



Report No AB57

## Updated Project Information Document (PID)

<b>Project Name</b>	MEXICO-Air Quality Management and Sustainable Transport Project
<b>Region</b>	Latin America and Caribbean Region
<b>Sector</b>	Roads and highways (60%); Information technology (25%); Health (10%); Other industry (5%)
<b>Project ID</b>	P043165
<b>Supplemental Project</b>	
<b>Borrower(s)</b>	BANOBRAS
<b>Implementing Agency Address</b>	SECRETARIA DE MEDIO AMBIENTE DEL GDF & SECRETARIA DE COMUNIC Address Secretaria de Comunicaciones del Estado de Mexico Paseo Vicente Guerrero No 485, Col. Morelos, Toluca, Estado de Mexico Contact Person: Guillermo Cano Tel. (52) 722 215 9752, (52) 722 213 3154 Fax (52) 722 213 3980 Email Mavega1@Terra Com Mx Address: Secretaria de Medio Ambiente (Environment Secretariat for Mexico City) Plaza de la Constitucion No. 1, 3er Piso, Col Centro Contact Person: Claudia Sheinbaum Tel: (52) 555 5420117 Fax: (52) 555 512 2688 Email: Lelena@dgpa df gob mx
<b>Environment Category</b>	B
<b>Date PID Prepared</b>	April 30, 2003
<b>Auth Appr/Negs Date</b>	November 19, 2003
<b>Bank Approval Date</b>	April 20, 2004

**1. Country and Sector Background**

The MCMA constitutes the largest area-source of airborne pollutants in the country and it is one of the largest in the Americas. Current projections indicate that population will continue to grow at an annual rate of 1.9% in the short term. Demand for services and energy however, are expected to increase at even higher rates. This will result, unless controlled, in higher pollution loads to already burdened air and watersheds.

Air pollution in the MCMA is mostly due to (a) a high concentration of ozone, produced by the reaction of volatile organic compounds (VOCs) and nitrogen oxides (NO<sub>x</sub>) in the presence of sunlight, (b) carbon monoxide (CO), nitrogen oxides, sulfur dioxide (SO<sub>2</sub>) and hydrocarbons emitted by vehicles fueled with gasoline and diesel, (c) sulfur dioxide emitted by industrial processes and commercial services using liquid industrial fuels, and (d) particulate matter (PM) in the form of particles smaller than 10 microns (PM<sub>10</sub>) emitted by several sources using diesel and other fuels as well as stationary and natural sources.

**Third Air Quality Management Plan (Programa para Mejorar la Calidad del Aire ZMVM 2002-2010)**

In response to the situation, the authorities have been working on air quality improvements for several years and the results of previous work have produced important, albeit not yet sufficient progress. In 2002, the Mexican authorities completed the formulation of the AQM-III (2002-2010). The AQM-III provides the strategic framework to guide necessary immediate interventions, and to further define, the goals and priorities, while identifying barriers and required reform. The plan coalesces a significant amount of dispersed information on air quality issues in Mexico City. These valuable materials have been integrated into a comprehensive assessment providing the basis for a long-term strategy to address air quality in the MCMA with increasing coordination between institutions. The plan identifies the transport sector as a priority area for efforts to curb air pollution and the use of transport corridors as a priority measure.

The Bank assisted the formulation of the plan through: (a) support to the preparation of the 1998 emissions inventory, (b) quantification of the health impacts associated with poor air quality, (c) formulation of harmonization measures that could jointly address local air quality issues and emissions of greenhouse gases, (d) modeling of the air quality in the metropolitan area and modeling of the measures, and (e) economic assessment of alternative courses of action. This effort was undertaken during 1999-2002 as part of sector work that would provide the basis for specific interventions that could be funded through the Bank as a continuation of the First Air Quality and Transport Project. That first project has been completed in a satisfactory manner.

**Linkage to GEF Project: Mexico - Introduction of climate change friendly measures in Transport**

The GEF-funded project *Mexico: Introduction of climate change friendly measures in Transport* with co-financing from the Shell Foundation and the Commission for Environmental Cooperation of the NAFTA treaty, was approved by the GEF council and the Board on October 29, 2002, as part of the program of assistance from the Bank in support of the goals of the AQM-III. The GEF-funded project development objective is to contribute to the development of policies and measures that will assist in a long-term modal shift toward climate-friendly, more efficient and less polluting, less carbon intensive transport in the Mexico City Metropolitan Area (MCMA). The GEF project focuses on the development of an enabling environment for the implementation of passenger transport corridors, including those policies and measures needed to make viable the long-term modal shift intended for the transport system. In this context the GEF project is also a platform for policy dialogue on sustainable transport. This long-term modal shift is also central to the goals of the Integrated Transport and Road Plan (2002-2006) (*Plan Integral de Transporte y Vialidad (2002-2006)*). The studies that will provide inputs to these decisions are being formulated and are expected to be completed by October 2003.

From a climate change perspective, efforts to promote a modal shift are anticipated to result in reductions of greenhouse gas emissions per passenger-km. Prototype Carbon Fund (PCF) support provided to the proposed project however is not expected to compete with the GEF's long-term operational program nor with their short-term response measures. The GEF resources complement PCF intervention by enabling the development of a regulatory framework for the introduction of a modal shift. The PCF contributes to the development of transport corridors as a preferred option for this modal shift.

**In addition to the GEF-funded studies, preparatory activities for the loan** being supported through a PHRD grant for US\$1.3 million, which is intended to finance the design of two metropolitan mass transport corridors, the design of traffic management measures within the MCMA and the design of the air quality monitoring network (RAMA). As part of the preparation activities for the loan, the analysis of impacts of the corridors on job generation and any potential safeguard issues, including an

environmental and social assessment will be undertaken. The assessment of the baseline (global emissions without the project) and the additionality (global emissions reductions caused by the project) will be funded through the PCF.

#### **Linkage to Country Assistance Strategy (CAS)**

The CAS identifies three core themes for World Bank Group Assistance to Mexico – social sustainability, removing obstacles to sustainable growth, and effective public governance. The CAS also includes, as part of the environmental agenda, promotion of institutional development, decentralization of environmental management, and mainstreaming of global issues in order to comply with international agreements. The CAS confirms that some progress was made in improving air quality in metropolitan Mexico City area through the finalization of a third Air Quality Management Plan and it is also the base to set the stage of new support programs in this region that affects the health of some 15 million people. The CAS specifically identifies climate change as an issue of relevance in Mexico due to: (a) the impacts and needs to adapt to these changes (vulnerability to climate change and adaptation needs), and (b) the opportunities for Mexico to participate in Carbon Finance and eventually the Clean Development Mechanism (CDM) as a tool to promote sustainable development.

#### **Global Operational strategy/Program objective addressed by the project:**

The global commons objective of the project is to contribute to the reduction of global carbon emissions from the passenger transport sector in the Mexico City Metropolitan Area to be achieved through a modal shift toward low polluting, space efficient transport corridors with exclusive bus-ways and traffic management measures.

#### **Climate Change Related Policies and Institutions in Mexico**

Mexico has played an important role in the United Nations Framework Convention on Climate Change and the subsidiary meetings. It is the first country in Latin America to submit the Second Communication. Mexico is also one of the two largest emitters of GHG in the region and a country that has shown substantial vulnerabilities to the impacts from Climate Change. The Second National Communication of Mexico on Climate Change was officially issued at COP7 in Morocco (2002). In this framework, the development of projects on local and global pollution in Mexico City are of great importance for climate change, given the relationship between improving air quality and the necessary reduction of the burning of fossil fuels in the Metropolitan Area of the Valley of Mexico and the significant contribution that the Metropolitan Area makes in terms of total emissions of GHGs.

Parallel to the communications to the convention, Mexico has launched an effort to strengthen its institutional capacity through the development of a Climate Change Office and the organization of a Climate Change Inter-secretarial Committee. The Office has been supported through an IDF (Institutional Development Fund) grant that enabled the completion of baselines for the energy, forestry and industrial sectors. The IDF also supported the identification of economic instruments for the internalization of climate change concerns in economic planning. This work is being used as the basis for a proposed National Strategic Study on the optimal use of the Clean Development Mechanism in Mexico.

At the local level, the SMA is responsible for the implementation of Climate Change policy of the city in coordination with federal authorities. In fact, the authorities are proposing to develop a Climate Change Action Plan for the metropolitan area. This Metropolitan Climate Change Action Plan (MCCAP) has been highlighted by the current administration to underscore the relevance of climate change issues which had traditionally been ignored and to facilitate the allocation of resources for this purpose. The MCCAP will be an institutional and regulatory basis enabling the decision making process on climate change related projects undertaken by the Mexican government, such as the establishment of metropolitan transport corridors.

**Main sector issues and government strategy:**

**Need for better coordination of sector policies and institutions on the issues of Air Quality and Transport**

The City and State of Mexico authorities have adopted comprehensive sector policies in transport, air quality and urban development. These are: Integrated Transport Program (2002-2006) (*Programa Integral de Transporte y Vialidad*), the General Urban Development Program (2002-2006) (*Programa General de Desarrollo Urbano*) and the Environmental Program (2002-2006) (*Programa de Medio Ambiente*) of the City. The corresponding Plans of the State of Mexico are: the Institutional Program of Medium Term (2000-2005) (*Programa Institucional de Mediano Plazo*) that integrates all the specific transport programs, the Sectorial Urban Development Program (1999-2005) (*Programa Sectorial de Desarrollo Urbano*), and the Environmental Protection Program (1999-2005) (*Programa de Protección al Ambiente*).

Lack of coordination between the air quality, transport and urban planning strategies may result in failure to capture gains in efficiencies or may result in sectorial actions that would be counterproductive for the goals of the other sectors. Transport planning strategies that are coordinated with the air quality management plan would ensure that the efforts and allocation of resources in the metropolitan area for local and global issues are optimized. Harmonization with urban planning would ensure that land use and transport planning are also examined from an air quality perspective. The overall intended benefit from harmonizing these strategies is that the efforts in the environmental front are coordinated with similar efforts in transport and land use. The harmonization of the sector strategies and plans would result in several action plans (fiscal, institutional, legal etc.). Implementation of this framework would necessitate the promotion of measures that will facilitate a modal shift in the transport sector of the metropolitan area (from one based on an increasing share of small, gasoline-based vehicles to a system based on high capacity, fuel efficient and low carbon emitting vehicles, running along transport corridors and linked and integrated with the metro system). To this effect, there is a need to identify and promote the adoption of a coherent multi-sector plan in transport, urban development and air quality that could serve as a framework for sector investments and policies and provide an integrated common vision for the MCMA.

Likewise, the contamination caused by the transport sector is a problem of metropolitan dimension. Mexico City and the State of Mexico have each their own independent institutional organizations. Even though there is substantial across-the-board technical and institutional capacity, the coordination between them is limited. Due to the fact that the Mexico City and the State of Mexico share an atmospheric basin the problem is of metropolitan nature and needs to be addressed by both administrations in a coordinated manner.

**Transport Sector Issues:**

**i) Congestion and low productivity in the transport sector**

Traffic congestion affects public transport efficiency and, in addition, imposes direct and indirect costs on the urban economy and lower safety indexes. Time lost in traffic can add up to a substantial share of a city's output as it reduces the size of the effective labor market, imposes the need for higher inventory and more generally affects individual productivity and quality of life. In Mexico, between 1990 and 2000, the number of motor vehicles on the road grew by 42%. At the same time, the population of Mexico's medium and large cities grew by 25%, while the number of trips grew even faster than the population. In the MCMA, most bus services are now provided by a fragmented supply of small vehicles, compared to a relatively well-coordinated system of large buses in 1986; the result of that change is a chaotic, inefficient and polluting surface public transport system. Inefficient public space management, including the lack of properly designed traffic signs and signals, uncontrolled vehicle

parking, and inadequate facilities for pedestrians and other non-motorized traffic, contribute significantly to the congestion problem. All transport is affected by congestion in central business districts, poorly maintained road surfaces and inadequate terminal facilities. Investments in new roads have added little to the solution as in many instances it has only stimulated traffic growth. This points to the need to reoriented strategies for a comprehensive transport management in the area, toward space efficient, low polluting modes.

**ii) Large contribution of the transport sector to the problem of air quality**

Under the Integrated Transport and Road Program (2002-2006), the transport authority of Mexico City is attempting to address the growing demand for transport while minimizing its environmental impacts. However, the number of vehicles in the area is high for the available infrastructure, resulting besides congestion, in large fuel consumption and high level of emissions. According to the recently released emission inventory and the AQM-III (2002-2010) the mobile sources account for a majority of NO<sub>x</sub> emissions, 40% of HC emissions and about 36% of particulate emissions.

A GHG emission inventory was calculated on the basis of the energy balance, following the IPCC methodology. The study estimates emissions of 44.6 million tons of CO<sub>2</sub> equivalent into the atmosphere during 1996<sup>6</sup> as a result of energy consumption. This volume of GHG represents 10.3 % of the total national emissions for that year<sup>9</sup>. The largest sector in terms of greenhouse gas emissions is transport with 18 million tons of CO<sub>2</sub> equivalent in 1996 and 19.6 million tons of CO<sub>2</sub> in 1998. The transport sector is also the largest source of methane (CH<sub>4</sub>) and volatile organic compounds. Methane emissions have a large radiative effect in the atmosphere, while VOCs contribute to the generation of Ozone. Ozone itself has a warming effect of about one quarter of CO<sub>2</sub> on a molecular basis. As the transport sector is also the largest source of local criteria pollutants, opportunities for harmonization of local/global pollution problems in the transport sector would have significant impacts in both areas of concerns. In addition to the large contributions to the release of local criteria pollutants, the transport sector in the MCMA is the largest contributor of greenhouse gases.

**iii) Need for improved data and modeling capability on air quality** While there has been substantial improvement in the quality and documentation of air quality in the MCMA, there remain a number of gaps that make it difficult to provide a more accurate picture of the situation and provide the basis for sound long-term policy making. First, the urban area has increased in size over the years and the current monitoring system does not longer provide an adequate geographical coverage; second, the existing network has a high degree of obsolescence and no longer provide an adequate coverage of the parameters required for effective monitoring; and finally, new parameters and measurements are required to accurately portray the impact of mobile sources on the emission and concentration of airborne pollutants.

**iv) Gradual intensification of energy use (and emission of local and global pollutants) by the transport sector.**

The current situation is becoming more difficult to handle as the energy use per passenger continues to increase, with direct implications for specific emissions of criteria pollutants and greenhouse gases. This finding is evident in the analysis of the modal evolution in the public transport system in the MCMA during the period 1986-2000 ( Fig. 2) which shows that both the metro system and the bus have lost share of the total public transport market, and have been displaced by smaller vehicles. The gradual shift away from large capacity vehicles is, in part, an unintended effect of the atomization of services in the transport sector and the relatively poor regulatory system. This is an unwelcome development, especially in such a congested and polluted region as the Mexico City Metropolitan Area, where it would further contribute to inefficiencies from a transport and environment perspective by adding to traffic congestion and reducing public transport productivity. It has resulted in higher emissions and

exposure to criteria pollutants (and associated health impacts), caused increased releases of greenhouse gases, and has been linked to increasing accident rates. Finally, it has contributed to the inability of the rail mass transit system (essentially the metro) to attract passengers to its installed infrastructure. The Mexican authorities want to reverse this trend and promote measures that will aid the modal shift from small vehicles to large buses and the metro.

However, shifting passengers from private cars to public transportation facilities – or convincing new car owners to continue using public transportation -- is not an easy task. Bus and metro riding is often uncomfortable and has an unattractive image with many residents of the MCMA, as evidenced by the declining metro rider ship over the last decade. Lack of parking places at metro stations, and particularly the lack of efficient links between bus and metro routes pose additional difficulties, while the extension of the metro lines is very expensive and would not provide for full coverage of the needs in the MCMA. The loss of passengers by the metro system is particularly worrisome from an environmental perspective as well as in terms of the financial sustainability of the system. Table 3 below, shows the trend in passengers carried on an annual basis by the most used lines of the metro. While there is overcrowding at some transfer points, the system is generally carrying less passengers today than in 1990. Consequently, enabling the potential of the metro will need to be done through spot improvements in the existing metro system (rather than building new lines) and through complementary surface investments, such as mass transport corridors and traffic management measures..

#### **v)-Lack of a sustainable business environment for public transport**

At the root of all these issues, lies the current business structure of bus services in the Mexico City Metropolitan Area (MCMA) which has led to highly inefficient operations, resulting in a costly, unsafe and environmentally unsustainable public transport system. The key issues are: (a) lack of an organizational model that would facilitate efficient public transport operation in the metropolitan area, (b) dispersed operations that hinder efficiency in the provision of the services, the effective control of bus services and contribute to traffic congestion, (c) inefficient use of vehicles, (d) deficiencies in bus inspection and maintenance, (e) lack of professional management among bus operators, (f) the source of the drivers income depending on the number of the passengers thus affecting the quality of the service and creating an unsafe competition in the streets, (g) lack of coordination between transport operations in the State of Mexico and the City, (h) a fare system which penalizes transfers and thus discourages intermodal movements, and (i) some of these have led to a systematic decline in the number of metro passengers since 1989 despite a 35% network extension during that period. These barriers are significant and require of substantial efforts at the policy and regulatory levels.

These aspects can be improved in Mexico and would be addressed as part of the reform to the regulatory system, envisioned as the key early output of the GEF project. The Transmilenio program has resulted after two years of operation in a daily rider ship of 680,000 passengers along transport corridors of very high capacity vehicles. This is a significant modal shift.

#### **Government Strategy:**

##### **Transport Sector Strategy in the MCMA:**

The Comprehensive Transport Plan of the City (2002 - 2006) calls for: a) gradual elimination of operating subsidies to the public transport sector and restructuring of the fare system, b) integration of the transport system with the State of Mexico; c) promotion of modal shift through the development of metropolitan mass transport corridors and traffic management measures; d) strengthening of the public transport system through the development and implementation of modern traffic management; e) reduction in the environmental load of the transport sector into the MCMA air shed; and f) support to technology improvements in the transport sector through the introduction of better bus and rail technologies. The City has also planned for expansion of the throughway system and has already committed some resources.

The first objective supports the development of a sustainable business environment for the public transport sector. The authorities have started the reduction of fare subsidies in real terms but these still represent an important fraction of total operation costs for the bus and metro operations. On the other hand, the Government receives substantial income from taxes on fuel consumption some of which are channeled to environmental objectives in the city. The control of emissions by the transport sector into the air shed of the MCMA has been initiated through adoption of more stringent emission (Mexico city has an exemplary emission control system) and vehicle standards and through the definition of measures that would promote the integration of urban development plans and transport plans. However, these plans are still in the early phase of development. Measures to control the number of vehicles in areas of high congestion and traffic management measures to alleviate gridlock and the creation of pedestrian zones in downtown areas are also being considered. Also the government intends to promote the introduction of low emission vehicles and promote a higher level of utilization of the metro and non-motorized transport. A study to restructure the system of bus route concessions was completed in 1999 but its recommendations have not yet been implemented for a lack of resources. The GEF-funded project is providing the resources for the assessments required to make decisions on the business structure, institutional and regulatory frameworks and systems necessary for the transport corridors to be effective.

Promotion of a modal shift is a central part of the government's strategy. The modal shift measure to be supported under the project is the development of mass transport corridors and traffic management corridors, on which high capacity, low polluting vehicles would operate. These corridors would make more efficient use of infrastructure and move passengers in an integrated mode with the metro at higher speeds, lower costs per passenger and lower emissions per passenger kilometer and, at the same time, alleviate traffic congestion. The modal shift is expected to contribute to a reduction in the emission of greenhouse gases per passenger kilometer. The government of the City conceives the air quality and transport policy as the conjunction of various complementary elements that should facilitate the improvement of transport conditions in the City. The modal shifts measures are expected to be closely coordinated with the metro system.

**Environment Sector: Formulation of a long term, multi-sector, strategic framework**

The AQM-III (2002-2010) consists of a multi-sector, metropolitan, long-term effort to address air quality issues in the MCMA and constitutes the official government strategy for air quality in the metropolitan area. The plan which has been issued jointly by the Government of Mexico City, the Government of the Estado de Mexico and the Federal Government summarizes prior work on air quality management and provides an updated description of the situation in the Valley in terms of air quality. It concludes that while significant progress has been made, there are major challenges facing the goal of improved air quality. These are linked to the expected continuous growth in demand for services and economic activity and the difficult nature of the many dispersed sources of pollution in the area. Transport sector is identified as a key sector for immediate action. The plan also summarizes information available on the impacts on health from air pollution (drawing from the reports prepared with Bank assistance).

The plan updates the emissions inventory ( prepared with Bank assistance) and establishes goals for the 10 year duration of the program. These goals are provided in quantitative form and summarized are:

- A substantial reduction in ozone concentrations and exposure (eliminating any concentrations above twice the allowable standard) and reducing average concentrations significantly;
- Reduce the concentration of PM10 and 2.5;
- Eliminate violations to the norm on CO concentrations;
- Reduce average concentrations of SO2.

To achieve these goals, the plan establishes a 10 year program consisting of 108 measures. Key parts of the program are:

- Reductions of emissions generated by the transport sector;
- Reduction of emissions from industry and service;
- Conservation of natural resources and forest cover in the Metropolitan Area;
- Integration of policies and plans in air quality, transport and urban planning;
- Reduction of exposures to high concentrations of pollutants;
- Promotion of environmental education and awareness and technology development;
- Harmonization of plans to address air quality and control of emissions of greenhouse gases.

## 2. Objectives

The project development objective is to contribute to reductions in the pollution and greenhouse gas load into the air shed of the MCMA generated by the transport sector, at the metropolitan level, while improving the safety and efficiency of urban transport management. This will be sought through activities that will promote a shift towards low-polluting modes of transportation (metro and large buses) via the development of surface mass transport corridors and traffic management measures that integrate with the existing metro infrastructure.

## 3. Rationale for Bank's Involvement

The Bank involvement brings a global experience with air pollution and transport issues and its linkage with global concerns. The policy dialogue with the environmental authorities banks on extensive expertise at the Bank on the subject. The involvement of the Bank/PCF in the proposed project provides an opportunity to support a critical effort by the GoM to i) improve the environmental performance of the transport sector, ii) promote the reduction of greenhouse gases and assist in the development of capacity in the carbon market; and, iii) partly reduce dependence on high-carbon fuel-generated energy. Bank involvement has made possible the sharing of its broad experience in air quality and transport and adapting it to Mexican conditions. PCF involvement is critical to provide the resources required to make the corridors operational.

## 4. Description

### Project Description

The project development objective is to contribute to reductions in the pollution and greenhouse gas load into the air shed of the MCMA generated by the transport sector, at the metropolitan level, while improving the safety and efficiency of urban transport management. This will be sought through activities that will promote a modal shift and the use of low polluting modes of transportation (surface mass transport corridors and traffic management measures) that complement and integrate with the existing metro infrastructure. Specifically the project supports the following activities:

**a) Improvements in the coordination of sector policies and institutions for effective air quality management in the MCMA** (US\$2 million, to be partially financed with revenues from the sale of emission reductions).

The project will assist: a) data collection (including expansion of the geographical coverage and scope of measurements of the RAMA network); b) emission inventory, modeling, health impact assessments, benefit analysis, scenario making and decision support systems to enable effective coordination between issues of transport, air quality and urban planning; and c) the **formulation of a long-term, multi-sector, transport-air quality and urban development vision** (plan) that is key for the improvements in quality of life for the MCMA; this plan is the logical next stage to the Bank-assisted AQM-III and will catalyze stronger linkages between institutions and sector policies.

**b) Development of two mass transport corridors (one in the city and one in the**

adjoining State of Mexico), and associated infrastructure, including the interface with the Metro system as well as development of traffic management corridors and other measures, including the promotion of low-polluting public transport services and non-motorized transport. US\$ 285 million, partially financed through a Bank loan to Edomex for US\$75 million and a Bank loan to GDF for US\$100 million).

The activities supported include:

- a) Pedestrian facilities leading to the stations of the proposed mass transport corridors.
- b) Bus/metro transfer stations, with priority access to large buses.
- c) Segregated bus ways.
- d) Improvements in roadway and traffic engineering along selected traffic management corridors (such as Eje 8 and Eje Central).
- e) Concessions of the services on the segregated bus ways to restructured companies using large and low-polluting buses.
- f) Implementation of non-motorized transport schemes ancillary to the transport corridors.
- g) Promotion of low pollution passenger transport vehicles and scrapping programs for old vehicles.
- h) Improvements in metro infrastructure, if required, to enable efficient corridor operation.
- i) Network study to assess improvement needs of metro and the impacts of corridors on metro operations.

The mass transport corridors are: a) Tlahuac-Tasquena a 14 Km corridor in the southern part of the city; and b) Ciudad Azteca-Rosario, a 30 km corridor in the northern section of the MCMA. These were selected on the basis of an identification study and have been endorsed by the Mayor of the City and the Governor of the State respectively.

**c) Public Awareness and Dissemination** This component will support a public awareness and dissemination campaign with respect to the measures considered in this project in order to facilitate its introduction and promote the support of civil society (US\$0.6 million partially financed with the revenues from the sale of emission reductions).

**d) Project Management** This component will support the management of the project activities, including monitoring and evaluation. The project will finance management costs in the form of consultancy services and travel (US\$1 million partially financed with revenues from the sale of emission reductions).

## 5. Financing

	Total ( US\$m)
BORROWER	\$113.60
IBRD	\$175.00
IDA	
<b>Total Project Cost</b>	<b>\$288.60</b>

## 6. Implementation

**Implementation Agency.** The project will be implemented by the Secretary of Communications and the Secretary of Ecology in the State of Mexico and by the Secretary of Environment and the Secretary of Transport in the City. Both agencies will cooperate under a joint implementation unit for those aspects of the project that require joint implementation (specifically, components a and c). The loans will be channeled through BANOBRAS and the Carbon Finance Resources will go to the implementation agencies directly.

**Progress to Date in Project Preparation.** This project originated as part of the sector work in support

of the formulation of the AQM-III. The GEF-funded project has been approved and is supporting the design the institutional, business and regulatory framework for sustainable use of the corridors. The project has been declared effective on the 11th of April, 2003. The PHRD grant is now effective and arrangements are being made to contract the executive design of the corridors. A GTF grant was approved and has financed the identification of the corridors. The selected corridors consist of the Tlahuac-Tasquena corridor in the City with a length of 18.72 Km and the Ciudad Azteca-Rosario corridors in the State of Mexico with a length of 42.17 km.

### **7. Sustainability**

Successful adoption of an integrated Air Quality, Transport and Urban Plans agenda in the MCMA in the long-term strengthens the prospects for sustainability of the proposed corridors and commits agencies involved in the Metropolitan Climate Change Action Plan after the project. Successful adoption of organizational and barrier removal measures facilitates the implementation of sustainable, climate-friendly transport strategies and creates a sustainable institutional and technical framework. Successful implementation of an Action Plan for non-motorized transport -to promote the bicycle use-increases the attractiveness and the safety of the use of non-motorized transport. Completion of technical assistance, capacity building and training activities leads to incorporation of climate and environmental considerations in the design of transport projects and to support of the field test of climate friendly transport systems. Successful design of public campaign and of dissemination of related technical information leads to increased use of high capacity vehicles, non-motorized modes of transport as well as increased public awareness of transport corridors and climate friendly technologies. The strong commitment from State and City Authorities and the integral character of the proposals as part of the Air Quality Management Plan provide the required wide support to ensure sustainability.

### **8. Lessons learned from past operations in the country/sector.**

The Bank has a long-standing involvement in the sector of Air Quality Management. The first project in the MCMA was approved in 1992. The objective of this project (just closed) was to support a comprehensive program to reduce transport generated air pollution in the MCMA. This project was followed by the provision of technical assistance in the formulation of the AQM-III. The implementation of the first quality project offers a valuable experience on which to base the proposed operation. The project was satisfactorily completed and an ICR (Implementation Completion Report) has been issued. Some of the lessons learned during its implementation, that have been incorporated in the project design, include:

- *Air pollution is a long-term problem that requires a long-term response*
- *Planning for the long-term, however, requires flexibility*
- *Wide participatory approach to air quality management*
- *The Bank's involvement should continue to be used for its catalytic effect*
- *Local air management matters from a global perspective*

### **9. Environment Aspects (including any public consultation)**

**Issues** : There are no major negative environmental impacts that would call the project into question.

An environmental and social assessment of the corridors is part of project preparation.

### **10. List of factual technical documents:**

Technical Study for the Selection of Corridors

Transport Plans for the City of Mexico

Air Quality Management Plan for the Mexico City Metropolitan Area

Project Appraisal Document for the Mexico: Introduction of climate friendly measures in transport

**11. Contact Point:**

**Task Manager**  
Walter Vergara  
**The World Bank**  
**1818 H Street, NW**  
**Washington D.C. 20433**  
**Telephone:** 202-458-2705  
**Fax:** 202-456-9373

**12** For information on other project related documents contact:

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

**Note: This is information on an evolving project. Certain components may not be necessarily included in the final project.**

**Tables, Charts, Graphs:**

Processed by the InfoShop week ending 04/30/2003

For a list of World Bank news releases on projects and reports, [click here](#)

