $S_i$  is a vector of the modal shares,  $I_i$  is the modal energy intensity of each mode,  $F_{ij}$  represents the sum of each of the fuels j in mode i, using standard coefficients to convert fuel (or electricity) used into carbon emissions. This equation can be used to study changes in energy use or emissions over time.

Throughout the development of the project, ASIF will be used to assess the level of GHG emissions to be attained in a medium-to-long term frame. The project is aimed at spurring the adoption of measures that not only will contribute to abate air pollution, but also to mitigate climate change. However, the measures contemplated involve behavioral and structural changes in the transport system, that will show results slowly and over a relatively long-period of time. The methodology will help build sound scenarios of success, based on data that will be available throughout project implementation.

#### Estimated Project Impact

At the preparatory stage, and based on the above referred methodology, some estimates on the project global environmental impact can be made. Basically, the approach will calculate emissions reductions resulting from induced changes or measures that affect modal composition, as well as types of technology, as per the following equations:

$$ER_k = \sum (D^{ijb} * F_{ijkb}) - \sum (D^{ijp} * F_{ijkp})$$

Where

- ER<sub>k</sub> = Emission Reductions of pollutant k
- D<sup>ijb</sup> = Distance traveled (veh-km) per year for mode i and technology j for
- F<sup>ijb</sup> = Factor of Emissions for pollutant k for mode i and technology j
- p = Project scenario
- b = Baseline scenario

D already incorporates information on Activity (trips, length, technology, speed), and Efficiency (km/lit of fuel), while F includes information on the type of fuel and on the emission effects of the respective technology.

<sup>30</sup> Schipper, L, and Celine Marie-Liliu, "Transportation and CO<sub>2</sub> Emissions: Flexing the link – A Path for the World Bank", World Bank ESSD Series, September 1999.

For purposes of estimating the project impact in the reduction of CO<sub>2</sub> emissions, a preliminary estimation will be made according to the following methodology. During project preparation not only additional information will be incorporated into the analysis, but also it will be performed for all the other target pollutants (NO<sub>x</sub>, SO<sub>x</sub>, CO, NH<sub>4</sub>, and PM). In addition, scenarios combining measures will also be defined with GoCh; this will enable to estimate more realistic emission reduction scenarios.

### **Window 1 – Management of Freight Transport**

1. *The state without GEF intervention.* Almost all cities in Latin America and the Caribbean emit unnecessarily high amounts of GHGs through having: (1) old and poorly maintained cargo transport fleet (averaging over 20 years); (2) traffic jams within cities; (3) inefficient organization of cargo trips (4) lack of efficient regulations for freight transportation management. This window of intervention is proposed to be utilized in cities where there are no plans at either national or local government levels to rationalize urban freight traffic or to regulate its operation within cities. Therefore, without GEF intervention unnecessarily high emissions of GHGs can be expected to rise in the coming years as freight volume increases.
2. *The potential benefits of GEF intervention.* The GEF-funded alternative scenario would help government agencies to identify solutions to the freight inefficiencies and consequent reductions in GHG emissions would occur. Potential incremental activities that GEF would support include:

### **Window 2. Integration of land use planning, transport management and environmental management**

3. *The state without GEF intervention.* Particularly in medium-sized, rapidly growing cities, burgeoning urban sprawl is inducing increasing numbers of people to use their own motorized vehicles for transport. Reducing such sprawl requires city-planners to work with very long time-horizons and unfortunately without GEF funding there would be few incentives to take such a view. Without GEF funding, urban sprawl would be set to continue and to make an ever-increasing contribution to the rise of GHG emissions.
4. *The potential benefits of GEF intervention.* GEF funding would complement and leverage locally available funding to make pilot investments in some areas, while in others the focus would be on developing information and proposing future investments. These would demonstrate the advantages of high density land use along public transport routes and catalyze the reduction of GHG emissions resulting in more efficient public transport and a reduction in private vehicle use.

### **Window 3 – Modal Interconnection and improved efficiency of public transport**

5. *The state without GEF intervention.* Many Latin American cities are in the process of modernizing their public transportation systems and the stage of modernization will vary widely from city to city. In most cases there will be potential for significant improvements. For instance, in cities where BRTs or other mass transit systems are already being implemented, there is usually a lack of emphasis on modal integration, linking non motorized transport, taxis and other modes to the new systems. In other cases, the image of bus transport is poor and requires promotional and communication campaigns. In other cases, restructuring has not been considered, or encounters political and economic barriers. In other cases there is a lack of experience and know-how to develop sustainable business models or to ensure fleet renewal. Usually, the adoption of cleaner technologies is seldom considered as it would simply add to the large initial economic and political costs already involved in restructuring the public transport systems. Due to all these, GHG emissions are higher than they need to be.
6. *The potential benefits of GEF intervention.* Much of the above could be improved through providing technical assistance. For instance, GEF funds could be used to create conditions so local bikers, commuters and pedestrians combine their travel with public transport services, by connecting important

trip generators and/or attractors with key links of the main transport systems. GEF funding could also help coordinate other forms of public transportation such as taxis and bici-taxis to the BRT system development and to promote a shift to non-motorized vehicles and reduce the use of private cars. Modal interconnection could result in a reduction of energy consumption per trip. All these interventions could result in significant and sustainable reductions in GHG emissions.

#### **Window 4– Non Motorized Transport**

7. *The state without GEF intervention.* Limited attention to walking and cycling in most Latin American cities means a lack of safe facilities and secure access to major corridors is discouraging cycling and walking. Very few cities have concrete bike and pedestrian plans and it is likely that without GEF intervention cities will continue to give walking and biking low priority thus not taking this opportunity to reduce GHG emissions.
8. *The potential benefits of GEF intervention.* Experience in cities such as Bogotá, Lima and Santiago indicates that people are positively disposed to cycling and walking provided that properly designed and safe routes are in place and linked to the cities' activity centers, such as education and work areas. GEF projects would help to prepare overall guidelines for non-motorized transport facilities and bring these modes to the forefront of urban transport planning. GEF funds would also help develop walking and biking facilities in selected neighborhoods with access to public transport and to help convince car drivers to consider walking and biking for short trips and use a combination of NMT and public transport for longer trips. Evidence from cities such as Manila indicates that even a moderate shift to non-motorized modes of transport can provide substantial reductions in GHG emissions.

#### **Window 5 – Travel Demand Management**

9. *The state without GEF intervention.* Demand reducing measures have great potential to reduce GHG emissions. For instance, in central London motorized vehicle traffic decreased 20% in the first few months after the introduction of congestion pricing scheme. Charging schemes and other traffic demand measures such as parking policies and park-and-ride facilities may also generate sources of funding for more efficient transport modes and do not have to have significant negative effects on commercial viability. However, the potential economic disruptions of poorly designed plans give a significant political barrier to instituting such schemes to restrict private car use and currently few governments at the national or local levels are exploring demand reducing measures. Indeed, in some cities, policies (such as providing cheap parking in the centre of towns) may even be contributing to increases in GHG emissions.
10. *The potential benefits of GEF intervention.* GEF-funded activities would help leverage support from state and local government agencies to reduce and manage traffic flow in cities, involving techniques such as Intelligent Transportation Systems and traffic re-direction and exploring efficient schemes for restricting private car circulation. The consequent reduction and rationalization of the use of private vehicles in cities would contribute to GHG emission reductions and consequent global benefits. In particular, scale-up would be expected as a consequence of the advertisement such schemes would give to further cities in the region and globally.